DIGICONTROL

Complete catalogue

Products and Services

Catalogue valid from April 2022

System solutions for building automation and building management

DIGICONTROL

Complete catalogue 2022 / 2023
Products and services
valid from April 2022

You will find the prices of our products in the separate and latest version of the DIGICONTROL price list.
Printing errors or technical changes reserved.

The illustrations of the products in the following catalogue are for reference, the product design may differ from the respective illustration upon delivery.

The future of connected building technology

Megatrends such as climate change, urbanisation, digital transformation and increasing demands on the quality of life are causing major changes in infrastructures and commercial buildings. The need and expectations for security, comfort and efficiency are increasing and consequently also the demand for integrated overall solutions. Increasing networking via innovative cloud services and the Internet of Things provide a wide range of opportunities to improve, accelerate and automate processes in commercial buildings.

Because the multi-layered technical infrastructure continually poses new challenges not only for you, but also for your building, the coexistence of security and building technology increases and with it the complexity and coordination effort. And this is where DIGICONTROL comes into play: Through innovative and coordinated solutions, connected technologies and efficient use of resources, DIGICONTROL ensures that your building is competitive and economical. The necessary support for this comes from a single source: DIGICONTROL includes connected building automation systems, products, services, and individual solutions that also meet the increasing requirements of tomorrow.

The changes of the future require progressive thinking and action and visionary technologies that integrate all important aspects. In the following catalogue you will find an overview of the comprehensive DIGICONTROL portfolio:

- Tools for planning and project engineering of comprehensive BACS systems
- Building automation systems for plant and room automation as well as system integration
- Software for programming and configuring the building automation and control systems
- Operating and display devices
- BACS-Management software for monitoring, analytics, and optimization in ongoing building operations as well as system integration
- Energy data management
- Management and control equipment
- Control cabinet components for the implementation of the automation priorities
- Field devices and fieldbus systems
- Ex-protection components
- Training

Connected solutions and future-proof technologies from a single source

Future-proof buildings can only be implemented and mastered with innovative and networked technologies. Only holistic integration solutions with long-term perspectives will generate the most sustainable effects and further ideas for new customer-oriented building services. In this way, we achieve more safety and comfort, more time and productivity through efficient processes, and also more climate protection for an environment worth living in.

Mastering building technology through interdisciplinary, connected technologies

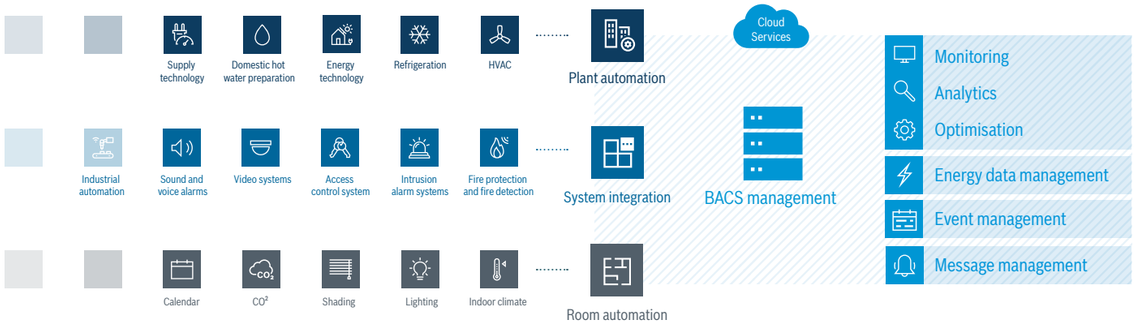
Innovative technologies within individual trades are not sufficient by themselves. The networked solutions of the DIGICONTROL portfolio allow the building trades to effectively communicate with each other. The challenge lies on the one hand in the implementation of the BACS IT network itself, but the more demanding part is the processing of huge amounts of data into applications that provide added value and thus enable building technology to be mastered.

Building automation systems, security solutions and energy services from a single source

Whether security infrastructure, building automation, energy management or electrical installation: The complex technical infrastructure means that your building faces growing challenges. At the same time, the coexistence of security and building technology in the IP network constantly increases complexity and coordination effort. Innovative and coordinated IT infrastructure solutions, integrated technologies and efficient deployment of energy and resources can ensure the success and competitiveness of your building in the long term. We provide comprehensive support for this, from a single source, throughout the entire building life cycle.

Choose a strong building automation system who provides you with comprehensive support

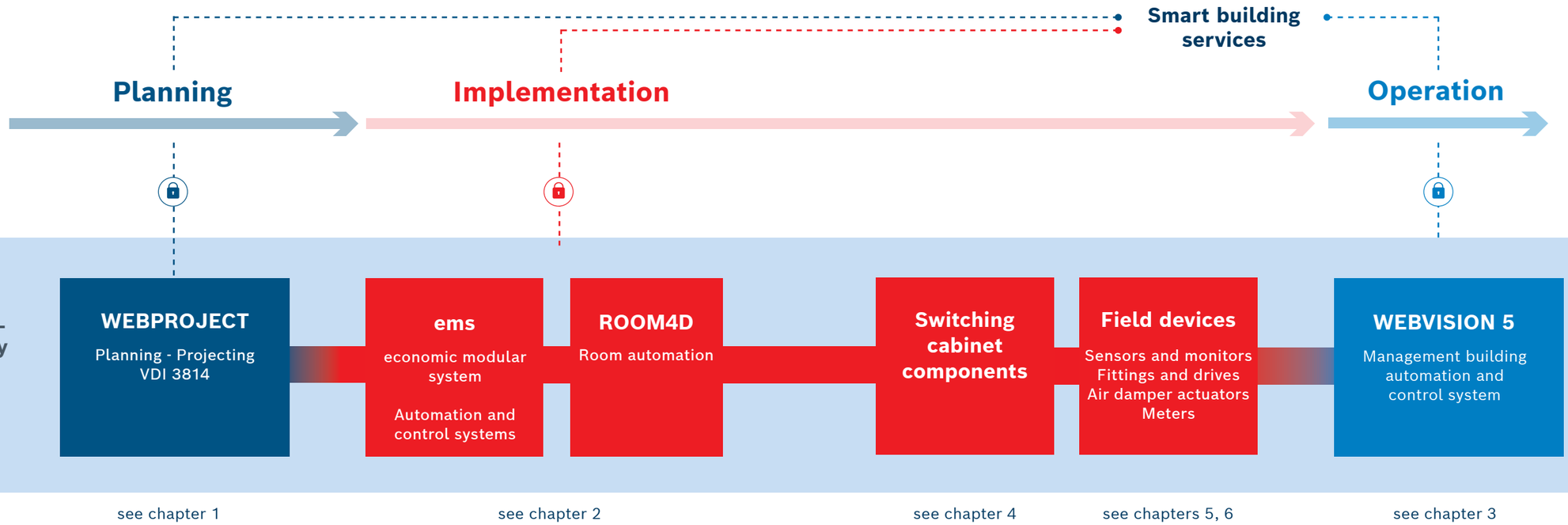
- Enhance safety, comfort and efficiency in commercial buildings by exploiting synergies within domains
- Simplified planning and construction of integrative solutions through automated processes that cover the entire life cycle of the building
- Realisation of exceptional building automation using integrative building automation solutions and intelligent automation strategies
- Designing manageable BACS management systems
- Enhanced monitoring, analytics and optimization
- Implementation of new smart building concepts
- Savings in building operation



The future of connected building technology

Digitalisation has now permeated all areas of life. The Internet of Things opens numerous new possibilities and opportunities. Increasing connectivity is changing the interaction between people and technical devices. Numerous new services are emerging with which processes can be improved, accelerated, and automated. At the same time, the security requirements for infrastructures, cities and buildings of the future are increasing to protect people and assets in the best possible way.

Building automation in the age of digitalisation



DIGICONTROL over the entire building life cycle

The world of building automation and control systems is experiencing radical change. New technologies such as BIM (Building Information Modelling), IoT (Internet of Things), SaaS (Software as a Service) allow the implementation of innovative concepts for the building generation of tomorrow. The DIGICONTROL product family covers all phases of the building life cycle.

This results in sustainable, migration-capable and smart buildings that also meet the increasing requirements of tomorrow.

In the age of digital transformation, DIGICONTROL is pioneering solutions to transform the classic building automation world into the digital world. Today, planners, operators and users are already benefiting from the innovative DIGICONTROL portfolio and the consistently digitalised processes for implementing sustainable buildings.

Secure building automation · Cyber security

The ongoing networking of buildings with the Internet of Things (IoT) and cloud services requires the effective protection of IT and BACS through reliable measures that ensure the availability of the networks and the confidentiality, integrity and authenticity of building data.

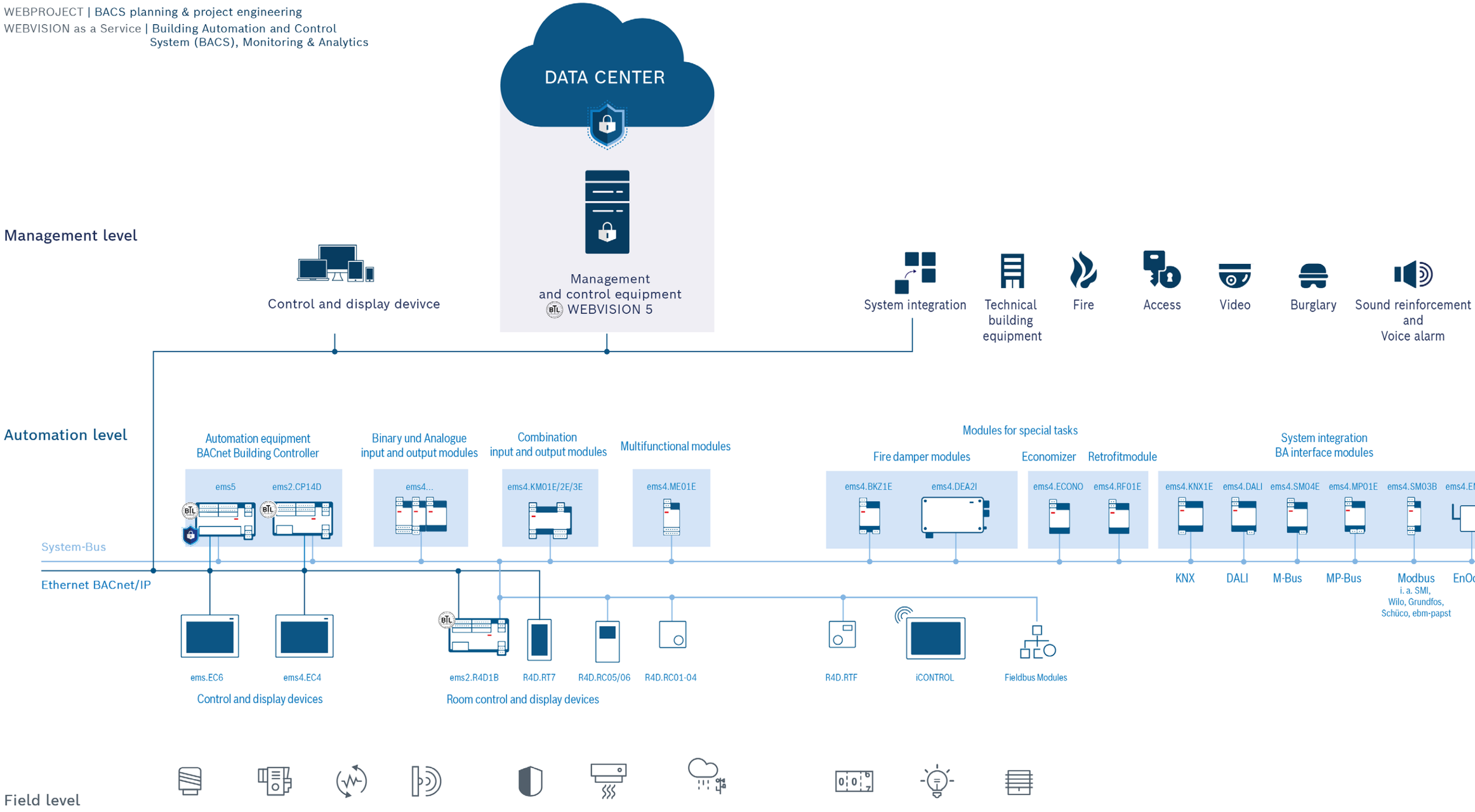
DIGICONTROL building automation and control systems provide comprehensive security features such as TLS, SSH, VPN and a firewall that prevents unauthorised network access. Integrated password protection and secure communication protect against unauthorised access to functions, program content and against malicious software. User interventions are logged completely and contribute to the protection of your systems. The safety concept and configuration of the DIGICONTROL automation equipment bases on IEC 62443, the international standard for Cyber Security for Industrial Automation. The „BACnet/SC“ (BACnet Secure Connect) security standard guarantees that building automation and control systems will be even more secure in the future.

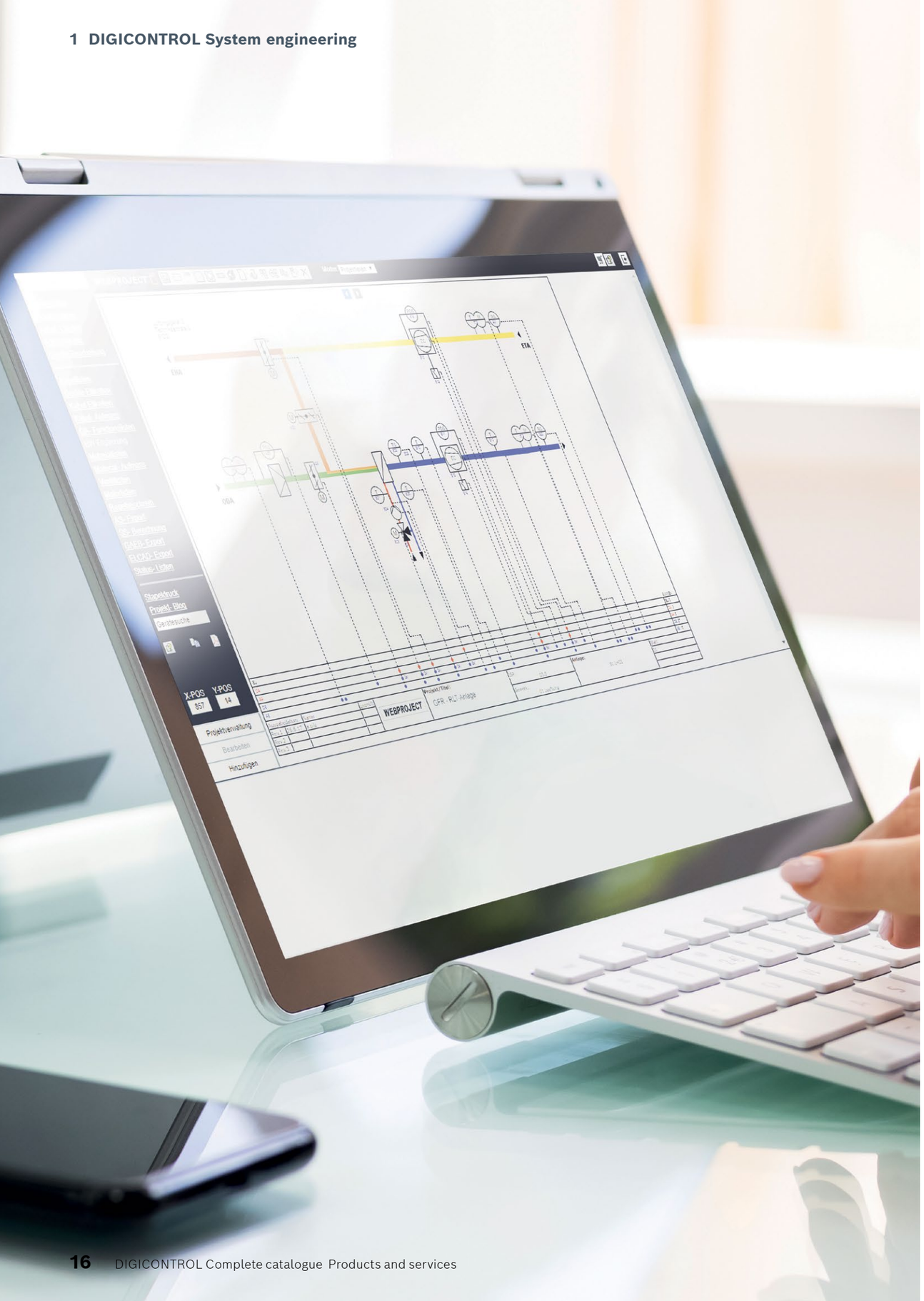
In order to prevent potential threats to your systems during operation, we keep the software of our automation equipment current and regularly update your system with patches provided by our support team. Networked, intelligent and resource-optimised buildings are definitely paying off.

DIGICONTROL System topology

Smart Building Services

WEBPROJECT | BACS planning & project engineering
WEBVISION as a Service | Building Automation and Control System (BACS), Monitoring & Analytics





WEBPROJECT

Completely digitalised and media-consistent planning and project engineering over the entire life cycle of modern real estate

WEBPROJECT meets high quality requirements and ensures short construction times

Take advantage of our fully automated measuring and control technology planning and project engineering software WEBPROJECT. Our tool frees you from all routine jobs, which make conventional measuring and control technology planning, project engineering and configuration time-intensive, complicated and expensive. You can save up to 90% of the labour costs compared to the traditional method, right from the beginning.

Consistently digital - right from the start

As we see it, building automation solutions start with innovative project development and digitalised system engineering by means of WEBPROJECT and covers the construction of your building automation and control systems and the ongoing building operation with DIGICONTROL and WEBVISION 5.

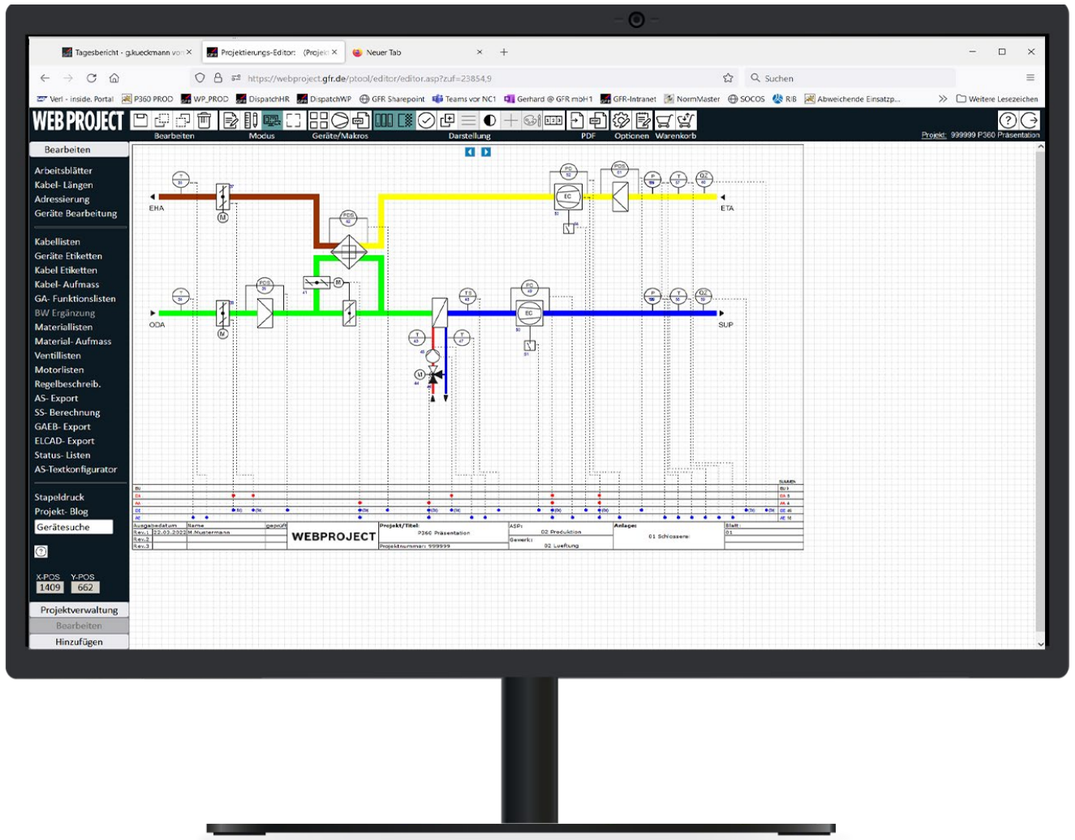
Planners, builders and operators speak the same language thanks to WEBPROJECT

Complex project structures are created methodologically and efficiently right from the beginning and remain clear and transparent in the future. Due to the web-based network structure of WEBPROJECT, there is only one source for all building automation lists, BACS plans, schemes, etc. All documents are available to all users at any time for viewing and editing. The question of the timeliness of the elaboration, draft planning, approval and execution planning, the construction drawings or documentation is unnecessary, because there is only one document status: the current one.

WEBPROJECT - Planning and configuration based on VDI 3814 and EN ISO 16484

- WEBPROJECT bases on the following current standards:
  VDI 3814, DIN EN ISO 16484, DIN 19227, 1946 and DIN EN 13779.
- The global editing and complete processing is performed within your browser.
- The lists and calculations are output in MS Excel or Acrobat Reader format or optionally in zip files.
- All lists and calculations can be saved locally.
- Externally created graphics, symbols and documentations can be imported online.
- Administration of projects and libraries
- Project engineering editor for the creation of control diagrams
- Drawing editor and macro editor
- User address key and user address configurator
- Import function for free graphics and symbols
- MS Excel import of cable lists, building automation function lists, user addresses
- List generator on basis of MS Excel

Planning, project engineering and documentation by means of WEBPROJECT



Planning

All necessary planning documents are generated automatically on basis of an automation scheme.

- GAEB export for the creation of service specifications and tenders
- Automation schemes
- Building automation function lists pursuant to DIN VDI 3814 or DIN EN ISO 16484
- Functional descriptions
- Calculation of control cabinet size and power loss
- Valve dimensioning
- Valve lists, motor lists, cable lists
- Cable type management

Project engineering and construction

Planning documents as previously described and beyond:

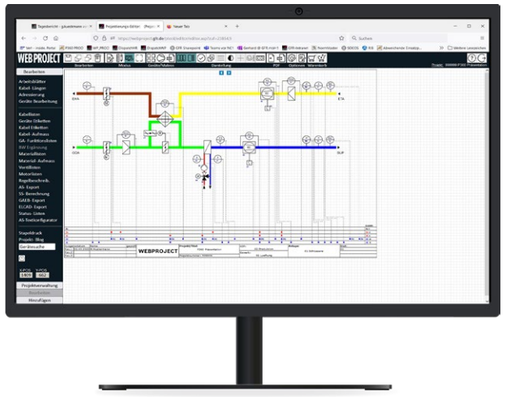
- Site measuring for cables
- Cable target labels
- Status lists, project blog
- Planning, project engineering and documentation by means of WEBPROJECT
- Dimensioning of automation system
- Addressing and data point documentation
- Linking of device documentation
- Data interface for the automatic generation of circuit diagrams in E-CAD systems

Operation and documentation

- Online access to all planning and execution documents for spares inventory, operation, maintenance, service and retrofits
- Colour schemes with numbering and documentation of data points
- Workflow up to building and facility management

Digitalised system engineering

WEBPROJECT

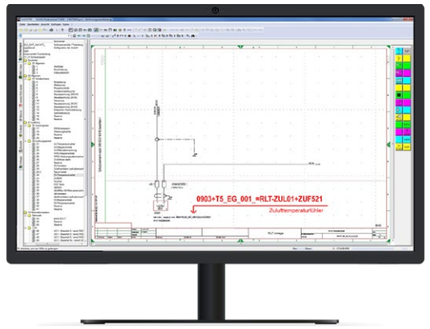


WEBPROJECT is the fully digitalised system engineering within DIGICONTROL.
The planning and configuration tool contains all product data of sensors and actuators, automation stations, plant and function macros, building automation functions, cable information and performance-related circuit diagram templates for usage within all further applications of the digitalised project implementation.

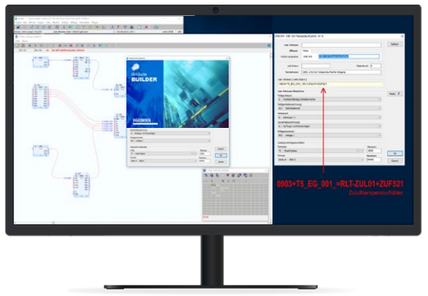
There is the option in WEBPROJECT to generate a 100% consistent circuit diagram at the touch of a button. This CAD circuit diagram contains all performance and control modules, as well as automation modules.

The dimensioning, labelling and software configuration of the DIGICONTROL automation systems is carried out within the configuration tool iBASuite and WEBPROJECT provides the required data. The configuration of the building management platform WEBVISION 5 is performed by means of WEBPROJECT, which comprises all plant graphics and information for the animation.

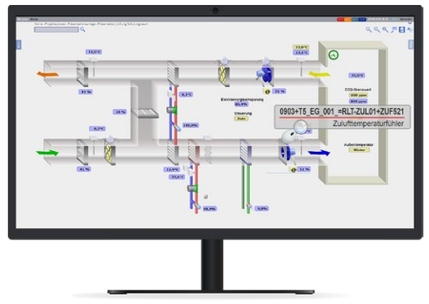
E-CAD - automatic generation of circuit diagrams



iBASuite - automatic configuration of BACS



WEBVISION 5 - automatic configuration of MCE



WEBPROJECT's future-safe technology allows for selecting an individually optimised licensing environment. It is irrelevant whether WEBPROJECT is used as a single application or throughout a large company with proprietary standards.

WEBPROJECT can

- online
- within your local network
- or exclusively at one workstation

be used and integrated into company-specific solutions.
For operation, the user only needs a web browser.

WEBPROJECT LICENCING STRUCTURE

TYPE	DESCRIPTION
WP-OL-2B	Online licence, no installation, 2 users
WP-OL-5B	Online licence, no installation, 5 users
WP-OL-10B	Online licence, no installation, 10 users

www.webproject-portal.de

More information, downloads and a demo account can be found at www.webproject-portal.de.

DIGICONTROL

Joint efforts towards a secure and networked future

Current and future developments in digital transformation will significantly change the way buildings and their building automation and control systems are planned, constructed and operated in the upcoming years.

Trendsetting technologies such as IoT and cloud computing as well as innovative processes within the value chain open a wide range of opportunities for implementing highly efficient, new services with significant added value for investors, planners, installers, operators, and users.

The technologies and services associated with DIGICONTROL, and its automation equipment set new standards with unique BACS solutions in terms of comfort, efficiency, transparency, cost-effectiveness, sustainability, and availability of modern buildings.

DIGICONTROL already represents the next generation of Building automation and Control Systems (BACS). By outsourcing BACS services, DIGICONTROL becomes part of a global infrastructure and gains the benefits that come with it.

DIGICONTROL makes buildings safer, more comfortable and more efficient

DIGICONTROL ems5 comprises the directive-compliant implementation of plant and room automation as well as the integration of the technical building equipment in accordance with VDI 3814 and DIN EN ISO 16484. Furthermore, the integrated Building Edge and IoT Controller provides the basis for the implementation of new Smart Building concepts in the context of digital transformation.

Outstanding performance

The outstanding performance of the CPU and memory ensures short response times and enables the implementation of complex mathematical calculations and algorithms that are the basis for intelligent building automation and control functions within smart BACS solutions.

IT and data security

DIGICONTROL ems5 provides comprehensive security features such as TLS, SSH, VPN and BACnet/SC.

Graphical web server

The graphical web server of the ems5 allows the autonomous communication and operation of the plants of the building services with the building automation and control system via web browser. This comprises alarm management, trends and the visualisation of plants.

SD card

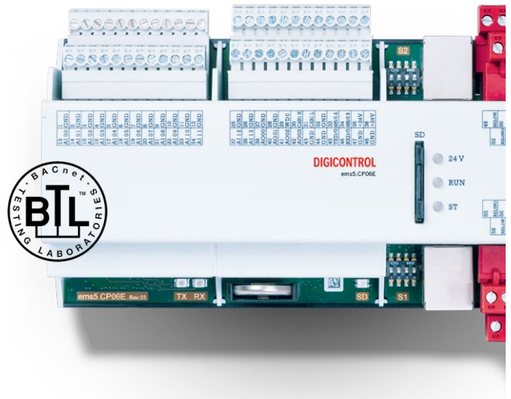
The SD card saves relevant building automation and control data as well as historical trend data directly on site, without a management and control equipment.

Individual extendibility of the hardware according to the systems of the building services and rooms

Depending on the dimensions of the building services plants, the automation device ems5 is extended by modules of the ems series - economic modular system - which provide a variety of input and output modules for top hat rail, door, field and electrical distribution mounting with or without „local override“ (LOC).

Multifunctional interfaces

Die ems5-Automationseinrichtung ist kompakt und gleichzeitig modular, denn die 14 Inputs sind frei konfigurierbar als PT/NI1000, 0-10 VDC oder DE 24 VDC. Ebenfalls on board sind 4 AnalogOutputs 0-10VDC und 6 potenzialfreie RelaisOutputs 230 VAC/6A.



BACnet

DIGICONTROL ems5 can be used as a BACnet Building Controller (B-BC) according to the BACnet Standardised Device Profile L (ANSI ASHRAE standards 135-2001 or DIN EN 16484-5). The communication is performed via BACnet/IP and BACnet MS/TP. BACnet Protocol Rev. 1.15 / AMEV profile AS-B according to "BACnet 2017" (identical with BACnet 2011 V1.2).

Integration solutions

The ems5 is the central unit of the building automation network and integrates all components of the building services into the building automation and control system. Connections to KNX, DALI, Modbus, M-Bus, SMI, EnOcean as well as to proprietary systems such as Grundfos, Wilo, Belimo MP-Bus, Schüco, ebm-papst and others are possible via extensions using ems4 integration modules.

iBASuite - intelligent programming and configuration of the automation equipment

iBASuite - intelligent Building Automation Suite

The tool for programming and configuring automation equipment, the iBASuite, provides comprehensive tools for constructing intelligent smart buildings and for configuring, parameterising and programming the automation equipment ems5.

The suite comprises all software modules and macros for the BACS implementation as well as tools for setting up and customising the graphical webserver, a BACnet browser and a generator for the automatic generation of BACS documentations.

The iBASuite Cloud is currently in progress. Being an integral part of the DIGICONTROL Cloud, the iBASuite Cloud will make all applications and data available online, at any time, any place, in the office or at the construction site:

- iBASuite applications, tools and macros
- License service
- IoT services
- Up-to-date project software
- Live data and historical project data

www.digicontrol.info/ems5

Find further information on the building automation and control system DIGICONTROL and the automation equipment ems5 on our website **www.digicontrol.info/ems5**

AUTOMATION EQUIPMENT

	page 32	page 34	page 37	page 39
				
	ems5.CP05E	**ems2.CP14D**	**ems2.R4D1B**	**ems4.CP02B**
	Automation station BACnet Building Controller (B-BC)	Automation station with display BACnet Building Controller (B-BC)	Automation station BACnet Building Controller (B-BC)	Automation station
		8-line display (lines have 40 digits) multifunctional keyboard		
	14 universal inputs, freely configurable as: • PT/NI1000, 12 Bit • 0...10 V DC, 12 Bit • DI 24 V DC	14 universal inputs, freely configurable as: • PT/NI1000, 12 Bit • 0 ... 10 V DC, 12 Bit • DI 24 V DC	14 universal inputs, freely configurable as: • PT/NI1000, 12 Bit • 0 ... 10 V DC, 12 Bit • DI 24 V DC	4 x integrated DI 24 V DC
	4 x AO 0 ...10 V DC, 10 Bit	4 x AO 0 ... 10 V DC, 10 Bit	4 x AO 0 ... 10 V DC, 10 Bit	4 x DO 24 V DC
	6 x DO relay 230 V AC / 6 A potential-free make contact	6 x DO relay 230 V AC / 6 A potential-free make contact	4 x DO relay 230 V AC / 6 A	
			2 x TRIAC outputs	

BINARY INPUT MODULES

	page 42	page 58	page 48	System module page 57
				
	ems4.DE07E	**ems4.DE02F**	**ems4.ME01E**	**ems4.DE00F**
Inputs	10 digital inputs 24 V DC individually configurable	8 digital inputs 24 V DC polarity can be set individually	10 inputs configurable as: PT/NI 1000, 0/2...10 V or 24 V DC	One ems4.DE00F system module must be included in a 19“ subrack.
LED		green / red /orange configurable		
DIN rail mounting	•		•	
19“ front panel mounting		•		•
Installation in small distribution cabinets	•		•	

ANALOGUE INPUT MODULES

	page 46	page 48
		
	ems4.AE03B	**ems4.ME01E**
Inputs	8 x Universal inputs PT1000 | NI1000 | DC 0(2) to 10 V | 0(4) to 20 mA	10 inputs configurable as: PT/NI 1000, 0/2...10 V or 24 V DC
DIN rail mounting	•	•
Installation in small distribution cabinets		•

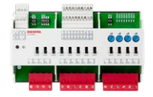
BINARY OUTPUT MODULES

	page 44	page 45	page 54	page 59	page 55	page 60
						
	ems4.DA01E	**ems4.DA02E**	**ems4.DAH2E**	**ems4.DA02F**	**ems4.DAH3E**	**ems4.DA03F**
Outputs	16 x 24 V DC 0,5 A transistor	4 x 230 V AC 6 A make contact	4 x 1 level 230 V AC 6 A make contact	4 x 1 level 230 V AC 6 A make contact	2 x 2-level 230 V AC 6 A make contact	2 x 2-level 230 V AC 6 A make contact
Inputs			4 x fb + 4 x fault	4 x fb + 4 x fault	4 x fb + 2 x fault + 2 free	4 x fb + 2 x fault
LOD			•	•	•	•
Inputs LOD (switch position)			12 x	12 x	8 x	8 x
DIN rail mounting	•	•	•		•	
19“ front panel mounting				•		•
Installation in small distribution cabinets	•	•	•		•	

ANALOGUE OUTPUT MODULES

	page 47	page 56	page 61	page 62
				
	ems4.AA01E	**ems4.AAH3E**	**ems4.AA03F**	**ems4.AA04F**
Outputs	4 analogue outputs 0 ... 10 V DC or 0/4 ... 20 mA	4 analogue outputs 0 ... 10 V DC	2 analogue outputs 0 ... 10 V DC	4 analogue outputs 0 ... 10 V DC
Inputs		4 analogue inputs 0 ... 10 V DC	2 analogue inputs 0 ... 10 V DC	4 analogue inputs 0 ... 10 V DC
LOD		•	•	•
Inputs LOD (switch position)		12 x	6 x	12 x
DIN rail mounting	•	•		
19“ front panel mounting			•	•
Installation in small distribution cabinets	•	•		

COMBINED I / O MODULES

	page 49	page 50	page 52
			
	ems4.KM01E	**ems4.KM02E**	**ems4.KM03E**
Outputs	4 x AO 0/2...10V 3 x Relay 230V AC / 16A	6 x DO Relay 230V AC / 16A	4 x AO 0/2...10V 8 x DO Relay 230V AC / 16A
Inputs	each input configurable: 4 x PT/NI 1000, 0/2...10V or 24V DC	each input configurable: 10 x PT/NI 1000, 0/2...10V or 24V DC	each input configurable: 7 x PT/NI 1000, 0/2...10V or 24V DC
LOD		•	•
Inputs LOD (switch position)		6 x	12 x
DIN rail mounting		•	•
Installation in small distribution cabinets	•	•	•

ems4 BACS interface modules

	page 72	page 73
		
	ems4.EC4-7	**ems4.EC4-10.4**
Operating unit	Touch panel 7“ 800 x 480 px 65,535 colours	Touch panel 10.4“ 800 x 600 px 262,144 colours

ems BACS interface modules

	page 74	page 75	page 76
			
	ems.EC6-7	**ems.EC6-10.1**	**ems.EC6-15.6**
Operating unit	Touch panel 7“ 1024 x 600 px 262,144 colours	Touch panel 10,1“ 1280 x 800 px 16.7 M colours	Touch panel 15,6“ 1920 x 1080 px 262,144 colours

ROOM interface modules

	page 108	page 106
		
	R4D.RT7	**R4D.RC05 / RC06**
Operating unit	Room touch panel 4,3“ 480 x 272 px 65,535 colours	Room operating unit and controller 6 function buttons Rotary pulse encoder

BACS INTERFACE MODULES

	page 84	page 81	page 80	page 82	page 83	page 112
						
	ems4.MP01E	**ems4.SM04E**	**ems4.SM03B**	**ems4.KNX1E**	**ems4.DALI**	**ems4.ENO1B**
Integration	MP-BUS	M-Bus	Modbus weitere Schnittstellen ▸ siehe Produkt	KNX	DALI	EnOcean

FIRE DAMPER MODULES

	page 89	page 88
		
	ems4.DEA2I	**ems4.BKZ1E**
Outputs	1 potential-free relay output for controlling the motorised fire damper 24 V DC or 230 V AC	
Inputs	2 digital inputs (galvanically separated) for connecting the fire damper position Configurable 24 V DC or potential-free	4 digital inputs 24V DC (polarity configurable via jumper J1)

MODULE FOR SPECIAL TASKS

page 92

Retrofit

ems4.RF01E

The DIGICONTROL Retrofit module ems4.RF01E enables the connection of ems automation stations to older types of input/output cards (I/O cards) in existing plants. Therefore older types of existing automation systems can be modernised easily and cost-efficiently.

page 41

Storage module

ems4.TLOG

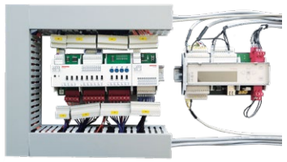
MODULE FOR SPECIAL TASKS

page 94

ecs3 - Retrokit

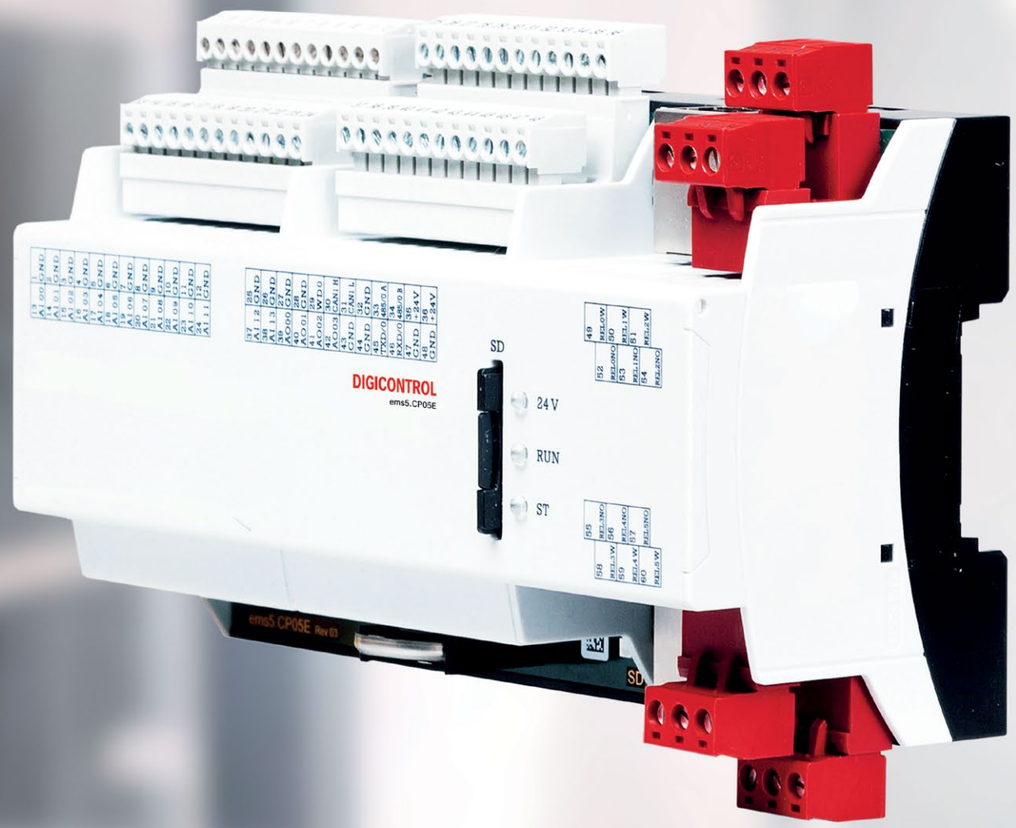
ems2.RTR-ECS-FR / ems2.RTR-ECS-FL

Operators of DIGICONTROL ecs3 and ecs3.+ automation stations (AS) are enabled by the DIGICONTROL ecs3 Retrokit to have their existing automation stations replaced by automation stations of the latest DIGICONTROL generation - inexpensively, quickly and, in most cases, even without impairing the ongoing operation of the building.



ems2.RTR-ECS-G

DIGICONTROL ems5
Building Edge and IoT controller
BACnet B-BC, Protocol Rev. 1.15,
AMEV profile AS-B 2017



Open for universal applications in all areas of modern building and room automation - today and in the future.

DIGICONTROL ems2, ems4 and ems5 - economic modular system - are network-based, interdisciplinary and freely programmable automation systems for universal tasks in all areas of building and room automation of every plant dimension.

Expandable automation station

DIGICONTROL ems5.CP05E

DIGICONTROL ems5.CP05E is a network-based, freely configurable automation station for the implementation of manifold tasks in all areas of building and room automation. The ems5.CP... is perfectly suited to meet all requirements of the future due to its open communicatíon via all modern transmission channels, the utilisation of existing IT structures, the integration of different trades and systems and the extendable overall concept with a centralised and descentralised distribution of tasks by means of intelligent extension modules. Being a compact automation station it is used as expandable system in smaller plants and is applied in complex building and room automation systems.The ems5.CP05E is furnished with an embedded Web server for fully graphics-based remote control and monitoring of the automation functions. A fully graphical visualization of the plant information is supported as well.The ems5.CP05E can be used as BACnet® Building Controller (B-BC) pursuant to the BACnet® Standardized Device Profile in accordance with the Annex L of the ANSI ASHRAE Standard 135-2001 or DIN EN 16484-5. The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red), RS232/RS485 TX (green), RX (orange), SD card DUO-LED
Housing	DIN rail housing for electrical subdistribution
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Service	Smart operation via WLAN with optional USB LAN adapter
Outputs	■ 4 analogue outputs 0...10 V DC, 10 Bit, 3 mA ■ 6 digital relay outputs 230 V AC / 6 A / no-contact ■ 10 million mechanical switching cycles
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 24 V DC digital inputs ■ 0...10 V DC, 12 bit
System bus	CAN bus
Interfaces	■ 2x ethernet interfaces 10/100 Mbit via integrated switch at the RJ45 sockets ■ 1x RS232/485 ■ 1x CAN bus ■ 1x SD card interface
Other remarks	Watchdog output 24 V DC Integrated SD card slot

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TYPE LIST

TYPE	MICROPROCESSOR SYSTEM
ems5.CP05E	CPU: ARM Cortex™-A5, Cortex™-M4, 500 MHz (A5), 167 MHz (M4) Memory: 256 MB RAM, 512 MB FLASH

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems5.CBM	DIGICONTROL ems5 expansion license for CAN bus module license for an extension module. The license is required from 13th extension module on.	
ems5.FBM	DIGICONTROL ems5 extension license for CAN fieldbus modules, such as ems4.DEA2I or R4D.RCxx. License for an expansion module. The license is required from the 13th expansion module.	
ems5.MOBM2	DIGICONTROL ems5 expansion license of ems5 for the embedded Modbus RTU Master interface via the integrated RS232-/RS485-interface	
ems5.LM	DIGICONTROL ems5 expansion license for load management load group with 8 loads	
ems5.VPN	DIGICONTROL ems5 extension license for a secure VPN communication. Furthermore as Smart Building Connector for the communication with the DIGIVISION - Smart Building as a Service or as BACnet-IP-Gateway for the connection of further BACnet components.	
ems5.EMAIL	DIGICONTROL ems5 expansion license for email dispatch from automation stations	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	

Expandable automation station with integrated display

DIGICONTROL ems2.CP14D

BACnet Building Controller (B-BC) / AMEV profile AS-B

Data sheet number 18015

DIGICONTROL ems2.CP14D is a network-based, freely programmable and expandable controller for the implementation of various tasks in all areas of building and room automation. The ems2.CP14D is ideally suited to meet all requirements of the future because of the open communication via all modern methods of transmission, the utilisation of existing IT infrastructures, the integration of different trades and systems and the expandable overall concept with central and local distribution of responsibilities by means of intelligent (ems4) extension modules. Being a compact controller with integrated display and integrated operating keys, it is used in smaller plants. It is also applied in more complex building and room automation networks as it is an extensible system.
The ems2.CP14D is equipped with an embedded web-server for the entire remote control and the monitoring of controller functions. A fully-graphical visualisation of the plant characteristics is supported as well.
The ems2.CP14D can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardised Device Profile in compliance with the Annex L of the ANSI ASHRAE-Standards 135-2001 and DIN EN 16484-5. The communication is effected by BACnet/IP or BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %, alternativ “Power over Ethernet” (PoE)
Power consumption	6 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red)
Microprocessor system	Coldfire-CPU, MCF 5329, 240 MHz, 16 MB FLASH, 16 MB SDRAM, 4 MB SRAM
RTC	Embedded hardware clock with date and time
Buffering	For SRAM and RTC by means of battery CR2032 (buffering 1-3 years)
Housing	DIN rail housing for electrical subdistribution
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC, 10 Bit, 3 mA ■ 6 digital relay outputs 230 V AC / 6 A / no-contact
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 24 V DC digital inputs ■ 0...10 V DC, 12 bit
Display	Integrated display with multifunctional keyboard for set point input, polling actual values, notifications, etc.

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Interfaces	■ 2 x RS232 / RS485, of which one RS232 (COM-B) is used with DCD-, DSR- and DTR signal modem operation ■ 2 x CAN bus for a maximum of 1MBit/s, bus connection via slider ■ 1 x LIN bus ■ Ethernet interface, 10/100 MBit, RJ45 at the bottom of the housing link LED

TYPE

ems2.CP14D

ACCESSORY

TYPE	DESCRIPTION	
ems2.AD90	Adaptor for a 90° shifted installation of automation components on a top-hat rail	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems2.CBM	DIGICONTROL ems2 extension license for can bus modules License for one extension module. The license is required as of the 7th extension module.	
ems2.BACNET	DIGICONTROL ems2 extension license for BACnet server	
ems2.GWS	DIGICONTROL ems2 extension license for graphics-capable web server	
ems2.MOBM2	DIGICONTROL ems2 extension license for Modbus	
ems2.LM	DIGICONTROL ems2 extension license for load management	
ems2.EMAIL	DIGICONTROL ems2 extension license for e-mail dispatch from the automation station	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems2.FR	Front mounting frame for automation stations ems2.CP14D and ems2.R4D1B	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	

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ACCESSORY

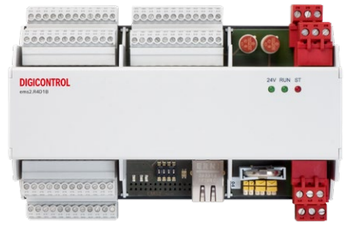
TYPE	DESCRIPTION	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	

Expandable automation station

DIGICONTROL ems2.R4D1B

BACnet Building Controller (B-BC) / AMEV profile AS-B

Data sheet number 18050



DIGICONTROL ems2.R4D1B is a network-based, freely programmable, expandable controller for the implementation of manifold tasks in all fields of building and room automation. The open communication via all modern transmission methods, the utilisation of existing IT infrastructures, the integration of different trades and systems as well as the expandable overall concept with centralised and local distribution of tasks via fine modular intelligent (ems4) expansion modules mean that the ems2.R4D1B is perfectly suited for all future requirements. Since the ems2.R4D1B is a compact controller, it is used in smaller plants. It is also applied in more complex building and room automation networks as it is an extensible system.
The ems2.R4D1B is equipped with an embedded web-server for the entire remote control and the monitoring of controller functions. A fully-graphical visualisation of plant characteristics is supported as well.
The ems2.R4D1B can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardised Device Profile in compliance with the Annex L of the ANSI ASHRAE-Standards 135-2001 and DIN EN 16484-5. The communication is effected by BACnet/IP or BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %, alternativ “Power over Ethernet” (PoE)
Power consumption	4 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	Top hat rail 35 mm
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red)
Housing	Plastic housing
Weight	375 g
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC, 10 bit ■ 4 digital relay outputs 230 V AC / 6 A / no-contact ■ 2 TRIAC outputs / max. 800 mA
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 0...10 V DC, 12 bit ■ 24 V DC digital inputs
System bus	CAN bus
Interfaces	■ 2 x RS232 / RS485, of which one RS232 (COM-B) is used for modem operation ■ 2 x CAN bus ■ 1 x LIN bus ■ Ethernet interface, 10/100 MBit, RJ45

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TYPE
ems2.R4D1B

ACCESSORY

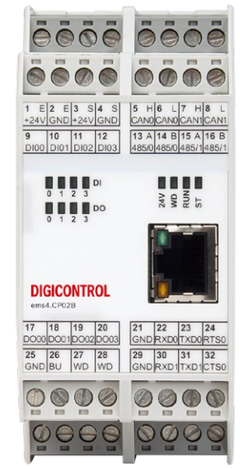
TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems2.CBM	DIGICONTROL ems2 extension license for can bus modules License for one extension module. The license is required as of the 7th extension module.	
ems2.BACNET	DIGICONTROL ems2 extension license for BACnet server	
ems2.GWS	DIGICONTROL ems2 extension license for graphics-capable web server	
ems2.MOBM2	DIGICONTROL ems2 extension license for Modbus	
ems2.LM	DIGICONTROL ems2 extension license for load management	
ems2.EMAIL	DIGICONTROL ems2 extension license for e-mail dispatch from the automation station	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems2.FR	Front mounting frame for automation stations ems2.CP14D and ems2.R4D1B	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	
ems2.AD90	Adaptor for a 90° shifted installation of automation components on a top-hat rail	

Modular automation station

DIGICONTROL ems4.CP02B

Data sheet number 19020

The DIGICONTROL ems4.CP02B - economic modular system - is a network-based, interdisciplinary, freely programmable automation system for universal tasks in all areas of building automation for systems of all sizes. The control unit can communicate without any additional components and is networkable at autmation and management level.
Features: Ethernet RJ45, integrated web server, Peer to Peer communication



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	3.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	4x Status LED
Microprocessor system	ColdFire MCF5282
Buffering	Lithium battery and Gold-Cap
Weight	250 g
Housing	Plastic housing
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	45 x 100 x 115 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 integrated digital outputs 24 V DC, transistor 500 mA, short-circuit proof ■ LED status indicator for each output
Inputs	■ 4 integrated digital inputs 24 V DC ■ LED status indicator for each input
System bus	CAN bus
Interfaces	■ 2 x RS232 / RS485 on terminals, one RS232 is modem-capable ■ 1 x Ethernet 10/100 Mbit/s via RJ45 plug ■ 2 x CAN interface ■ 1 x LIN bus ■ Integrated web server ■ Can be expanded via interface modules (e.g. M-Bus, RS232 / RS485) ■ IOs can be expded up to 61 ems4 modules without repeater via CAN interface

TYPE
ems4.CP02B

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ACCESSORY

TYPE	DESCRIPTION	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems4.PGU	The programming and charging cable ems4.PGU is used as connecting cable for a direct connection between the automation station (ems4.CP02B) and a notebook.	
ems4.TSBV5P	Mounting rail bus connector ems4.TSBV5P for ems4 modules	

Module for saving signal data of automation systems

DIGICONTROL ems4.TLOG

Data sheet number 19090

The module ems4.TLOG is used for saving signal data of a DIGICONTROL automation system and enables long-term logging of up to 54 different signals. These signals are saved on a USB stick or SD card. The configuration of the data to be saved is performed by means of the configuration tool web-CADpro. BACnet-compliant reading of the TrendLog objects is carried out by means of the ems2-CPU.
The data can be logged individually or in blocks of up to 6 signals. Signal logging can be performed periodically via an adjustable time and a parametrisable change of value. The USB stick included in the scope of delivery has a storage capacity of 8 GByte.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	Max. 3 W
Button	Front: 1x for CAN bus configuration
Mounting	DIN rail mounting
LED display	CAN bus activity: (red /green) (front of device) LED1 (green) USB stick has been detected LED2 (yellow) data logging LED3 (green) SD card has been detected LED4 (red) fault, data logging not
Housing	Housing for use in distribution boards in accordance with DIN 43880
Weight	120 g
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN bus ■ USB 2.0 for memory stick (Format: FAT32, max. Size: 32 GByte) ■ SD card interface (Format: FAT32, max. Size: 32 GByte)

TYPE

ems4.TLOG

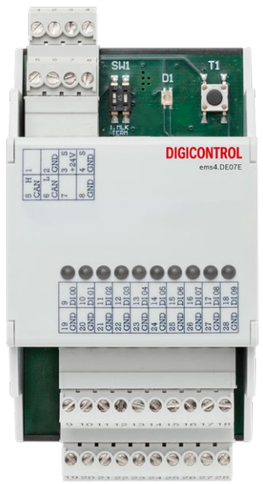
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Digital input module with 10 digital inputs

DIGICONTROL ems4.DE07E

Data sheet number 19250



The ems4.DE07E is a module for logging digital input signals 24 V DC. As it relates to polarity, the input signals have to be configured individually by means of the software. The respective status of the input signal is displayed in the configured colour via the 10 LEDs on the device front. De-bouncing the input signals is performed by means of the software and can be parameterised within wide limits. Each digital input can be individually configured as signal input and message output. Furthermore, there is the option to directly control outputs of additional bus modules depending of the input signals. The module automatically detects the speed of the connected CAN bus system.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W
Mounting	Top hat rail 35 mm
LED display	CAN bus activity: (red /green), LED D1 on PCB 10 signal LEDs on front of the device. LED color configurable by software: green, red, orange
Weight	105 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Inputs	■ 10 digital inputs 24 V DC ■ LED status indicator per input ■ Configuration of inputs regarding polarity (jointly for all 10 inputs) ■ Configuration of each individual input as meter is possible. The maximum counter frequency is 50 Hz (pulse / pause ratio = 1). ■ Configuration of each individual input as “sensor input” with configurable sensor pulse extension ■ Status LEDs are separately configurable RED / GREEN / ORANGE for each input. ■ Direct control of any number of digital inputs depending on the configuration or the input signal
Interfaces	CAN

TYPE

ems4.DE07E

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ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Digital output module

DIGICONTROL ems4.DA01E

Data sheet number 19315

The DA01E module enables the switching of 1...16 digital outputs (transistor outputs). A common status signal is provided for each two outputs, which can be used to detect a short circuit at the output, for example. Each output of the ems4.DA01E has special protection mechanisms:

- Short-circuit-proof
- Overload protection
- Current limitation
- Thermal shutdown

A separate power supply for the load circuit is required.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W without load at the outputs
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
Bus connector	DIN rail mounting connector (HBUS)
LED display	1x CAN bus activity (red/green), LED D1 on printed circuit board 16x LED for transistor outputs (green) on front of device
Weight	105 g
Housing	Plastic housing
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Ambient temperature	+5...+45 °C
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	16x transistor outputs 24 V DC, 0.5 A
System bus	CAN bus
Interfaces	CAN
Other remarks	Push-button on printed circuit board for CAN bus configuration

TYPE

ems4.DA01E

Digital output module for top hat rail mounting

DIGICONTROL ems4.DA02E

Data sheet number 19330

The digital output module ems4.DA02E serves as an extension module for automation equipment in the DIGICONTROL ems series. It has 4 relay outputs for maximum 230 V AC, 6 A (AC1), 2 A (AC1).

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green)
Weight	140 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4x relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC 6 A (AC1), 2 A (AC3)
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DA02E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Analogue input module for DIN rail mounting

DIGICONTROL ems4.AE03B

Data sheet number 19430

The ems4.AE03B is a module for logging temperatures of the resistance thermometer PT/NI/CU 1000 or input signals 0(2)...10 V DC / 0(4) ... 20 mA with an integrated microcontroller and memory module for accommodating a specially customised programme. Two measuring ranges are available for temperature measurement, which cover different temperature ranges depending on the sensor type. The respective input signal type (PT-/NI-/CU-1000 / 0(2)...10 V DC / 0(4)...20 mA) and the measuring range required (for temperature measurements) are configured separately for each input using the configuration tool.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.5 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	Via Duo LED
Housing	Plastic housing
Weight	130 g
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	22.5 x 100 x 115 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Inputs	■ 8 analogue inputs PT-/NI-/CU-1000 / 0(2)...10 V DC / 0(4) ... 20 mA , 16 Bit ■ 2 selectable temperature measuring ranges
System bus	CAN bus
Interfaces	1 x LIN bus

TYPE

ems4.AE03B

ACCESSORY

TYPE	DESCRIPTION	
ems4.TSBV5P	Mounting rail bus connector ems4.TSBV5P for ems4 modules	

Analogue output module for top hat rail mounting

DIGICONTROL ems4.AA01E

Data sheet number 19350

The analogue output module ems4.AA01E serves as an extension module for automation equipment in the DIGICONTROL ems series. It has 4 analogue outputs which can be individually configured for voltage (0...10 V) or current (0/4...20 mA).

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2.1 W (maximum load of analogue outputs)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	CAN bus activity: (red/green)
Housing	Plastic housing
Weight	100 g
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC or 0/4...20 mA, maximum output load per output with configuration ■ Voltage: 5 mA ■ Current: load 350 - 500 Ohm ■ 10 bit resolution
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.AA01E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

CAN-Multifunction input module with 10 multifunctional inputs

DIGICONTROL ems4.ME01E

Data sheet number 57100

The ems4.ME01E has 10 multifunctional inputs which can be used as digital, analogue and temperature sensor input. Temperature sensors of type PT1000, NI1000(DIN) or NI1000(TKR5000) can be connected. The analogue (0...10 V) signal can also be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a pushbutton. The digital signal is debounced by means of an adjustable time (identification time) which can be set via the module parameters. There is the additional option to directly control a digital output module (DA0xB). The module automatically detects the speed of the connected CAN bus system.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	62
Button	Front: 1x CAN bus configuration
Mounting	DIN rail mounting
LED display	CAN bus activity: (red /green)
Weight	100 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Inputs	■ 10 multifunction inputs (selectable) ■ Analogue 0/2...10 V input (scalable) - 12 Bit ■ PT1000, NI1000 - 12 bit (temperature range: -50°C...+150°C) ■ Digital input (24 V)
Interfaces	CAN, LIN

TYPE

ems4.ME01E

ACCESSORY

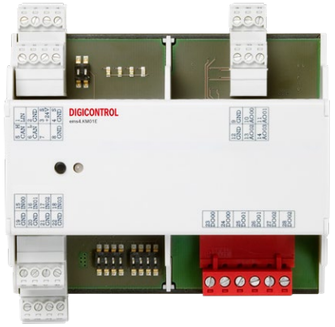
TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Multifunction modul

DIGICONTROL ems4.KM01E

Data sheet number 57080

The ems4.KM01E module is used to switch 1 ... 3 digital outputs (relay outputs). Moreover, it has 4 multi-function inputs and 4 analogue outputs. It can be installed in switching cabinets and electrical sub-distribution racks or it can even be mounted under the floor.



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	3 W
Electrical connection	Via screw terminals for wires up to 2.5 mm² (relay outputs), up to 1.5 mm² (all other screw terminals)
Mounting	Top hat rail 35 mm
LED display	Device front: CAN bus activity (LED red/green) Circuit board: LED 1-4
Weight	206 g
Housing	Plastic housing, for use in distribution boards in accordance with DIN 43880
Dimensions	107.6 x 110 x 62.2 (incl. terminals) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0 ... 10 V or 2 ... 10 V, max. 3.5 mA ■ 3 relay outputs 230 V, 16 A, approx 80 A inrush current
Inputs	4 multi-function inputs PT1000/NI1000/0 ... 10 V/ digital 24 V DC
System bus	CAN bus
Interfaces	LIN, CAN

TYPE

ems4.KM01E

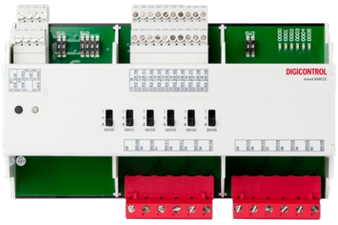
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-107	Mounting rail bus connector H bus 107.6	

Multifunction module with integrated local priority operating level (LOD)

DIGICONTROL ems4.KM02E

Data sheet number 57082



The ems4.KM02E is equipped with 10 multi-functional inputs which serve, depending on the specific needs, as analogue, digital or temperature sensor input. Temperature sensors of type PT1000, NI1000 (DIN) or NI1000 (TKR5000) can be connected. The analogue (0...10 V) signal can additionally be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a push button. In addition to the input signals, the ems4.KM02E module also has 6 digital outputs. The control of the digital output by a different input module (DE0xB) is possible. The state of the digital outputs is displayed by the status LEDs of the module. All physical outputs are modifiable via the local priority operating level. Slide switches with the positions AUTO-0-I are available for this purpose.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5 W (all relays switched on)
Electrical connection	2.5 mm² (Relay outputs), 1.5 mm² (all other screw terminals)
Current measurement relay output	2x, I2.5 = 0...16 A, resolution approx. 15 mA
Function	Shutter control / 3 point, the electrical interlock of the handsets is configurable
Mounting	DIN rail mounting
LED display	6x Status LED for relay outputs (green), 1x CAN bus activity (red/green)
Weight	370 g
Housing	Plastic housing
Dimensions	161.6 x 110 x 62.2 (incl. clamps) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 6 relay outputs 230 V AC, 16 A ohmic load, approx. 80 A switch-on current ■ (6 x status LED - switching status of relay outputs) ■ AC1: 16 A/250 V AC ■ AC3: 8 A/250 V AC ■ 2x 3-phase (configurable via DIP switches) ■ Slide switch for local priority operating level (LOD) AUTO – 0- 1
Inputs	■ 10 universal inputs, freely configurable as: ■ PT/NI1000, resolution 12 bit, (temperature: -50 °C...+150 °C) ■ Digital inputs 24 V DC ■ 0...10 V DC, resolution 12 Bit
Local override device	■ Relay outputs: Operation via slide switch (Manual-Off-AUTO) ■ 6 inputs for feedback of all switch positions of the local override operation level

CONTINUED ON PAGE 51 ▸

◂ CONTINUED FROM PAGE 50

System bus	CAN bus
Interfaces	LIN, CAN
Other remarks	Exposed circuit parts have to be treated according to the ESD standard.

TYPE

ems4.KM02E

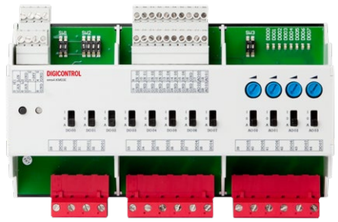
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	

Multifunction module with integrated local priority operating level (LOD)

DIGICONTROL ems4.KM03E

Data sheet number 57084



The ems4.KM03E is equipped with 7 multi-functional inputs which serve, depending on the specific needs, as analogue, digital or temperature sensor input. Temperature sensors of type PT1000, NI1000 (DIN) or NI1000 (TKR5000) can be connected. The analogue (0...10 V) signal can additionally be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a push button. In addition to the input signals, the ems4.KM03E module also has 4 analogue and 8 digital outputs. As it relates to the analogue output, the user can choose between a 0...10V and a 2...10V signal. The control of the digital outputs by means of another input module (DE0xB) is also possible. The status (switched) of the digital outputs is displayed by the status LEDs of the module. All physical outputs are modifiable via the local priority operating level. Slide switches with the positions AUTO-0-I are available for this purpose. The analogue outputs are equipped with additional potentiometers which enable the setting of the analogue voltage in the manual mode.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5.5 W (all relays switched on)
Button	Front: 1x for CAN bus configuration
Electrical connection	2.5 mm² (Relay outputs), 1.5 mm² (all other screw terminals)
Current measurement relay output	4x, I0,1,4,7 = 0...16 A, resolution approx. 15 mA
Mounting	DIN rail mounting
Function	Shutter control / 3 point, the electrical interlock of the handsets is configurable
LED display	8x Status LED for relay outputs (green), 1x CAN-Bus-Activity (red/green)
Weight	370 g
Housing	Plastic housing
Dimensions	161.6 x 110 x 62.2 (incl. clamps) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0/2...10 V DC, 4 mA current load per output ■ 8 relay outputs 230 V AC, 16 A ohmic load, approx. 80 A switch-on current ■ 8 x status LED - switching status of relay outputs ■ AC1: 16 A/250 V AC / AC3: 8 A/250 V AC ■ Slide switch for local priority operating level (LOD) AUTO – 0- 1 ■ 2x 3-phase (configurable, about DIP switches)

CONTINUED ON PAGE 53 ▸

◂ CONTINUED FROM PAGE 52

Inputs	■ 7 universal inputs, freely configurable as: ■ PT/NI1000, resolution 12 bit (temperature: -50 °C...+150 °C) ■ Digital inputs 24 V DC ■ 0...10 V DC, resolution 12 bit
Local override device	■ Relay outputs: operation by means of slide switch (MANUAL-OFF-AUTO) ■ Analogue outputs: operation by means of slide switch (MANUAL-OFF-AUTO) and potentiometer (0-100%) ■ 12 inputs for feedback of all switch positions of the local operating level
System bus	CAN bus
Interfaces	LIN, CAN

TYPE

ems4.KM03E

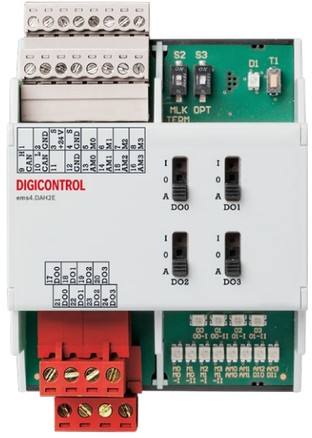
ACCESSORY

TYPE	DESCRIPTION
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6

Digital output module with local override for top hat rail mounting

DIGICONTROL ems4.DAH2E

Data sheet number 19635



Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.DAH2E is a module for switching up to four relay outputs with an additional local override. It serves as an extension module for automation equipment of the DIGICONTROL ems series.The module's software enables the processing of all signals in the automatic and manual mode. furthermore, additional functions (processing of the fault signal inputs, command execution control...) are performed by the module software.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green) 8x LED for digital Inputs (Red/Green parameterized)
Housing	Plastic housing
Weight	170 g
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4x relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC, 6 A (AC1), 2 A (AC3)
Inputs	■ 4x four digital inputs (24 V DC) for connection to feedback message, feedback optionally via digital input or direct use of the output signal (configurable) ■ 4x digital fault message inputs (24 V DC) ■ Programmable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DAH2E

ACCESSORY

TYPE	DESCRIPTION
ems4.HBUS-71	Mounting rail bus connector H bus 71.6

Digital output module with local override for top hat rail mounting

DIGICONTROL ems4.DAH3E

Data sheet number 19640

Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.DAH3E is a module for switching up 2 x 2-stage relay outputs with an additional local override.It serves as an extension module for automation equipment of the DIGICONTROL ems series.The module's software enables the processing of all signals in the automatic and manual mode. Furthermore, additional functions (processing of the fault signal inputs, command execution control...) are performed by the module software.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green) 8x LED for digital Inputs (Red/Green parameterized)
Housing	Plastic housing
Weight	170 g
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 2x 2-stage relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC 6 A (AC1), 2 A (AC3)
Inputs	■ 4x digital feedback message inputs (24 V DC) ■ 2x digital fault message inputs (24 V DC) ■ 2x digital inputs (24 V DC) ■ Programmable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DAH3E

ACCESSORY

TYPE	DESCRIPTION
ems4.HBUS-71	Mounting rail bus connector H bus 71.6

Analogue output module with local override for top hat rail mounting

DIGICONTROL ems4.AAH3E

Data sheet number 19340

Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.AAH3E is a module for the output of analogue voltages 4x 0...10 V DC with additional local override.It services as an extension module for automation equipment of the DIGICONTROL ems series. The module`s software enables the processing of all signals in automatic and manual mode. furthermore, addtional funcitons (e.g. value adjustment, command execution control, ...) are performed by the module software.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.5 W (maximum load of analogue outputs)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	CAN bus activity´: (red/green)
Housing	Plastic housing
Weight	170 g
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4x analogue outputs 0...10 V DC, maximum output ■ 10 bit resolution
Inputs	■ 4x analogue outputs 0...10 V DC for connection to feedback message ■ Feedback optionally via analogue input or direct use of the output signal (configurable) ■ Configurable value indication of the feedback can be adjusted to the output signal via tolerance specification ■ Prgrammable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.AAH3E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

System module 19“ for front installation

DIGICONTROL ems4.DE00F

Data sheet number 19710

The ems4.DE00F system module is to be arranged in a 19” subrack. This module supplies power (24 V DC system, 24 V DC emergency, CAN, LIN) to all other 19” modules. Five freely configurable signals are available for display on the module. The signals are sent from the control unit to the ems 4.DE00F, where they are displayed via LEDs (red / green). The module also contains a Piezo signal generator which enables audible signalling, e.g. of a system malfunction. Two potential-free outputs (relay changers) allow an additional signal output for any remote display panels or for switching a consumer. These can either be switched on or off in a defined manner by the control unit, or an automatic on/off function (configurable frequency) can be implemented using the ems4.DE00F.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
LED display	Via Duo LED
Housing	Aluminium front panel with front film
Weight	230 g
Dimensions	12HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 3 x push button switch, potential-free NO contact load 24 V, 30 mA ■ 2 x potential-free changeover contact 24 V AC, 2.5 A ohmic load ■ Transistor output for flashing cycle of all connected 19” modules with alarm inputs ■ Piezo signal transmitter
Inputs	1 x digital 24 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DE00F

Digital input module 19“ for front installation

DIGICONTROL ems4.DE02F

Data sheet number 19730

The ems4.DE02F is a module for recording digital 24 V DC input signals for the 19” front panel installation. The respective status of the input signal is displayed via the LEDs on the front of the unit. The colour of the LED (red / green / orange) can be configured individually for each input. The polarity of the input signals can be individually adjusted for all 8 inputs. The LEDs are displayed depending on the polarity. The input signals are debounced by the software and can be configured within broad limits. Each digital input of the module can be configured individually as a signal input, a counter or a sensor input. A “switch impulse stretching” can also be configured in the “pushbutton input” function. As an alternative to using the digital inputs, each input can be configured individually as signal output. For this operating mode applies that not the electrical signal at the module input determines LED control but the connected controller by regulating the virtual outputs (LED control). In this configuration, the LEDs are controlled exclusively by the controller and not by the signal of the digital input.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	0.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
LED display	Via Duo LED
Housing	Aluminium front panel with front film
Weight	190 g
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Inputs	■ 8 x digital, 24 V DC ■ Polarity switching for each input can be configured separately via sliding switches ■ Status LEDs can be configured separately for each input as RED / GREEN / ORANGE via software ■ Each individual input can be configured as a counter. The maximum counting frequency is 50 Hz (pulse / pause ratio = 1) ■ Configuration of each individual input as a “sensor input” with configurable sensor pulse extension.
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DE02F

Digital output module 19“ with LOD for front installation

DIGICONTROL ems4.DA02F

Data sheet number 19610

The ems4.DA02F is a module for switching up to 4 relay outputs with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	260 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 4 x relay, potential-free NO contact, 230 V AC, 6 A ohmic load ■ Feedback with regard to manual and output value per output on the control unit Processing of short-term pulses from 20 ms ■ LED status indicator for the outputs ■ LED status indicator for bus activity ■ LED status indicator for alarm
Inputs	8 x digital, 24 V DC, short-term pulses of at least 20 ms
Local override device	■ Operation via rotary switch (MANUAL-OFF-AUTO) ■ 12 digital inputs for the feedback signal from all switch positions of the LOD
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DA02F

Digital output module 19“ with LOD for front installation

DIGICONTROL ems4.DA03F

Data sheet number 19620

The ems4.DA03F is a module for switching up to 2 x 2-stage relay outputs with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	260 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 2 x 2 (4 internally connected relays) 230 V AC 6 A ohmic load ■ Feedback with regard to manual and output value per output on the control unit ■ LED status indicator for the outputs ■ LED status indicator for bus activity ■ LED status indicator for alarm
Inputs	6 x digital, 24 V DC, short-term pulses of at least 20 ms
Local override device	■ Operation via rotary switch (STAGE2-STAGE1-OFF-AUTO) ■ 8 digital inputs for the feedback signal from all switch positions af the LOD ■ Also active without standard supply voltage 24 V or without microprocessor and system bus CAN
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DA03F

Analogue output module 19“ with LOD for front installation

DIGICONTROL ems4.AA03F

Data sheet number 19910

The ems4.AA03F is a module for the output of analogue voltages 2 x 0 ...10 V DC with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2.1 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	220 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	2 analogue outputs, 0 ... 10 V DC, 10 bit (load 2.5 mA)
Inputs	2 x analogue, 0–10 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.AA03F

Analogue output module 19“ with LOD for front installation

DIGICONTROL ems4.AA04F

Data sheet number 19920

The ems4.AA04F is a module for the output of analogue voltages 4 x 0 ...10 V DC with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	0.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	220 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	4 analogue outputs, 0 ... 10 V DC, 10 bit (load 2.5 mA)
Inputs	4 x analogue, 0–10 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.AA04F

Carrier frame for ems4 front operating modules

DIGICONTROL ems4.TRSF

Data sheet number 19950

The system support frame ems4.TRSF is used for the installation of up to 10 ems4 front modules with modular width 8 and 3 height modules each. It has to be fixed with 4 screws type M6 in the control cabinet door. The cutting edges are covered by the surrounding frame. Protection class IP54 via surrounding polyurethane sealing.

GENERAL SPECIFICATIONS

Housing	Plastic ABS (PA6-GF10) and macrolon, colour: similar RAL 7039
Dimensions	483 x 178 x 54 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar like flammability class UL94 group V2, self-extinguishing

TYPE

ems4.TRSF

Carrier frame with viewing window

DIGICONTROL ems4.TRSF12

Data sheet number 42001

The ems4.TRSF12 carrier frame is used to install 12 control cards, each with 8 DU and 3 RU. Various 19” plug-in units with 10 DU and 3 RU each can be mounted in the carrier. The built-in units are fixed with M2.5 screws. The frame has to be fixed in the control cabinet door with 4 M6 screws. The cut edges are covered by the surrounding frame. Protection class IP54 due to polyurethane seal all around. Lockable using of a lock.

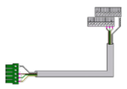
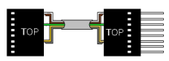
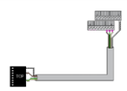
GENERAL SPECIFICATIONS

Housing	Plastic ABS (PA6-GF10) and Makrolon, colour RAL 9005 black
Dimensions	313 x 180 x 48 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar like flammability class UL94 group V2, self-extinguishing

TYPE

ems4.TRSF12

ACCESSORY

TYPE	DESCRIPTION	
ems4.VK10	The cable ems4.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of ems4 modules within a control cabinet field and as connection cable between ems4 modules in two control cabinet fields in series.	
ems4.VK20	The cable ems4.VK20 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connectors) and the module ems4.DE00F (front mounting).	
ems4.VK30	The cable ems4.VK30 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and the adapter module ems4. AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	
ems2.VK10	The cable ems2.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of emsX modules (H connectors) within a control cabinet field and as connection cable between emsX modules in two control cabinets in series.	
ems2.VK20	The cable ems2.VK20 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the module ems4.DE00F (front mounting).	
ems2.VK30	The cable ems2.VK30 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the adapter module ems4.AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	

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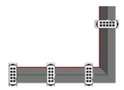
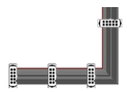
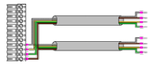
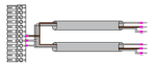
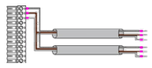
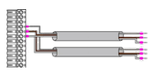
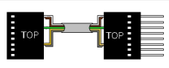
ACCESSORY

TYPE	DESCRIPTION	
ems4.FBK01	The ribbon cable ems4.FBK01 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 10 front mounting modules can be connected with each other.	
ems4.FBK02	The ribbon cable ems4.FBK02 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 11 front mounting modules can be connected with each other. One connector is located separately to enable a bus connection to another 19‘‘ rack with 10 slots.	
ems4.BP4	19” dummy plate, width 4 HP	
ems4.BP8	19” dummy plate, width 8 HP	
ems4.AH10	Protective cover for the rear of 19” systems	
ems4.AM01F	Adapter module for system connection of 19” systems	

Connection cables for automation equipment

DIGICONTROL

TYPE	DESCRIPTION	
emsX.AKL4	This terminal serves as coupling for an existing plug of an ems4 module of type ME (e.g. ems4.DE01B).	
ems2.MK10	The modem cable ems2.MK10 is used in the control cabinet as connection cable between the automation station (ems2.CP14D, ems2.R4D1B) and a standard modem (e.g. DC-CIMO).	
ems2.SK10	The control cabinet cable ems2.SK10 is used in the control cabinet as connection cable for the Multilink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with external emsX modules.	
ems2.SK12	The control cabinet cable ems2.SK12 is used in the control cabinet as connection cable for the Multilink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK20	The control cabinet cable ems2.SK20 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with an external display (e.g. ems4.ec3-TE).	
ems2.SK22	The control cabinet cable ems4.SK22 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK30	The control cabinet cable ems2.SK30 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with an external display (e.g. ems4.ec3-TE).	
ems2.SK32	The control cabinet cable ems2.SK32 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK40	The control cabinet cable ems2.SK40 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with external components.	
ems2.SK42	The control cabinet cable ems2.SK42 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.VK10	The cable ems2.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of emsX modules (H connectors) within a control cabinet field and as connection cable between emsX modules in two control cabinets in series.	

CONTINUED ON PAGE 67 ▸

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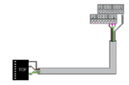
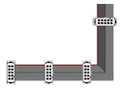
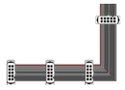
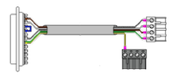
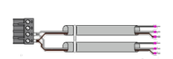
TYPE	DESCRIPTION	
ems2.VK20	The cable ems2.VK20 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the module ems4.DE00F (front mounting).	
ems2.VK30	The cable ems2.VK30 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the adapter module ems4.AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	
ems4.FBK01	The ribbon cable ems4.FBK01 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 10 front mounting modules can be connected with each other.	
ems4.FBK02	The ribbon cable ems4.FBK02 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 11 front mounting modules can be connected with each other. One connector is located separately to enable a bus connection to another 19‘‘ rack with 10 slots.	
ems4.MK10	The modem cable ems4.MK10 is used as connection cable between the automation station ems4.CP02B and a modem (e.g. DC-cimo).	
ems4.MK20	The modem cable ems4.MK20 is used as connection cable between the automation station ems4.CP02B and other common modems.	
ems4.PGU	The programming and charging cable ems4.PGU is used as connecting cable for a direct connection between the automation station (ems4.CP02B) and a notebook.	
ems4.SK00	The control cabinet cable ems4.SK00 is used in the control cabinet as connection cable for the MultiLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with external emsX modules.	
ems4.SK10	The control cabinet cable ems4.SK10 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with an external display (e.g. ems4.ec3-TE) or external emsX modules.	
ems4.SK20	The control cabinet cable ems4.SK20 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with an external display (e.g. ems4.ec3-TE).	
ems4.SK30	Use: The control cabinet cable ems4.SK30 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with the automation station or the building control system.	
ems4.SK40	The control cabinet cable ems4.SK40 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems4.SK50	The control cabinet cable ems4.SK50 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	

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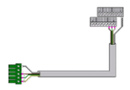
◂ CONTINUED FROM PAGE 67

TYPE	DESCRIPTION	
ems4.SK60	The control cabinet cable ems4.SK60 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems4.SK70	The control cabinet cable ems4.SK70 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an additional automation station in a bus line.	
ems4.VK10	The cable ems4.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of ems4 modules within a control cabinet field and as connection cable between ems4 modules in two control cabinet fields in series.	
ems4.VK20	The cable ems4.VK20 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connectors) and the module ems4.DE00F (front mounting).	
ems4.VK30	The cable ems4.VK30 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and the adapter module ems4. AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	
ems4.VK_RF01E_1	The cable ems4.VK_RF01E_1 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 0.5 m; completely pre-assembled	
ems4.VK_RF01E_2	The cable ems4.VK_RF01E_2 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 2.0 m; completely pre-assembled	
emsX.AK24	The adapter cable emsX.AK24 is used for connecting the Multilink (CAN bus) between ems-modules with HBUS connector and ems-modules with TBUS connector.	
emsX.AK42	The adapter cable emsX.AK42 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and ems4 modules (H connector).	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	

Visualisation and operation

Building and room automation shall be able to communicate with the user in a clear and understandable manner. The effective communication with people is one of the most important quality features of intelligent building automation and control systems.

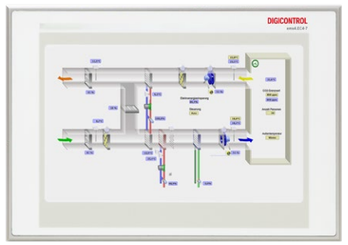
The DIGICONTROL control units are characterised by comfort and high performance. Ethernet/IP, BACnet/IP and other interfaces of modern building automation and control systems allow direct integration into the BACS network. It is possible to install the operating and display units and touch panels at any location in the building and you can visualise and operate all BACS components and the integrated technical building services.

Our mobile operation is innovative: simple and intuitive, via smartphones and tablet PCs, via Internet and, if required, via Wi-Fi / WLAN. The ems5 meets all your requirements. You are independent and control everything comfortably and safely, even when you are not on site.

easy client - Ethernet - 7” WEB touch panel

DIGICONTROL ems4.EC4-7

Data sheet number 19137



7” touch panel for the integration in Ethernet networks and as BACnet touch operator terminal for connection to the BACnet building controller ems2.CP14D and ems2.R4D1B, based on an embedded WEB server.The ems4.EC4-7 (Rev_1) can be used from the webCADpro 11.30 configuration tool.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %, via supplied connecting cable (fuse protection 1 A), using a power supply according to EN 61000-6-2
Power consumption	4.5 W (Background lighting on)
Mounting	Front Panel mounting directly with frame
Weight	610 g
Housing	Aluminium front panel with front film
Dimensions	202 x 142.3 x 29.5 mm
Protection class	IP54 front, IP20 rear
Storage temperature	-20...+70 °C
Operating temperature	0...+60 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution: WVGA / 800 x 480 pixel / 7.0” ■ 16Bit / 65,536 colours ■ 4-wire analogue resistive touch technology ■ 152.4 x 91.4 mm active area ■ 178 mm diagonal ■ LED background lighting
Interfaces	Ethernet 100 MBit/s
Trend	Graphically displayable
Graphic	Graphically and dynamically displayable

TYPE

ems4.EC4-7

ACCESSORY

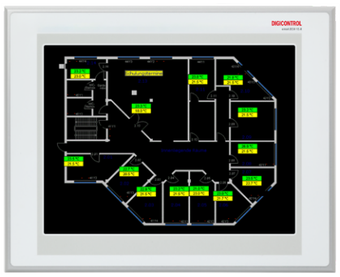
TYPE	DESCRIPTION	
ems4.EC4-7-WAG	Wall-mounting housing for ems4.EC4-7	
ems4.EC4-7-WEG	Wall-installation housing for ems4.EC4-7	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	

easy client - Ethernet - 10.4“ WEB touch panel

DIGICONTROL ems4.EC4-10.4

Data sheet number 19139

10.4” touch panel for the integration in Ethernet networks and as BACnet touch operator terminal for connection to the BACnet building controller ems2.CP14D and ems2.R4D1B, based on an embedded WEB server.



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %, via supplied connecting cable (fuse protection 1 A), using a power supply according to EN 61000-6-2
Power consumption	7.2 W
Mounting	Front Panel mounting directly with frame
Weight	1600 g
Housing	Aluminium front panel with front film
Dimensions	291.2 x 236 x 36.14 mm
Protection class	IP65 front, IP20 rear
Storage temperature	-20...+70 °C
Operating temperature	0...+60 °C
Ambient humidity	5...90 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution: SVGA / 800 x 600 pixels / 10.4” ■ 18Bit / 262,144 colours ■ 4-wire analogue resistive touch technology ■ 264 mm diagonal ■ Active Area 211 x 158 mm ■ LED background lighting
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems4.EC4-10.4

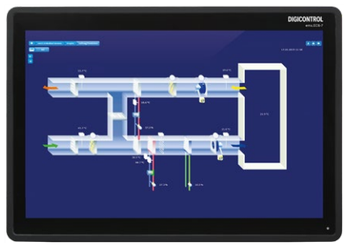
ACCESSORY

TYPE	DESCRIPTION	
ems4.EC4-10.4-WAG	Wall-mounting housing for ems4.EC4-10.4	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	

easy client - Ethernet - 7“ WEB touch panel

DIGICONTROL ems.EC6-7

Data sheet number 31220



7-inch display for convenient operation of automation stations based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “Onboard MCE” functions contained in the automation stations.Furthermore, the web touch panel is used for the graphical display of plant diagrams with dynamic overlays.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %, via supplied connecting cable (fuse protection 1 A), using a power supply according to EN 61000-6-2
Power consumption	Typ. 8 W
Mounting	Front panel mounting VESA 75
Housing	Silicone rim, ABS plastic bach casing, tempered glass front - reflection-reduced
Weight	approx. 1000 g
Dimensions	approx. 195.6 x 137.6 x 38.8 mm
Protection class	IP65 front, IP40 rear
Storage temperature	-20...+70 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Display	■ Graphic resolution WSVG / 1024 x 600 Pixel / 7” ■ 18 bit / / 262.144 colours ■ Capacitive Multi-touch technology ■ 177.8 mm diagonal ■ Active display area 154.2 x 85.9 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-7

easy client - Ethernet - 10.1“ WEB touch panel

DIGICONTROL ems.EC6-10.1

Data sheet number 31230

10.1-inch display for convenient operation of automation stations, based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “onboard MCE” functions contained in the automation stations.Furthermore, the web touch panel is used for the graphical display of plant diagrams wiht dynamic overlays.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %, via supplied connecting cable (fuse protection 1 A), using a power supply according to EN 61000-6-2
Power consumption	Typ. 11 W
Mounting	Front panel mounting with rear mounting brackets (264.0 x 180.0 mm)
Housing	Rubber frame, plastic back, tempered glass, front - anti-reflective
Weight	approx. 2100 g (without installation frame)
Dimensions	Approx. 278,0 x 203,6 x 33,3 mm (without installation frame)
Protection class	IP65 front, IP40 rear
Storage temperature	-20...+70 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution WXGA / 1280 x 800 pixels / 10.1” ■ 24 bit / 16.7 M colours ■ Capacitive Multi touch technology ■ 256.5 mm diagonal ■ Active display area 217 x 136 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-10.1

easy client - Ethernet - 15.6“ WEB touch panel

DIGICONTROL ems.EC6-15.6

Data sheet number 31240

15.6-inch display for convenient operation of automation stations, based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “onboard MCE” functions contained in the automation stations. Furthermore, the web touch panel is used for the graphical display of plant diagrams with dynamic overlays.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %, via supplied connecting cable (fuse protection 1 A), using a power supply according to EN 61000-6-2
Power consumption	Typ. 13 W
Mounting	Front panel mounting with rear mounting brackets (371.0 x 218.0 mm)
LED display	Operation indicator LED green in front of device
Weight	3400 g
Housing	Silicone rim, ABS plastic bach casing, tempered glass front - reflection-reduced
Dimensions	386.3 x 246.8 x 33.3 mm
Protection class	IP65 front, IP40 rear
Storage temperature	-20...+70 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution Full HD / 1920 x 1080 pixels / 15.6” ■ 18 bit / 282.144 colours ■ Capacitive multi-touch technology ■ 396 mm diagonal ■ Active display area 344.2 x 193.6 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-15.6

Solutions for holistic building automation and control systems

Anyone who wants to operate buildings in an energy-efficient way requires an innovative building automation and control system that can integrate all components of the building services.

It is no longer adequate to treat the heating and cooling energy centres, room air-conditioning systems, shading systems, façade control systems, lighting, etc. as self-sufficient trades. The building automation and control system as the core of the network has to collect and process information from all trades and transmit it to the corresponding individual trades. Innovative automation concepts consider all building states, making them independent of the building trade and obey the optimum energy yield.

All networks communicate with each other, regardless if communication standards like BACnet, KNX, DALI, M-Bus, Modbus, SMI or Profibus are applied. Furthermore, DIGICONTROL integrates manufacturer-specific connections, for example Schüco, Wilo, Grundfos, Belimo MP-Bus, ebm-papst, etc.

Interface module for integration of diverse BA-systems

DIGICONTROL ems4.SM03B

Data sheet number 19180

The ems4.SM03B module serves as communication interface with 1 x RS232 / RS485, 2x CAN capability for connecting external components, such as: heat pumps, chillers, humidifiers, boilers, solar panels, windows, etc.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	100 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	36 x 109.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Protocols	■ Modbus RTU Master ■ Modbus RTU Slave ■ GeniBus ■ Wilo CAN ■ ERC-Bus ■ Schüco window control ■ SMI integration via Vestamatic-Gateway IF SMI RS-485
System bus	CAN bus
Interfaces	Configuration of webCADpro

TYPE

ems4.SM03B

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-35	Mounting rail bus connector H bus 35.6	

Communication interface for the integration of M-Bus

DIGICONTROL ems4.SM04E

Data sheet number 19190

The module ems4.SM04E is used for the direct readout of up to 60 M-Bus-compatible meters (e.g. heat meters, water meters, electricity meters, pulse counters). The integrated M-Bus level converter saves the use of additional components. Once configured, the primary address, bus speed and readout frequency of the connected meters are parameterised, the ems4.SM04E than takes over the self-sufficient data communication.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W (without M-Bus participants), 5 W (60 M-Bus participants)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x Duo LED (operation and CAN bus: green / error: red), 1x green LED (MBus data traffic), 1x red LED (MBus overload)
Housing	Plastic housing
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	53.6 x 109.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TYPE

ems4.SM04E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Communication interface for the integration of KNX / EIB

DIGICONTROL ems4.KNX1E

Data sheet number 20000

The ems4.KNX1E module serves as a bi-directional gateway between the ems4/ems2 automation stations and the KNX/EIB instabus. The configuration tool is used to define all available KNX/EIB objects with respect to the address. The data types of the KNX/EIB objects are also determined here. The user can select between many different data types of the two standards, EIB Interworking and KNX data point. In polling mode, a data refresh method can be set for the actual values. Two options are available here: “Update according to system type” and “Cyclical polling”. Upon request, setpoints can be resent to the EIB/KNX object.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	120 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN, CAN, KNX ■ EIB/KNX-Objects: 256 ■ Standards: EIB Interworking Standard (EIS) / KNX Datapoint Type (DPT)

TYPE

ems4.KNX1E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Communication interface for the integration of DALI

DIGICONTROL ems4.DALI

Data sheet number 57090

The module ems4.DALI is used as bidirectional gateway between the automation stations ems2 / 4 / 5 and the Digital Addressable Lighting Interface (DALI) as DALI single master. This allows the set-up of an intelligent lighting system. The DALI module supports the connection of up to 64 DALI single lights (DALI light = DALI-ECG) in up to 16 groups with a maximum current consumption of 200mA.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5.8 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	117 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN, CAN, DALI ■ Max. number of DALI EVGs: 64 ■ max. number DALI groups: 16

TYPE

ems4.DALI

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Communication interface for the integration of Belimo MP-Bus

DIGICONTROL ems4.MP01E

Data sheet number 19195

The module ems4.MP01E is used for the direct control of MP-Bus capable Belimo actuators. The module is equipped with two independent MP-Bus strands which each enable the communication with maximal 16 MP-Bus actuators. The module independently determines the speed of the connected CAN-Bus system.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.4 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	Top hat rail 35 mm
Weight	145 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

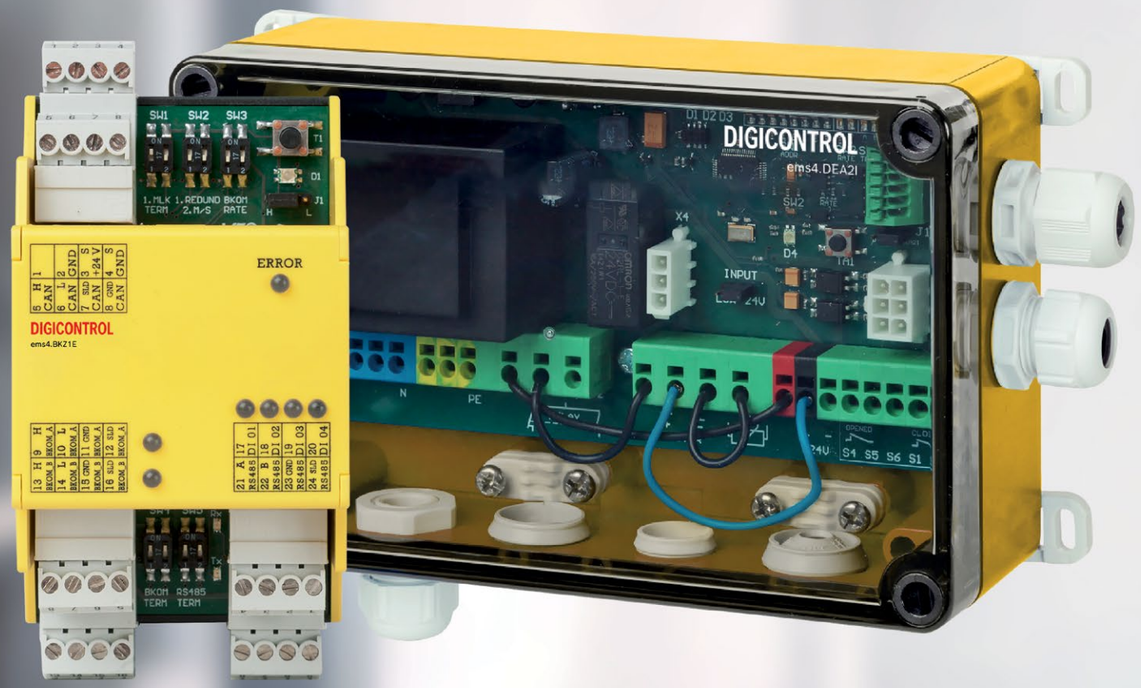
System bus	CAN bus
Interfaces	2 x MP-Bus

TYPE

ems4.MP01E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

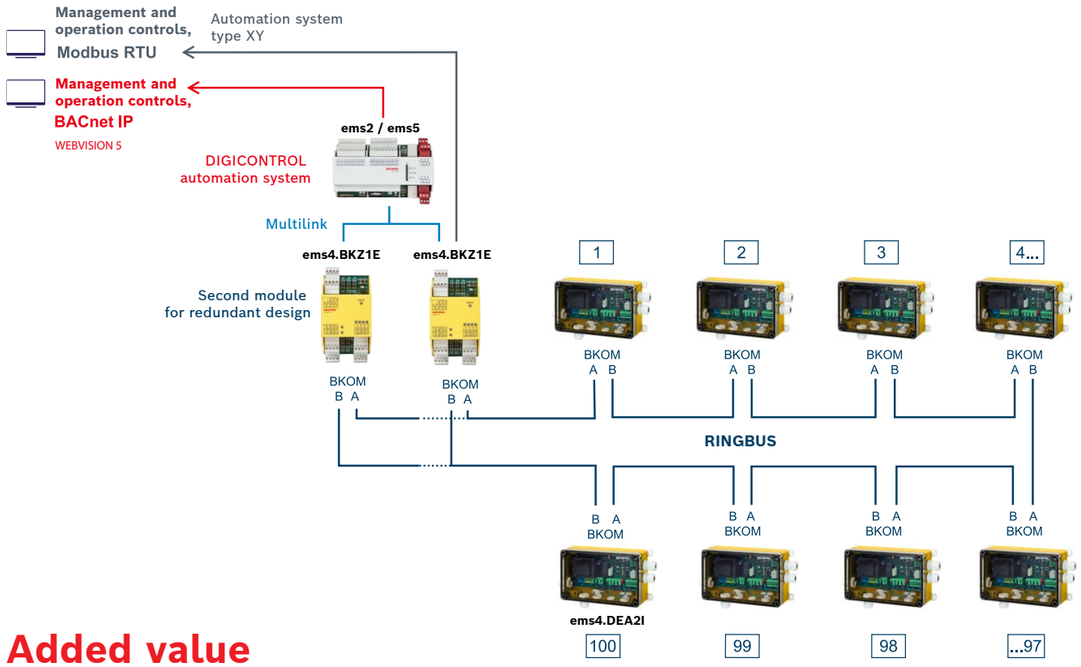


BKOM central module
DIGICONTROL ems4.BKZ1E

BKOM fire damper module
DIGICONTROL ems4.DEA2I

DIGICONTROL BKOM - The fire damper communication system with safety ring bus and Modbus interface

The DIGICONTROL BKOM system is designed for safe monitoring and control as well as for automatic test runs of fire dampers (BSK) with motorised actuators. It consists of a central module ems4.BKZ1E (in redundant design comprising two central modules), which communicates via a safety ring bus with up to 100 fire damper modules ems4.DEA2I, which can each connect a fire damper.



Added value

▶ High system availability due to BKOM ring bus topology

If a device or a connection is malfunctioning, the fire damper system continues to operate thanks to the ring bus topology. Furthermore, the used CAN technology guarantees fast responses and excellent performance. A redundant design of the central module (optional) provides even more safety.

▶ Fast analysis and diagnosis of faults

The central module uses the ring bus topology to detect and locate defective fire damper motors and interrupted or short-circuited bus connections. It provides the operator with a detailed fault description including the location of the fault source in case of a fault.

▶ Simple, semi-automated and time-saving commissioning

The addressing of the fire damper modules and the optimisation of the data transfer are automated. The commissioning of the ring bus system is supported by diagnostic tools.

▶ Integration in automation systems of all automation station types with Modbus

The Modbus interface, which is integrated in the central module, enables the BKOM system to be used as an independent unit within all automation systems, which are equipped with a Modbus interface. In this way, the BKOM system can also be used for applications other than DIGICONTROL systems.

▶ Cost-efficient

Due to the communication of the fire damper via a data bus, fewer electrical cables and a smaller cross-section are required. The simple commissioning also saves time and costs.

CAN-Central Module for Safety Ring Bus System

DIGICONTROL ems4.BKZ1E

Data sheet number 19187

The module is the intelligent central module for a safety ring bus system for connecting e.g. fire damper modules for motor actuators and other ring bus compatible I/O modules. It automatically sets up and monitors the BKOM safety ring bus system with all its subscribers. It monitors the safety ring bus, automatically locates and eliminates any faults that occur (e.g. short circuit and interruption of the bus system) by communicating with the nodes via the undisturbed second bus connection. The modules reports the detected fault to a higher-level instance with the exact details of the subscriber. By using the central module, the availability of the safety ring bus system increases considerably compared to a line structure. Due to the symmetrical distribution of data transmission within the ring, the module additionally prevents transmission errors and simultaneously reduces communication times. The centrel module is already prepared for extensions with regard to different devices on the bus thanks to its internal modular structure. A further aspect increasing the safety of the system is the possibility of carrying out a redundant structure with a further central module. In the event of a fault, the fault-free central module will take over the function and additionally increase the overall availability of the system. For external connection, the modules provides communication to an automation station as well as a Modbus RTU slave interface based os RS485. The local configuration is performed by means of dedicated setting elements. In addition, the module provides digital inputs that can influence the functions of the safety ring bus subscribers as required.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W
Button	1x for service function
Mounting	Top hat rail 35 mm
LED display	10x LED: system bus (red/green/orange), ring bus BKOM-A (green), ring bus BKOM-B (green), ringbus error (red), 4x input (red/green/orange), RS485-Tx (green), RS485-Rx (yellow)
Housing	Housing for use in distribution boards in accordance with DIN 43880
Weight	105 g
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Inputs	4 digital inputs 24 V DC (polarity configurable via jumper J1)
Interfaces	■ 3x CAN (1x system bus, 2 ring bus (BKOM)) ■ 1x RS485

TYPE

ems4.BKZ1E

CAN Field Bus Fire Damper Module for Ring Bus System

DIGICONTROL ems4.DEA2I

Data sheet number 19851

The module is used for direct connection of a motorised fire damper with feedback signals and replaces the module ems4.DEA1I. The module is suitable for both 230 V and 24 V actuators. It enables the fire damper to be closed on a test basis via the system bus with simultaneous monitoring of the end positions. The direct connection of the fire damper actuator (voltage and feedback) is performed via standardised connection plugs on top of the connection terminals. An external thermoelectric tripping device is provided for connection. Due to its dual communication interface, ems4.DEA2I is suitable for use in a highly available ring bus system. This ensures continued communication in the event of a fault in the bus system, e.g. due to a short circuit or interruption. Thanks to its installation housing, the module is suitable for direct mounting in the immediate vicinity of the fire damper.

GENERAL SPECIFICATIONS

Voltage	230 V AC +/- 10 %, integrated fine-wire 5x20 mm, fuse 200 mA / 250 V AC
Power consumption	10 W (incl. load)
Inrush current	0.8 A for approx. 3 ms (without load)
Button	1x for service function
Electrical connection	Spring terminals CAN bus: 0.5 mm² All other Connections: 2.5 mm²
Mounting	Wall mounting
LED display	CAN bus activity: (red/green)
Weight	750 g
Housing	Housing for industrial installation polycarbonat (box: fiberglass reinforced, lid: transparent)
Dimensions	180 x 110 x 63 mm
Protection class	IP54
Storage temperature	-10...+60 °C
Operating temperature	0...+60 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 1 potential-free relay output for controlling the motorised fire damper 24 V DC or 230 V AC ■ Maximum switching capacity 1500 VA load AC15 (230 V AC) ■ 24 V DC, 300 mA, maximum inrush current 5.2 A for max. 5 ms
Inputs	■ Two digital inputs (galvanically separated) for connecting the fire damper position ■ Configurable 24 V DC or potential-free
Interfaces	2x CAN

TYPE

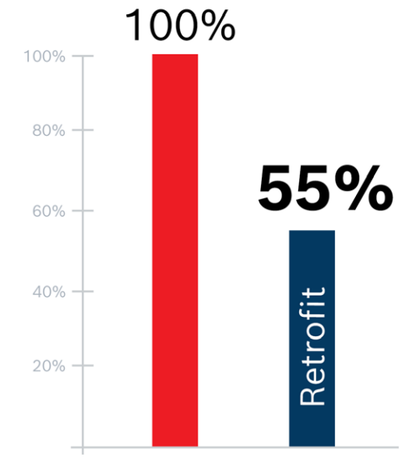
ems4.DEA2I

Cost-saving and effective refurbishment of existing DIGICONTROL and Saia systems

If new and extended requirements for the technical building equipment are laid down, the automation system usually has to be extended as well.

Although the hardware of the automation station is still in a good state, the entire automation station is replaced either because the existing automation station cannot be extended in a way to meet the requirements or due to limited availability.

ems4.RF01E enables the extension, refurbishment and repair of existing Saia and DIGICONTROL PCD 1-, PCD 2-, PCD 4- and PCD 1.NT automation systems without discarding the existing I/O automation hardware. Only the CPU module has to be replaced. Most switchgear cabinet components and the existing building management system can be kept. Therefore the expenses for the modification are significantly lower since only the required modules will be replaced / extended instead of replacing the entire system.



Savings up to 45% are realistic if you use DIGICONTROL Retrofit

A variety of applications

It is appropriate to use ems4.RF01E if new functions and extended requirements for an existing DIGICONTROL automation system are laid down which can be met without replacing the complete existing hardware. Benefit from the wide range of applications if you want:

- Integrate automation stations into the building automation network.
- To repair defective automation system hardware.
- To perform the migration - the customisation of existing building automation systems to new circumstances within a building.
- To extend the existing building automation system by additional building parts and components of the technical building equipment.
- To integrate further technical building equipment systems in the building automation system.
- To modernise building automation systems compliant to the BACnet standard without the need of replacing the automation station hardware.

The time factor – fast retrofitting during operation

The utilisation of the existing hardware can be continued by deploying the ems4.RF01E. Retrofitting the control cabinet can be performed quickly and easily because you just have to install the ems4.RF01E module and the new CPU of the automation station. The extension of the wiring can be carried out within a few hours and during operation without significant interruption. Replacing the entire automation system on-site would be by far more time-intensive and can only be realised if the complete system was switched off before.

Energy-efficiency and comfort

By using ems4.RF01E during the refurbishment process, building operators have the opportunity to update their control strategies and to improve the user-friendliness of the building automation system.

Planning and documentation

The expenses for planning and documentation can be reduced to a minimum by deploying ems4.RF01E as the building automation system is extended effectively instead of being reconstructed completely.

Communication interface for the integration in existing DIGICONTROL systems

DIGICONTROL ems4.RF01E

Data sheet number 19185

The DIGICONTROL Retrofit module ems4.RF01E enables the connection of ems automation stations to older types of input/output cards (I/O cards) in existing plants. Therefore older types of existing automation systems can be modernised easily and cost-efficiently. If there are new or extended requirements on the systems of the technical equipment of a building, usually the automation system must be extended as well. Although the hardware of the automation station is still in good condition, the complete automation system will be replaced as the existing automation system cannot be extended in a way to meet the requirements or it is not available anymore. The module ems4.RF01E enables the extension, refurbishment and repair of existing DIGICONTROL automation stations of the types PCD 1 / PCD 2 / PCD 4 / PCD 1.NT while still using the existing I/O automation hardware. Only the CPU modules will be replaced by a combination of an ems CPU and the Retrofit module. The control of the switchgear cabinet will be kept. The connection between the Retrofit module and the I/O modules is performed by means of on of the cables which are available as accessories. There are two different cables available depending on the required length (see accessories).

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	Max. 5 W
Button	Front: 1x for CAN bus configuration
Mounting	DIN rail mounting
LED display	I/O-Bus: 1x send (green) 1x receipt (yellow) CAN-Bus activity: (red /green) (front view)
Housing	Housing for use in distribution boards in accordance with DIN 43880
Weight	105 g
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ I/O bus ■ LIN bus

TYPE

ems4.RF01E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

CONTINUED ON PAGE 93 ▶

◀ CONTINUED FROM PAGE 92

ACCESSORY

TYPE	DESCRIPTION	
ems4.VK_RF01E_1	The cable ems4.VK_RF01E_1 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 0.5 m; completely pre-assembled	
ems4.VK_RF01E_2	The cable ems4.VK_RF01E_2 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 2.0 m; completely pre-assembled	
ems4.AM_RF01E_1	The adaptor ems4.AM_RF01E_1 is used for connecting the Retrofit module ems4.RF01E with a SAIA PCD1. The adaptor is put on the existing bus connector (replacing the DIGICONTROL-CPU of older type), screw-mounted and connected with the Retrofit module via cable.	
ems4.AM_RF01E_4	The adapter ems4.AM_RF01E_4 serves for the connection of the Retrofit module ems4.RF01E at a PCD4 CPU slot. The adapter will be installed in the available slot replacing the CPU and will be connected to the Retrofit module by cable.	

Great benefit - Low costs - Versatile applications

The DIGICONTROL ecs3 Retrokit enables operators of DIGICONTROL ecs3 and ecs3.+ automation stations to have their existing automation stations replaced by automation stations of the latest DIGICONTROL generation - inexpensively, quickly and, in most cases, even without impairing the ongoing operation of the building.

The Retrokit can be applied when new requirements are specified for the ecs3 or ecs3.+ automation station, which it may not be able to meet, or simply when the ecs3 or ecs3.+ is defective.

Retrokits in practical use:

- Replacing ecs3 / ecs3.+ automation stations
- Integration of the automation system into existing Ethernet networks, BACnet and remote maintenance
- Customisation of the automation system to new requirements and energy efficiency measures in the building.
- Extension of the automation system to incorporate additional building components and components of technical building services.
- BACnet-compliant modernisation, as the Retrokit also includes a BACnet Building Controller (B-BC) of the latest generation if necessary (see accessories).
- Remote maintenance and operation of the automation system by means of the “Embedded webserver“, a management and operation controls and, if necessary, new touch panels.

Fast and cost-effective conversion during operation

The Retrokit is pre-wired ready to plug in, so that the existing ecs3 / ecs3.+ can simply be „unplugged“ and removed. The existing ecs3.+ plugs are simply inserted into the sockets of the Retrokit. The retrofitting times are therefore reduced to a minimum. For front mounting, use the supplied drilling template for the cut-out. Feel free to take advantage of our label service for marking the manual operating level: We produce the finished labels for you.

Update of the existing automation station software

The existing ecs3.+ - software is simply updated to the latest webCADpro version and loaded into the automation station ems2.CP14D of the Retrokit, and ready to go.

The control cabinet remains as it is

Modifications of the control cabinet control are not necessary for the installation of the Retrokit. If necessary, it is of course possible to add additional control modules, provided the necessary space is available in the cabinet.

More performance and comfort

The Retrokit contains a DIGICONTROL automation station of the latest generation, whose advantages can be enjoyed unrestrictedly by the operators after the retrofit: Enhanced processor performance leads to shorter response times, integration into modern management control systems and Ethernet/BACnet/IP networks means improved convenience for the operator.

Improved energy efficiency and cost-effectiveness

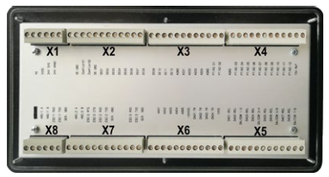
Due to the reorientation in dealing with the environment and energy and the accompanying revision of standards, a lot has happened in the area of energy efficiency in buildings in the recent years.
By using the Retrokit, building operators have the opportunity in the course of a modernisation to update their automation strategies to the latest state of the art.

Minimal effort for planning and documentation

The use of the Retrokit minimises the effort for the planning and documentation of the refurbishment or repair, as the Retrokit is pre-wired, ready to plug in and fully documented. The corresponding circuit diagram sheets are enclosed with the Retrokit and are simply inserted.

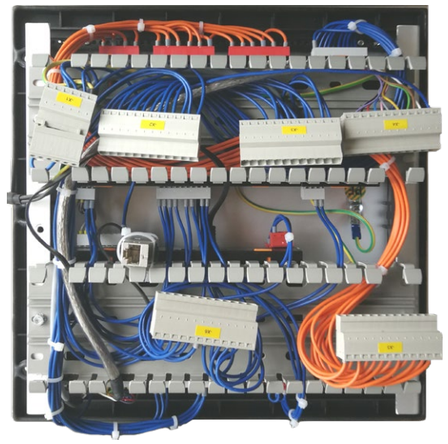
Front panel mounting - DIGICONTROL ems2.RTR-ECS-F

Front of the DIGICONTROL ecs3/ecs3.+/Fr



Rear side with the reusable plugs

The Retrokit DIGICONTROL ems2.RTR-ECS-F for front panel mounting is lockable and IP 54 compliant. The housing is a bit bigger than the „old“ ecs3/ecs3.+/FR, but this is usually no problem due to the installation in the switch cabinet door.

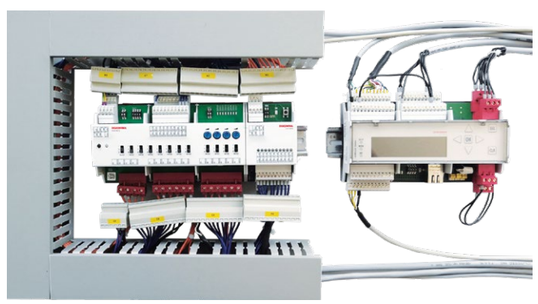


The Retrokit is pre-wired and ready to plug in. Simply connect the existing plugs of the removed ecs3/ecs3.+ /Fr with the sockets of the Retrokit, upgrade the software with webCADpro, and you are done.

Mounting on baseplate - DIGICONTROL ems2.RTR-ECS-G

DIGICONTROL ecs3.+/G

The modification of the base plate version works in principle like the Retrokit for front panel mounting with the difference that the new manual control module and the input module are mounted on the base plate in place of the old ecs3.+/G. due to space restrictions, the automation station ems2.CP14D of the Retrokit is located at a different location, for example in the control cabinet door. The cables and wiring of the Retrokit/G are designed to fit exactly for the integration on the base plate and installation in the cable ducts of the control cabinet.



DIGICONTROL ems2.RTR-ECS-G

Please note: The eight yellow marked connectors (X1-X8) disappear in the cable duct after the retrofit. The cable duct is for illustration purposes only and therefore not included in the scope of delivery.

System for repairing DIGICONTROL ecs3 existing plants (front installation)

DIGICONTROL ems2.RTR-ECS-F

Data sheet number 18080

The DIGICONTROL retrokit ems2.RTR-ECS-F enables operators of DIGICONTROL ecs3 automation systems to exchange their existing ecs3 automation stations (AS) for AS of the latest DIGICONTROL generation. This is accomplished quickly and cost-effectively, while the building is in operation. The retrokit can be used when new requirements are imposed on the automation station (e.g. Ethernet connectioin, graphical Webserver, BACnet, remote maintenance and operation) which cannot be met by an ecs3 automation station. Furthermore, the use of the retrokit in case of a defect in an existing plant with ecs3 automation station represents an economical alternative to a new construction. The original ecs3 plugs are connected to the prepared plug adapters of the retrokit. As a result, no wiring is required.DIGICONTROL ems2 can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardized Device Profile L (ANSI ASHRAE standards 135-2001 or DIN EN 16484-5). The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	13 W
Electrical connection	Via screws terminals for wires up to 2.5 mm². Ready-to-plug mounting on existing System (ecs3 terminals)
Mounting	Front Panel mounting directly with Frame and door
LED display	ems2.CP14D: 24 V-LED (green), RUN-LED (green), ST-LED (red) ems4.KM03E: 8 x status LED for relay outputs (green), 1 x CAN bus-activity (red / green) ems4.DE07E: CAN bus-activity (red / green), LED 01 on printed circuit board, 10 signal LEDs on device front. LED colour configurable via software: green, red, orange
Housing	Material Plastic ABS (PA6-GF10) and macrolon
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 8 analogue outputs 0...10 V DC, 10 bit resolution, 3 mA ■ 14 digital relay outputs 230 V AC / 6 A / potential-free normally open contact
Inputs	■ 21 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit resolution ■ Digital inputs 24 V DC ■ 0...10 V DC, 12 bit resolution ■ 10 digital inputs 24 V DC
Display	Integrated display with multifunctional keyboard for setpoint input, query of present values, notifications etc.
Local override device	■ 8 relay outputs: operation via sliding switch (MANUAL-OFF AUTO) ■ 4 analogue outputs: operation via sliding switch (MANUAL-OFF AUTO) and potentiometer (0-100 %) ■ 12 inputs for feedback of switch positions of all local override operating levels
Interfaces	■ 2 x RS232 / RS485, one of them is an RS232 (COM-B) with DCD-, DSR und DTR signal for modem operation ■ 2 x CAN bus for max. 1 MBit/s, bus connection via slide switch ■ 1 x LIN bus ■ Ethernet interface 10/100 MBit, RJ45 at the bottem of the housing Link-LED

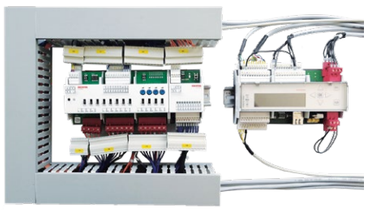
TYPE LIST

TYPE	DOOR HINGE
ems2.RTR-ECS-FL	Left
ems2.RTR-ECS-FR	Right

System for repairing DIGICONTROL ecs3 existing plant (baseplate mounting)

DIGICONTROL ems2.RTR-ECS-G

Data sheet number 18082



The DIGICONTROL retrokit ems2.RTR-ECS-G enables operators of DIGICONTROL ecs3 automation systems to exchange their existing ecs3 automation stations (AS) for AS of the latest DIGICONTROL generation. This is accomplished quickly and cost-effectively, while the building is in operation. The retrokit can be used when new requirements are imposed on the automation station (e.g. Ethernet connection, graphical Webserver, BACnet, remote maintenance and Operation) which cannot be met by an ecs3 automation station. Furthermore, the use of the retrokit in case of a defect in an existing plant with ecs3 automation station represents an economical alternative to a new construction. The original ecs3 plugs are connected to the prepared plug adapters of the retrokit. As a result, no wiring is required. DIGICONTROL ems2 can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardized Device Profile L (ANSI ASHRAE standards 135-2001 or DIN EN 16484-5). The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	13 W
Electrical connection	Via screws terminals for wires up to 2.5 mm². Ready-to-plug mounting on existing System (ecs3 terminals)
Mounting	Baseplate mounting
LED display	ems2.CP14D: 14 V-LED (green), RUN-LED (green), ST-LED (red) ems4.KM03E: 8 x status LED for relay outputs (green), 1 x CAN bus-activity (red / green) ems4.DE07E: CAN bus-activity (red / green), LED D1 on printed circuit board, 10 signal LEDs on device front. LED colour configurable via software: green, red, organge
Standards/rules/guidelines/ approvals	See CE declaration

TECHNICAL SPECIFICATIONS

Outputs	■ 8 analogue outputs 0...10 V DC, 10 bit resolution, 3 mA ■ 14 digital relay outputs 230 V AC / 6 A / potential-free normally open contact
Inputs	■ 21 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit resolution ■ Digital inputs 24 V DC ■ 0...10 V DC, 12 bit resolution ■ 10 digital inputs 24 V DC
Display	Integrated display with multifunctional keyboard for setpoint input, query of actual values, notifications etc.
Local override device	■ 8 relay outputs: operation via sliding switch (MANUAL-OFF AUTO) ■ 4 analogue outputs: operation via sliding switch (MANUAL-OFF AUTO) and potentiometer (0-100 %) ■ 12 inputs for feedback of switch positions of all local override operating levels
Interfaces	■ 2 x RS232 / RS485, one of them is an RS232 (COM-B) with DCD-, DSR and DTR signal for modem operation ■ 2 x CAN bus for max. 1 MBit/s, bus connection via slide switch ■ 1 x LIN bus ■ Ethernet interface 10/100 MBit, RJ45 at the bottom of the housing Link-LED

TYPE

ems2.RTR-ECS-G

ROOM4D - Room automation solutions

The DIGICONTROL room automation concept is called ROOM4D. „4D“ represents the four dimensions of modern room automation: efficiency, intelligence, comfort and design.

Enhanced comfort and efficiency in room automation

ROOM4D comprises unique solutions to network the rooms and trades of building automation. It provides ideal settings for heating, ventilation, air conditioning, lighting and shading, optimising comfort and increasing efficiency in every room. All areas are covered, from individual trades to fully integrated buildings. Furthermore, ROOM4D uses sophisticated algorithms to support you if you wish to combine optimum comfort with energy efficiency while ensuring minimum operating costs.

ROOM4D meets the requirements of VDI 3814. The sensors and sensor elements comply with VDI / VDE 3512 (quality class A or tolerance class A-TGA), one of the essential basic requirements for energy-efficient room automation. ROOM4D meets the demands of DIN EN 15232 up to the highest efficiency class.

Integrated room automation solutions

ROOM4D contains all components for implementing holistic room automation solutions and provides various integration modules for all areas of application. As an integral part of building automation and the system engineering - WEBPROJECT - ROOM4D is consistent from the sensor terminal to the management and control equipment ¬ WEBVISION 5, starting with the planning, through the construction to the long-term building operation.

www.digicontrol.info/room4d

You can find more information on the room automation system ROOM4D on our homepage at **www.digicontrol.info/room4d**.

2.5.1 ROOM CONTROL AND DISPLAY DEVICES

2.5.2 RA NETWORK COMPONENTS

2.5.3 COMPREHENSIVE SOLUTIONS BY MEANS OF RADIO TECHNOLOGY - ENOCEAN

The room operating units and multifunctional displays of the R4D.RC05 | RC06 series impress with their brilliant design with high-quality glass surface, dimmable multifunctional display and dimmable function keys as well as a touch rotary pulse generator embedded in the glass front (see page 106).

The touch panel R4D.RT7 is used in all areas of modern building and room automation for the operation of light, blinds, heating, ventilation and air conditioning, multimedia systems, timer catalogues and the setting of individual scenarios (see page 108).

Innovative services for daily use

iCONTROL

iCONTROL is a user interface for mobile devices such as smartphones and tablet PCs and allows the operation of all room automation components such as blinds, lighting, room temperature, etc. and, if required, further components of the building services..

comfort2go and mobile handling for users and operators

comfort2go is capable of transferring building and room automation functions to mobile means of communication like smart phones and tablet-PCs conveniently by using QR-codes.

ROOM4D Room operating device/controller with integrated CAN bus interface

DIGICONTROL R4D.RC01 | R4D.RC02 | R4D.RC03 | R4D.RC04

Abb. R4D.RC01 / R4D.RC02

Abb. R4D.RC03 / R4D.RC04

R4D.RC01 / RC02 / RC03 / RC04 are room operating devices/controllers with an embedded CAN bus interface for integration into the room automation network.
R4D.RC01 and RC02 have operating elements on the front of the device.
R4D.RC03 and RC04 are not equipped with operating elements.
For the purpose of room temperature control, the R4D.RC01 and RC03 are equipped with two digital outputs (0 V / 24 V DC) which can be controlled either switching or pulse-width modulating (PWM). The R4D.RC02 and RC04 are equipped with two analogue outputs (0...10 V DC). The superordinate controller or the integrated PI controllers for the heating or cooling mode take over the control of the actuators. The room temperature is detected via the integrated temperature sensor. All information is sent to the superordinate controller via the connected bus system.
Additionally, the devices have four digital inputs which can be assigned special functions (for example, a window contact).
There are 4 operating modes provided for energy-efficient operation (comfort, absence, night and extension of utilisation time). The current mode of operation is displayed via the 3 green status LEDs. A unique set point temperature for each operating mode is defined for internal control. The user can set the temperature for the Comfort mode using the set point value switch by maximum four steps up or down. Shifting the set point value is indicated with the help of 5 LEDs placed around the set point switch. The user can set his presence or absence by using the presence button.

TECHNICAL DATA

Voltage	24 V DC
Inputs	4 digital inputs over 0 V output signal for internal control (window contact, dew-point monitor, motion detector, ...)
Power consumption	0.5 W (without load)
Sensor	NTC 10 kΩ
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Operating elements	■ Set-point switches (max. ± 4 steps) ■ Presence button ■ 3 status LEDs for displaying the mode (present, absent, night, extension of utilisation time) ■ 1 ECO LED (red/orange/green) controlled by the AS ■ 5 LEDs for indicating the set-point shifting (2x blue, 1x orange, 2x red)
Mounting	In a flush-mounted Ø 55mm connection box
Interfaces	CAN bus
Housing	ABS Polyman HH3, reflector white + 4 % UV
Dimensions	82 x 82 x 34 (with terminal clamp) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+40 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3

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2.5 Room automation ROOM4D | 2.5.1 Room control and display devices

◂ CONTINUED FROM PAGE 104

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	FRONT PANEL	COLOUR
R4D.RC01	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	white
R4D.RC01-ALU	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	aluminum (on request)
R4D.RC01-ANT	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	anthracite (on request)
R4D.RC02	17201	nominal current max. 4 mA per output	with operating elements	white
R4D.RC02-ALU	17201	nominal current max. 4 mA per output	with operating elements	aluminum (on request)
R4D.RC02-ANT	17201	nominal current max. 4 mA per output	with operating elements	anthracite (on request)
R4D.RC03	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	white
R4D.RC03-ALU	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	aluminum (on request)
R4D.RC03-ANT	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	anthracite (on request)
R4D.RC04	17203	nominal current max. 4 mA per output	without operating elements	white
R4D.RC04-ALU	17203	nominal current max. 4 mA per output	without operating elements	aluminum (on request)
R4D.RC04-ANT	17203	nominal current max. 4 mA per output	without operating elements	anthracite (on request)

ACCESSORY

TYPE	DESCRIPTION	
R4D.RC01-02-HwD	For R4D.RC01/02 - Device socket for cavity wall installation in airtight design with sealing membranes	

ROOM4D Room operating device/controller with integrated data bus interface and multi-function display

DIGICONTROL R4D.RC05... | R4D.RC06...

R4D.RC05 and RC06 are room operating devices/controllers that control two valve outputs for room temperature regulation. The R4D.RC05 has two digital outputs for this purpose (0 V / 24 V) to open and close the valves. The R4D.RC06 is provided with two analogue outputs, 0...10 V for continuous control. The valves are controlled via a supervisory automation station (AS) or by an integrated heating and cooling PI controllers. The R4D.RC05/RC06 measures the room temperature using an integrated temperature sensor for room temperature control. The R4D.RC05/RC06 has two digital inputs apart from the 2 outputs. These can be assigned optionally to switches, buttons or special functions (for example, a window contact). There are six freely configurable buttons and a universal rotary encoder available for operation. Moreover, commands for switching on lights can be configured with the help of the integrated proximity sensor. The integrated multi-function display is freely configurable and can be adapted to suit the respective application.

TECHNICAL DATA

Voltage	24 V DC
Inputs	2 digital inputs over 0 V output signal
Power consumption	1.08 W (no load with activated backlight)
Sensor	NTC 10 kΩ
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Operating elements	■ Multi function display ■ Rotary encode ■ 6 Buttons ■ 1 Proximity sensor
Mounting	Cavity wall installation in air-tight electronics tunnel twin-chamber box
Weight	270 g
Dimensions	88 x 173 x 30 (with terminal clamp) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+40 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	INTERFACES	COLOUR
R4D.RC05	17210	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	CAN bus	black
R4D.RC05-W	17210	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	CAN bus	white
R4D.RC05-MO	17212	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	RS485-Modbus-RTU (Slave)	black
R4D.RC05-MO-W	17212	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	RS485-Modbus-RTU (Slave)	white
R4D.RC06	17211	nominal current max. 4 mA per output	CAN bus	black
R4D.RC06-W	17211	nominal current max. 4 mA per output	CAN bus	white

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◀ CONTINUED FROM PAGE 106

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	INTERFACES	COLOUR
R4D.RC06-MO	17213	nominal current max. 4 mA per output	RS485-Modbus-RTU (Slave)	black
R4D.RC06-MO-W	17213	nominal current max. 4 mA per output	RS485-Modbus-RTU (Slave)	white

ACCESSORY

TYPE	DESCRIPTION	
R4D.RC05-06-HwD	for R4D.RC05/06 - Air-tight electronics tunnel twin-chamber box for cavity wall installation with additional sealing lip and with separator wall and cover that can be wallpapared	

ROOM4D Room operating unit / touch panel with integrated ethernet/BACnet interface

DIGICONTROL R4D.RT7

Data sheet number 55010

The R4D.RT7 is a multi-function touch-screen terminal, which can be programmed and configured as desired - based on the feature required. As a result of the facility of saving a large number of user interface applications in the touch-screen terminal, it is possible to have applications ranging from individual room control right up to complex applications covering the entire building automation. Ethernet is used as the basis for communication. The communication partners can be either BACnet controllers or even proprietary makes of controllers. The touch-screen terminals are fed power over the Ethernet (PoE). The R4D.RT7 can be issued with a varity of frames with different colours: Aluminium, high-grade steel, RALcolours. The configuration of the touchpanel is based the HMI configurator.

TECHNICAL DATA

Voltage	PoE (Power over Ethernet) 48 V DC (Class [2])
Power consumption	In operation approx. 5 W, in standby approx. 0.5 W, in sleep approx. 0.1 W
Operating elements	■ Technology: TFT with LED backlight ■ Diagonal: 4.3” ■ Ratio: 16:9 ■ Resolution: 480x272 pixel ■ Colours: 16 bit (65.536 colours) ■ Brightness: 350 cd max. brightness control ■ Contrast: 300:1 ■ Viewing angle: 75/75/75/45° ■ Touch panel: 4-wire resistive, non-reflective 3H hard coat surface
Mounting	Cavity wall installation or on wall surface
Dimensions	87.5 x 158.6 x 62.3 mm
Protection class	IP20
Protection class	III
Storage temperature	-20...+85 °C
Operating temperature	0...+50 °C
Ambient humidity	5...90 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	EN55022, EN55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6

TYPE

R4D.RT7

ACCESSORY

TYPE	DESCRIPTION	
R4D.RT7-E22	E22 flush-type box - The E22 cavity wall connector socket (included in the scope of delivery of the R4D.RT7 touch panel) is inserted into an E22 flush-type box and embedded in the wall for the purpose of flush-mounted installations in masonry.	
R4D.RT7-Folie	Frame-Aluminium front plate with dust-tight and liquid-tight surface	

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ACCESSORY

TYPE	DESCRIPTION	
R4D.RT7-Alu	Frame-Aluminium anodized, natural coloured	
R4D.RT7-V2A	Frame-High-grade steel	
R4D.RT7-Lack	Frame-Aluminium trilaminate varnishing basecoat as RAL-colours clear vanish 2K-plus, high gloss finished	
R4D.RT7-Eloxal	Frame-Aluminium anodized, Eloxal standard colours	

Industrial PoE Ethernet Switch

DIGICONTROL IE-SW-BL06-2TX-4POE

Data sheet number 56030

The switch offers a solution for the use of Power over Ethernet. 4 x IEEE 802.3af / at compliant PoE ports, with integrated DC / DC converter for Supply of 48 V PoE devices over the entire input voltage range of 24 to 48 VDC, intelligent power consumption detection and classification.

TECHNICAL DATA

Number of ports	2xRJ45 10/100 BaseT(X), 4xRJ45 10/100 BaseT(X) PoE+
Power output	Max. (PoE) 120 W at 24/48 V DC (18 to 57 V DC)
Technology	IEEE 802.3af for Power-over-Ethernet, IEEE 802.3at for Power-over-Ethernet, IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control
Voltage	12 / 24 / 48 V DC, 2 redundant inputs
Current consumption	5.55 A at 24 V DC
Input voltage	24/48 V DC
Power consumption	Max. 13.2 W
Mounting	Mounting rail
Housing	Aluminium
Weight	375 g
Dimensions	50 x 114 x 70 mm
Protection class	IP30
Storage temperature	-40...+85 °C
Operating temperature	-10...+60 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	FCC Part 15 Subpart B Class A, EN 55032, EN 55024, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, EN 61000-4-8

TYPE

IE-SW-BL06-2TX-4POE

BACnet router

DIGICONTROL R4D.IP-MS/TP

Data sheet number 56025

The BACnet router R4D.IP-MS/TP allows the networking of the BACnet topology ISO8802-2 (well known as BACnet/Ethernet), BACnet/IP and MS/TP (serial BACnet networks based on RS485). R4D.IP-MS/TP is a hardware solution, capable for the installation in a control cabinet.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Current consumption	200 mA max.
Mounting	Mounting rail
Dimensions	94 x 30 x 75 mm
Protection class	IP30
Operating temperature	0...+45 °C

TYPE

BACnet Router

Communication interface for the integration of EnOcean

DIGICONTROL ems4.ENO1B

Data sheet number 21000

The ems4.ENO1B bi-directional gateway module acts as an interface with EnOcean-compatible sensor and actuator modules. This module can be used to process data from wireless sensors in the ems4 / ems2 / ems5 systems. The bi-directional functions of this gateway also enable superordinate control of wireless receivers via the ems4 / ems2 / ems5 system. The gateway only uses those wireless sensors that the user has defined using the configuration tool (webCADpro / iBASUite.builder) to evaluate and forward the data. In learning mode, the user can assign the gateway module to the desired switching actuators. This enables the user to control the switching of these actuators via the user program of the automation station and therefore via the management lever. Thanks to the transparent data interface that the gateway offers between automation stations and EnOcean transmitters, it is possible to use wireless modules from various manufacturers of the EnOcean Alliance without having to make any adjustments to the gateway.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Weight	Approx. 175 g
Housing	Installation housing
Dimensions	82 x 80 x 55 mm
Protection class	IP42
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	EN 300220-2: 2018-09, EN 301489-3: 2019-03, EN 61326-1: 2013-07, DIN EN 61010-1:2020-03, EN 63000: 2019-05

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ CAN bus (MultiLink), EnOcean ■ Wireless system 868 MHz ■ Number of EnOcean-devices: 128 sensors and actuators

TYPE

ems4.ENO1B

EnOcean Radio Room Temperature Sensor

DIGICONTROL R4D.RTF...

Data sheet number 60220

Battery- and wireless radio room sensor for temperature and ventilation control. Dependent on events, the radio room temperature sensor transfers the present values to the EnOcean communication interface ems4.ENO1B in cyclical intervals. Transmission by means of radio telegrams according to EnOcean standard. Depending on the device with integrated temperature sensor, rotary knob for set point adjustment, rotary knob for fan speed adjustment and presence key. With integrated solar energy storage for maintenance-free operation.

TECHNICAL DATA

Frequency band	EnOcean, standard frequency 868.3 MHz
Sending/reception interval	Immediately by keystroke, by actuating the rotary switch after 10 sec., every 100 sec. at change >0,8 K or >5°angle of rotation (Set Point), otherwise every 1000 sec.
Function	Set point adjuster (P) for set point adjustment Rotary switch (S) for fan stage adjustment, 5-stages (auto, 0, I, II, III) Button (T) for occupancy signal
Measuring value detection	Every 100 seconds
Measured variable	Temperature
Power generation	Solar cell, internal super cap, maintenance - free
Weight	50 g
Housing	Material ASA, colour pure white
Dimensions	84.5 x 84.5 x 25 mm
Protection class	IP30 according to EN60529
Operating temperature	0...+40 °C
Ambient humidity	Max. 85 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic Compatibility Directive R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EC Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 Product safety: EN 60730-1: 2002 The general registration for the radio operation is valid for all EU countries as well as for Switzerland. FCC ID: S3N-SRXX This device complies with Part 15 of the FCC Rules.

TYPE LIST

TYPE	DESIGN
R4D.RTF	Room temperature sensor
R4D.RTF-P	Room temperature sensor with set point adjustment
R4D.RTF-PT	Room temperature sensor with set point adjustment, presence key

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TYPE LIST

TYPE	DESIGN
R4D.RTF-PS	Room temperature sensor with set point adjustment, fan speed switch
R4D.RTF-PST	Room temperature sensor with set point adjustment, fan speed switch, presence key
R4D.RTF-T	Room temperature sensor with presence key

EnOcean Radio Room Sensor CO2/Temperature

DIGICONTROL R4D.RTF-CO2

Data sheet number 60230

The sensor R4D.RTF-CO2 is designed for the detection of carbon dioxide (CO2) and temperature in living spaces. Wherever people are staying in rooms, the CO2 concentration is an evident indicator for the indoor air quality. A higher CO2 content is an indicator for a worse indoor air quality.
For the CO2 measurement the Non Dispersive InfraRed (NDIR) Technology with automatic self-calibration is used. Transmission to receiver by means of radio telegrams according to EnOcean standard. The radio room CO2 sensor transmits the present values to the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	15...24 V DC (+/- 10 %) or 24 V AC (+/- 10 %)
Measuring range	CO2: 0...2550 ppm Temperature: 0...51 °C
Power consumption	Max. 1.5 W/24 V DC; max. 3 W/24 V AC
Sensor	CO2: NDIR (non dispersive infrared)
Frequency band	EnOcean, Dolphin, standard frequency 868.3 MHz
Cable entry	Predetermined breaking points top/bottom, rear entry
Electrical connection	Screw terminals max. 1.5 mm²
Technology	EnOcean, Dolphin
Repeatability CO2	< 1 % of full scale
Sending/reception interval	Every 100 sec. at changes >1 K, >2.5 % rh. or 50 ppm, otherwise every 1000 sec.
Accuracy	@21 °C CO2: +/- 75 ppm, >750 ppm: +/- 10 %; Temperature: +/- 1 % of measuring range
Measured variable	Temperature, CO2
Weight	90 g
Housing	Material ASA, colour pure white
Dimensions	84.5 x 84.5 x 25 mm
Protection class	IP30 according to EN60529
Operating temperature	0...+50 °C
Ambient humidity	Max. 85 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility Product safety: 2001/95/EC EMC: EN 60730-1:2002 Product safety: EN 60730-1:2002
Other remarks	Optionally with sensor for rel. humidity Optionally with LCD display to show CO2 concentration, temperature and rel. humidity Optionally with 3 LEDs to show the CO2 concentration

TYPE

R4D.RTF-CO2

EnOcean Radio Outdoor Temperature Sensor

DIGICONTROL R4D.ATF

Data sheet number 60170

Battery- and wireless radio outdoor sensor for temperature and ventilation control. The radio outdoor sensor transfers the current temperature to the EnOcean communication interface ems4.ENO1B in cyclical intervals. With integrated temperature sensor and solar energy storage for maintenance-free operation.

TECHNICAL DATA

Measuring range	Temperature: -20...+60 °C, configured via airConfig
Frequency band	EnOcean, standard frequency 868.3 MHz
Sending/reception interval	Configured via airConfig, Default: WakeUp time = 100 sec., Heartbeat cycle = 10x
Accuracy	@21 °C Temperature: +/- 1 % from measuring range
Measured variable	Temperature
Power generation	Solar cell, internal super cap, maintenance - free
Weight	110 g
Housing	PA6, pure white, cover PC, transparent with quick - release screws
Dimensions	78 x 58 x 45.5 mm
Protection class	IP65 according to EN60529
Ambient humidity	Max. 85 % rh., short term condensation
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EG Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 Product safety: EN 60730-1: 2002 The general registration for the radio operation is valid for all EU countries as well as for Switzerland. FCC ID: S3N-SRXX This device complies with Part 15 of the FCC Rules. The operation is subject to the following conditions: (1) The device may not cause interferences and (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device. Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation.

TYPE

R4D.ATF

EnOcean Radio Ceiling Multi Sensor 360°

DIGICONTROL R4D.BW-LS

Data sheet number 60190

The radio ceiling multi sensor R4D.BW-LS is designed for motion detection and brightness measurement in living and office spaces.
Transmission to the EnOcean communication interface ems4.ENO1B is carried out by means of radio telegrams according to the EnOcean standard.

TECHNICAL DATA

Voltage	3x battery LS14250 (1.1 Ah / 3.6 V / 1/2 AA)
Measuring range	Range of Illumination: 0...510 Lux Action: 360°
Frequency band	EnOcean, STM, Standard frequenzy 868,3 MHz
Sensor	Sensor action PIR “passive infrared”
Technology	EnOcean, STM
Transmission range	Approx. 300 m free field, approx. 30 m within buildings
Sending/reception interval	Every 100 seconds if brightness changes >10 Lux and no motion is detected Every 1000 seconds if brightness changes <10 Lux and no motion is detected Every 100 seconds if brightness changes <10 Lux and motion is detected Every 10 seconds if brightness changes >10 Lux and motion is detected Immediately upon status change from no motion to motion
Accuracy	typ. +/- 30 Lux
Measuring value detection	Every 100 seconds (factory setting and no motion)
Lifespan	Battery min. 6 years (with factory setting, 1000 telegrams per day and original battery)
Weight	75 g
Housing	Materil ABS, colour pure white, similar to RAL 9010
Protection class	IP20 according to EN60529
Storage temperature	-10...+60 °C
Operating temperature	0...+50 °C
Ambient humidity	Max. 70 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EC Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 The general registration for the radio operation is valid for all EU countries as well as for Switzerland.

TYPE

R4D.BW-LS

EnOcean Radio Outdoor Light Sensor

DIGICONTROL R4D.AHKF

Data sheet number 60160

Wireless light sensor for blind systems. Can also be used to control light at sunset. Designed for integration into an EnOcean network.

TECHNICAL DATA

Measuring range	0...510 Lux, 0...1000 Lux (10 Bit), 0...1020 Lux, 300...30.000 Lux (Standard), 600...60.000 Lux
Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Technology	EnOcean (IEC 14543-3-10)
Sending/reception interval	Configurable via airConfig, Default: Wake-up time = 100 sec., Heartbeat cycle = 10x
Measured variable	Light
Power generation	Solar cell, internal super cap, maintenance - free
Weight	120 g
Housing	PA6, pure white, cover PC, transparent with quick - release screws
Protection class	IP65 according to EN60529
Operating temperature	-20...+70 °C
Ambient humidity	Max. 85 % rh., short term condensation

TYPE

R4D.AHKF

EnOcean Wireless Window Handle

DIGICONTROL R4D.FG1-...

Data sheet number 60101

Batteryless window handle for status monitoring of windows (optionally lockable) with EnOcean technology. When actuated, the handle transmits a radio signal with the handle position to an actuator or centrel control unit in order, for example, to activate an energy lock. This can be used to optimize energy consumption in the building, since the heating or ventilation is deactivated when the windows are open.

TECHNICAL DATA

Frequency band	EnOcean, Standard frequenzy 868,3 MHz
power supply	Maintenance-free, electrodynamic energy generator
Sending/reception interval	When turning the window handle
Antenna	Internal sending antenna
Mounting	Square spindle, variable lengths (for tread depth 32...42 mm)
Power generation	Electrodynamic energy generator, maintenance-free
Operating temperature	-5...+40 °C
Ambient humidity	Max. 80 % rh. (non-condensing)

TYPE LIST

TYPE	HOUSING
R4D.FG1-AL-ST	Aluminium steel grey painted
R4D.FG1-AL-RW	Aluminium pure white painted
R4D.FG1-ES	Stainless steel

EnOcean Radio Window Contact

DIGICONTROL R4D.FK1

Data sheet number 60111

Battery-less radio window contact for status monitoring of windows and doors. Provides a reduction in energy consumption through demand-driven heating and cooling.

TECHNICAL DATA

Sensor	Reed contact and magnet
Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Sending/reception interval	If the state changes, otherwise every 1000 seconds
Antenna	Internal sending and receiving antenna
Mounting	Flat on Surface glue (with enclosed foil) or screw
Measuring value detection	Change of internal reed contact
Power generation	Solar cell, internal super cap, maintenance - free
Housing	PC/ABS, pure white
Protection class	IP40 according to EN60529
Operating temperature	-20...+60 °C
Ambient humidity	Max. 85 % rh. (non-condensing)

TYPE

R4D.FK1

EnOcean Radio Switch (BJ), compatible with switch programmes of Busch-Jaeger

DIGICONTROL R4D.2L/2J/4L/4J-BJ-...

Data sheet number 60140

The EnOcean radio switch (BJ) is an universal radio switch insert with a maintenance-free, self powered radio transmitter. The central plate can be glued or screwed in place and can be easily mounted on glass and plaster. The integration is done by a special intermediate frame.
Compatible with the following Busch-Jaeger programs:

- SOLO
- FUTURE
- FUTURE Linear
- CARAT
- AXCENT

After being operated, the radio switch transmits its current position to the EnOcean communication interface ems4.ENO1B. A radio signal is generated each time the buttons are pressed or released. Dimmer and blind controls can be realized by evaluating the switching status of the receivers.

TECHNICAL DATA

Frequency band	EnOcean PTM 200, Standarf frequenzy 868,3 MHz
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Operating Travel/Operating Force:	Approx. 2 mm / 7 N; at room temperature
Total Installation Height	15 mm (frame lies directly against the wall)
Switching cycles	> 50000 operations according to EN 60669 / VDE 0632
Dimensions	■ Cutout 63 x 63 mm ■ Base plate 71 x 71 mm
Operating temperature	-25...+65 °C
Ambient humidity	Max. 85 % rh., non-condensing (for dry rooms only)

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Standards/rules/guidelines/approvals

- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

  The general approval for the radio operation is valid for all EU-countries as well as for Switzerland.

  FCCID: SZV-PTM200
  This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada.
  The operation is subject to the following conditions:
  (1) The device may not cause serious interferences and
  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation.
- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

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  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted by Bosch Building Automation GmbH lead to suspension of the FCC admission to operation.

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.2L-BJ-AN	Light (0/1)	Anthracite	2 channel (1 rocker with medial position)
R4D.2L-BJ-AS	Light (0/1)	Aluminium silver	2 channel (1 rocker with medial position)
R4D.2L-BJ-EW	Light (0/1)	Ivory white	2 channel (1 rocker with medial position)
R4D.2L-BJ-SW	Light (0/1)	Studio white	2 channel (1 rocker with medial position)

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◂ CONTINUED FROM PAGE 122

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.4L-BJ-AN	Light (0/1)	Anthracite	4 channel (2 rockers)
R4D.4L-BJ-AS	Light (0/1)	Aluminium silver	4 channel (2 rockers)
R4D.4L-BJ-EW	Light (0/1)	Ivory white	4 channel (2 rockers)
R4D.4L-BJ-SW	Light (0/1)	Studio white	4 channel (2 rockers)
R4D.2J-BJ-AN	Blind (>/<)	Anthracite	2 channel (1 rocker with medial position)
R4D.2J-BJ-AS	Blind (>/<)	Aluminium silver	2 channel (1 rocker with medial position)
R4D.2J-BJ-EW	Blind (>/<)	Ivory white	2 channel (1 rocker with medial position)
R4D.2J-BJ-SW	Blind (>/<)	Studio white	2 channel (1 rocker with medial position)
R4D.4J-BJ-AN	Blind (>/<)	Anthracite	4 channel (2 rockers)
R4D.4J-BJ-AS	Blind (>/<)	Aluminium silver	4 channel (2 rockers)
R4D.4J-BJ-EW	Blind (>/<)	Ivory white	4 channel (2 rockers)
R4D.4J-BJ-SW	Blind (>/<)	Studio white	4 channel (2 rockers)

EnOcean Radio Switch (55x55mm), compatible with switch programmes of several manufacturers

DIGICONTROL R4D.2L/2J/4L/4J-55-...

Data sheet number 60150

The EnOcean radio switch (55x55mm) is an universal and extremely flat radio switch insert with a maintenance-free, self powered radio transmitter. The universal switch insert can be integrated into numerous control programmes by different manufacturers. The central plate can be glued or screwed in place and and can be easily mounted on glass and plaster.
Compatible with the following switch programs *):

- BERKER: S1, B1, B3, B7 Glas
- GIRA: Standard55, E2, Event, Esprit
- JUNG: A500, Aplus
- MERTEN: M-Smart, M-Arc, M-Plan
- PEHA: Aura
- FELLER: Edizio Due
- SIEMENS: Delta
- ELSO: Fashion, Riva, Scala
- *) partly equipped with an intermediate frame

After being operated, the radio switch transfers its current position to the EnOcean communication interface ems4.ENO1B. A radio signal is generated when pressing and releasing a button. Dimmer and blind controls can be realized by evaluating the switchting status of the receivers.

TECHNICAL DATA

Frequency band	EnOcean PTM 200, Standarf frequenzy 868,3 MHz
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Operating Travel/Operating Force:	Approx. 2 mm / 7 N; at room temperature
Total Installation Height	14 mm (frame lies directly against the wall)
Switching cycles	> 50000 operations according to EN 60669 / VDE 0632
Dimensions	■ Base plate 71 x 71 mm ■ Cutout 55 x 55 mm ■ Rocker 50 x 50 mm
Operating temperature	-25...+65 °C
Ambient humidity	Max. 85 % rh., non-condensing (for dry rooms only)

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◂ CONTINUED FROM PAGE 124

Standards/rules/guidelines/ approvals	■ CE-Conformity: 89/336/EEC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 The general approval for the radio operation is valid for all EU-countries as well as for Switzerland. FCCID: SZV-PTM200 This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada. The operation is subject to the following conditions: (1) The device may not cause serious interferences and (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device. Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation. ■ CE-Conformity: 89/336/EEC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 The general approval for the radio operation is valid for all EU-countries as well as for Switzerland. FCCID: SZV-PTM200 This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada. The operation is subject to the following conditions: (1) The device may not cause serious interferences and (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device. Attention: Changes or modifications of the device which have not been explicitly permitted by Bosch Building Automation GmbH lead to suspension of the FCC admission to operation.

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.2L-55-AL	Light (0/1)	Aluminum	2 channel (1 rocker with medial position)
R4D.2L-55-AN	Light (0/1)	Anthracite	2 channel (1 rocker with medial position)
R4D.2L-55-RW	Light (0/1)	Pure white	2 channel (1 rocker with medial position)
R4D.2L-55-RWG	Light (0/1)	Pure white glossy	2 channel (1 rocker with medial position)

CONTINUED ON PAGE 126 ▸

◂ CONTINUED FROM PAGE 125

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.4L-55-AL	Light (0/1)	Aluminum	4 channel (2 rockers)
R4D.4L-55-AN	Light (0/1)	Anthracite	4 channel (2 rockers)
R4D.4L-55-RW	Light (0/1)	Pure white	4 channel (2 rockers)
R4D.4L-55-RWG	Light (0/1)	Pure white glossy	4 channel (2 rockers)
R4D.2J-55-AL	Blind (>/<)	Aluminum	2 channel (1 rocker with medial position)
R4D.2J-55-AN	Blind (>/<)	Anthracite	2 channel (1 rocker with medial position)
R4D.2J-55-RW	Blind (>/<)	Pure white	2 channel (1 rocker with medial position)
R4D.2J-55-RWG	Blind (>/<)	Pure white glossy	2 channel (1 rocker with medial position)
R4D.4J-55-AL	Blind (>/<)	Aluminum	4 channel (2 rockers)
R4D.4J-55-AN	Blind (>/<)	Anthracite	4 channel (2 rockers)
R4D.4J-55-RW	Blind (>/<)	Pure white	4 channel (2 rockers)
R4D.4J-55-RWG	Blind (>/<)	Pure white glossy	4 channel (2 rockers)

EnOcean Radio switch for access cards

DIGICONTROL R4D.KCS1

Data sheet number 60121

The R4D.KCS1 is a battery-free radio switch for room access cards. Occupancy-dependent control of lighting or air-conditioning in rooms. The radio technology allows free installation on glass or plaster by means of adhesive pads or screws.

TECHNICAL DATA

Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Sending/reception interval	If the state changes
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Housing	Material PC, colour pure white
Dimensions	80 x 80 x 20 mm
Protection class	IP20 according to EN60529
Operating temperature	0...+40 °C
Ambient humidity	Max. 85 % rh. (non-condensing)

TYPE

R4D.KCS1

EnOcean wireless radiator valve actuator for room temperature control

DIGICONTROL R4D.VSA1

Data sheet number 60241

Battery-free wireless valve actuator for single room control. The new electronic small valve actuator utilizes the temperature difference between the warm radiator and the cooler room to gain electrical energy by means of a thermoelectric generator.

TECHNICAL DATA

Measuring range	Temperature: 0...+40 °C
Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Sending/reception interval	Every 2...20 min., configured (in 1 min. steps)
Accuracy	Temperatur +/- 0.5 °C (typ. at 25 °C)
Antenna	Internal sending and receiving antenna
Data transmission	Bidirectional
Function	Radio interface, heating-actuator operation, self-control mode, automatic closing point control, frost protection function
Mounting	Screw mounting, M30 x 1.5
Display	Status-LED, red
LED display	Status LED, red
Power generation	maintenance-free, thermal Energy Harvesting
Housing	PC, pure white, aluminium
Protection class	IP40 according to EN60529
Operating temperature	0...+50 °C
Ambient humidity	Max. 85 % rh. (non-condensing)
Other remarks	With integrated, digital temperature transmitter > 3.8 mm nominal stroke 0.24 mm / s max. speed 100 N min. force

TYPE

R4D.VSA1

EnOcean Radio Receiver with 1 or 2 analogue outputs

DIGICONTROL R4D.AO-...

Data sheet number 60180

The EnOcean radio receiver R4D.AO-... has one or two analogue 0...10 V outputs. The height of the output values depends on the data transmitted from the EnOcean sensors.
The R4D.AO-... works as dimmer. The relevant control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J.. or from the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	15...24 V DC (+/- 10 %) or 24 V AC (+/- 10 %)
Power consumption	Typical 1 W / 1.5 VA
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Electrical connection	Screw terminals max. 1.5 mm²
Antenna	Internal receiving antenna
Housing	Material ABS, colour red
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-20...+70 °C
Ambient humidity	0...75 % rh., non-condensing
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EC Product safety EMC: EN 61000-6-2:2005 EN 61000-6-3:2007 ETSI EN 301 489-3:2001 EN 61000-3-2:2006 EN 61000-3-3:1995+A1+A2 Product safety: EN 60730-1:2002 The general registration for the radio operation is valid for all EU countries as well as for Switzerland.

TYPE LIST

TYPE	OUTPUTS
R4D.AO-1	1x 0...10 V / max. 20 mA
R4D.AO-2	2x 0...10 V / max. 20 mA

EnOcean radio switch receiver lighting 230V for radio pushbutton

DIGICONTROL R4D.DO-B

Data sheet number 60200

The EnOcean radio actuator R4D.DO-B is equipped with a digital output for the control of light bulbs, HV halogen lamps, electronic ballasts and inductive loads.
The respective control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J or the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Power line protection	Circuit breaker rated for 16 A, maximum
Load types	Incandescent lamps: 2500 W HV-halogen lamps: 1200 W Inductive: 600 VA Electronic ballast: 3 units
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-40...+85 °C
Operating temperature	-20...+40 °C
Standards/rules/guidelines/ approvals	CE-Conformity: R and TTE Directive 1999/5/EC Test specifications: EN 60669-2-1 Identification: CE; KEMA/KEUR
Operating temperature	-20 ... +40 °C

TYPE

R4D.DO-B

EnOcean radio - switch receiver blind 230V for radio pushbutton

DIGICONTROL R4D.DO-J

Data sheet number 60210

The EnOcean radio receiver R4D.DO-J is equipped with two digital outputs for the control of blinds, roller shutters or other 3-point actuators.
The respective control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J or from the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Power line protection	Circuit breaker or fuse for 10 A, maximum
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-40...+85 °C
Operating temperature	-20...+40 °C
Standards/rules/guidelines/ approvals	Test specifications: EN 60669-2-1 Identification: CE

TYPE

R4D.DO-J

EnOcean Radio Repeater

DIGICONTROL R4D.REP-3

Data sheet number 60130

The repeater serves for signal amplification between EnOcean sensors and receivers. It is typically used if the sensor is placed outside the reception range or if there are range problems between sender and receiver for existing installations (due to e.g. the building of walls, moving of furniture/ cupboards). Level 1, level 2 and Smart Repeating can be set. An external transmitting/receiving antenna 2.5m with magnetic base is included in the scope of delivery.

TECHNICAL DATA

Voltage	flex. 15...240 V
Power consumption	typ. 1 VA (15...240 V)
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Electrical connection	Screw terminals max. 1.5 mm²
Antenna	External sending and receiving antenna
Data transmission	Bidirectional
Function	Level-1, Level-2, Smart-mode, rule-based, max. 10 rules
Weight	110 g
Housing	Material PA6, colour white
Dimensions	58 x 78 x 45.5 mm
Protection class	IP65 according to EN60529
Operating temperature	-20...+60 °C
Ambient humidity	Max. 70 % rh. (non-condensing)

TYPE

R4D.REP-3

EnOcean Field Strength Measuring Device USB Transceiver and Software

DIGICONTROL R4D.FSM-USB

Data sheet number 60270

R4D.FSM-USB consists of an EasySens USB transceiver and a software, that converts your notebook or Windows tablet into a field strength measuring device. It helps integrators to measure frequency ranges and/or to find the right location for wireless EnOcean receivers. R4D.FSM-USB is designed to give a quick overview of received EnOcean telegrams and to read status, ID, field strength and manufacturer of integrated products. All EnOcean telegrams received will be shown in the tool/USB, which should be mounted in the location of the existing or intended EnOcean receiver's antenna. The optional 3 m USB extension cable is recommended for this purpose. R4D.FSM-USB is available for devices with operating system Microsoft® Windows XP or newer.

TYPE

R4D.FSM-USB

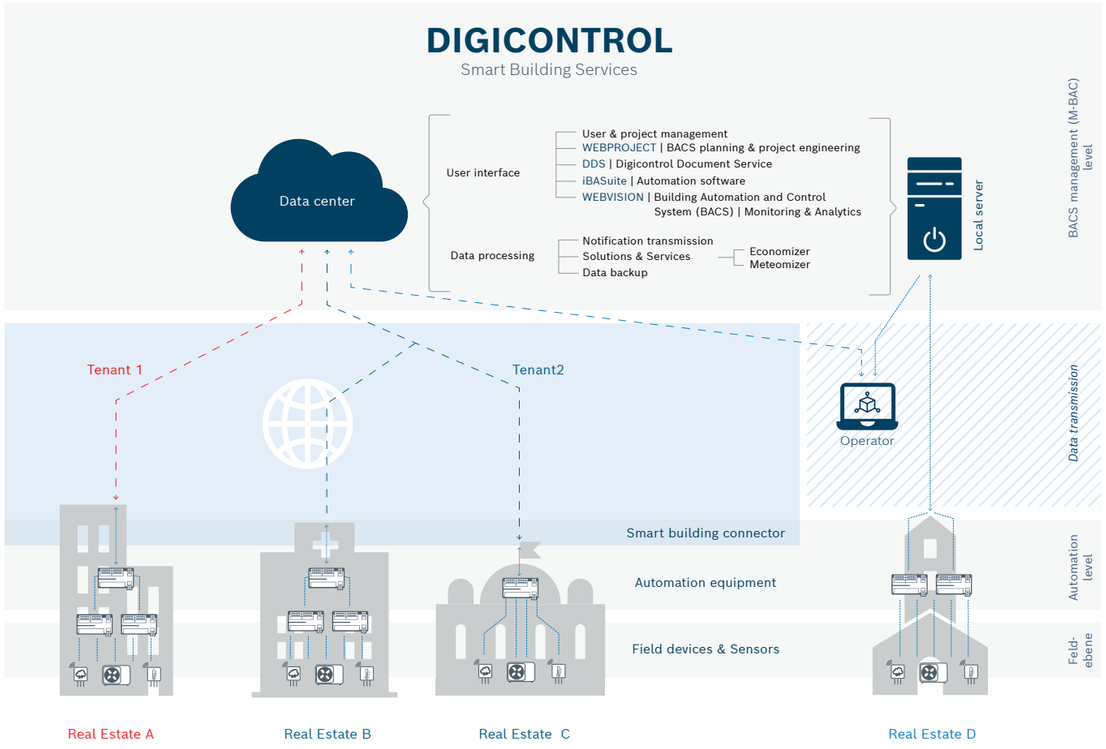
DIGICONTROL

BACS management

Digitalisation has now permeated all areas of life. The Internet of Things and clous services open numerous new possibilities and opportunities. Increasing connectivity is changing the interaction between people and technical devices. Numerous new services are emerging with which processes can be improved, accelerated, and automated. At the same time, the security requirements for infrastructures, cities and buildings of the future are increasing to protect people and assets in the best possible way.

Because the multi-layered technical infrastructure continually poses new challenges not only for you, but also for your building, the coexistence of security and building technology increases and with it the complexity and coordination effort. And this is where DIGICONTROL comes into play: Through innovative and coordinated solutions, connected technologies and efficient use of resources, DIGICONTROL ensures that your building is competitive and economical.

DIGICONTROL is the consistent system solution for an integrated M-BACS and can be set up flexibly starting from a local installation up to a decentralised high availability in the data centre.
Security through redundant data storage in Germany and encrypted communication are a matter of course.



Glossary

DIGICONTROL - Smart Building Services
Describes the sustainable system for smart building functions, facilities and services. Locally on-premises and in the data centre

Management building automation and control systems (M-BACS) level
Part of the BACS which fulfils the tasks required for processing information for management tasks

User interface

UM - User management
Management of settings and authorisations (roles) via users and tenants

WEBPROJECT | BACS planning and project engineering
For Building Automation and Control Systems (BACS) in accordance with VDI 3814 and EN ISO 16484

DDS | DIGICONTROL Document Service
Direct access to the plant documentation

iBASuite | Automation software
Software for configuration, design and organisation of automation equipment

WEBVISION
Management and control equipment (MCE)
Certified as BACnet Advanced Workstation (B-AWS)
Technical monitoring in accordance with VDI 6041 & Analytics

Energy data
Energy data management system
Logging and automated evaluation of energy data and calculation of key indicators

Data processing

Notification transmission
Automatic, filtered dispatch of alarms to specific profiles in the approved period

Solutions
Digital solutions for optimising plants

Economizer
Cost-oriented optimisation of air conditioning systems in the area of optimum comfort

Meteomizer
Increased energy efficiency through the Integration of weather forecast data

Data backup
On servers in Germany, certified according to ISO/IEC 27001:2013

Data transmission
Transmission of information to the management systems

Smart Building Connector
Automation equipment ems5 as interface between the automation level and the data centre

DIGICONTROL
Components for automation and field level

Automation level
Automation equipment (AE):
Certified BACnet Building Controllers (B-BC) ems5 / ems2 and extension modules ems4

Field level
Field devices and sensors:
Actuators and sensors in the field level, connected to automation equipment

Distributed properties

Management solutions for non-networked properties or single existing properties can be supplemented with smart solutions at any time with the „Smart Building Connector“.

- Operation and observation
- Notification management
- Trend recording and analysis
- Calendar synchronisation between building and user

OEM-Lösungen

The DIGICONTROL solutions can also be used as an OEM package in ventilation systems, refrigeration machines and many other applications. In doing so, users can take advantage of this sustainable and highly efficient system.

- Alarm management and runtime monitoring
- Technical monitoring
- Remote maintenance

BIM-optimised project development

Planners and architects rely on BIM-based optimisation solutions for the exact design of quantities and dimensions in the tender process and smooth execution.

Efficient project workflow

System partners and integrators also benefit from the consistent project workflow and ongoing assistance by the experienced support team.

Monitoring TMon, EMon & Analytics

Measured values can be processed, analysed and visualised in order to make savings potentials or the effectiveness of measures visible.

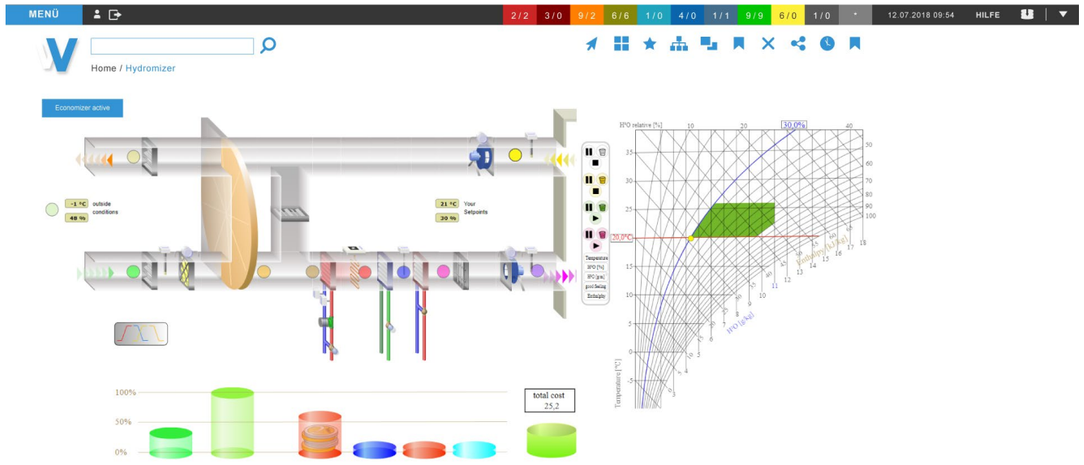
- Consistent, by means of automation equipment and embedded in the management and control equipment (MCE)
- Without connection, by means of manual or automated import of measured values via interfaces

DIGICONTROL Document Management

The flexible availability of the current plant documentation is essential for the effective maintenance of the building services, the efficiency of the operation and the satisfaction of the tenants or guests, even for local plants.

DIGICONTROL Economizer

Optimising the energy efficiency in air conditioning systems



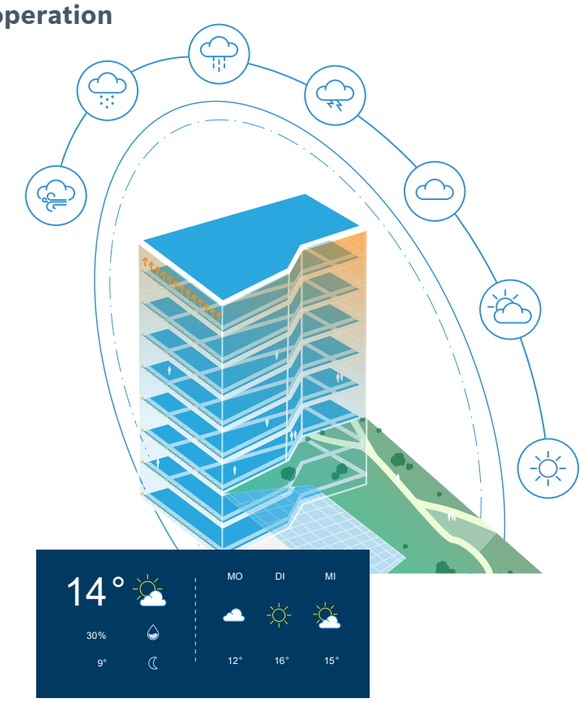
We recorded energy savings of 15 to 69.5% calculated over the year in air conditioning systems that had been extended with the Economizer. The patented Economizer optimises air conditioning systems by mathematically perfecting the strategy for exploiting the area of optimum comfort and controlling the air treatment. This gadget was developed in cooperation with Prof. Dr. Sokollik of the Merseburg University of Applied Sciences.

DIGICONTROL Meteomizer

Weather forecast for optimising plant operation

The Meteomizer contains current weather data and weather forecast data. The data can be used in many ways:

- Enhance comfort by maintaining the right room temperature even when the weather changes.
- Reduction of energy costs through optimised switching on and lowering of the heating circuits.
- Saving energy costs through optimum control parameters and setpoints within the control circuits and optimised use of energy generators.
- Saving of sensors and weather stations
- Exact weather forecast data enable the optimum use of storage masses in the building (concrete core activation).



Digitalization of existing plants & migration to WEBVISION 5

Thousands of building automation systems have been installed with DIGICONTROL over the past decades. DIGICONTROL has always offered solutions to refurbish outdated properties with up-to-date technologies during ongoing operations. This tradition will of course be continued and we will be pleased to look together with you at how your plant can be successively modernized and optimized in a sustainable and economical way.

For this purpose, the inventory always comes first for us. What was installed when, what is the condition of the plant and the quality of the documentation? Have changes been made and documented?

This is followed by a matching of the requirements, wishes and needs of the customer or operator, taking into account the available budget and the time frame to be met.

In the course of a workshop, all the information is then compiled and a list of the next steps, including the quotation, is drawn up. In the process, we ask ourselves the following questions together with you, among others:

Field devices

- Is the existing sensor technology sufficient for optimized control?
- Does the existing measurement concept still meet the current requirements?

Control cabinets

- Individual examination for each cabinet on site
- Does the cabinet need to be retrofitted?
- Will retrofitting to BACnet be sufficient, or is replacement of the automation equipment to an ems5 desired (security update)?
- Is it desired to operate some or even all areas redundantly?
- Are sufficient trend objects provided in the automation equipment?

Network & IT infrastructure

- How is building automation integrated into the IT infrastructure?
- Which bus systems are used?
- Is there a separate building automation and control network or is the network segmented or managed via VLANs?
- Are there already management building automation and control systems (M-BACS) or management and control equipment (MCE)
- in operation, which shall be migrated to the latest state?
- Shall existing plant graphics be incorporated or do new graphics have to be created based on current requirements and standards?
- How was the previous server operated?
- Which backup systems and strategies are currently in use, e.g. NAS systems?
- Which requirements are placed on availability and downtime?
- Do you operate separate properties that shall be securely connected?
- You do not want to operate your own management software including the required server landscape, but prefer to use our DIGICONTROL Smart Building as a Service? Our cloud solutions are secure and economical!
- Do you wish software maintenance to keep your management software continuously up to date and safe?
- Do you need active support on the topic of IT security & cyber security in combination with building automation?

We look forward to exchanging ideas with you and working together to develop a solution tailored to your individual needs. Your responsible sales representative is looking forward to your inquiry!

WEBVISION 5 BASIC LICENCES *1

TYPE	DESIGNATION	DESCRIPTION
WV5-B	WEBVISION 5 Basis	WEBVISION 5 Basic licence for a maximum of five automation equipment incl. 100 virtual trends that have not been created in the automation equipment, incl. extensive filter functions on views, messages and notifications
WV5-E-1-AE	WEBVISION 5 Extension 1 AE	WEBVISION 5 extension by one automation equipment
WV5-E-10-AE	WEBVISION 5 Extension 10 AE	WEBVISION 5 extension by 10 automation equipment
WV5-E-25-AE	WEBVISION 5 Extension 25 AE	WEBVISION 5 extension by 25 automation equipment
WV5-E-50-AE	WEBVISION 5 Extension 50 AE	WEBVISION 5 extension by 50 automation equipment
WV5-E-100-AE	WEBVISION 5 Extension 100 AE	WEBVISION 5 extension by 100 automation equipment

ONLINE SERVICES

TYPE	DESIGNATION	DESCRIPTION
DC-SBaaS	Smart Building as a Service	DIGICONTROL management systems as Software as a Service without local server hardware

3D GRAPHICS LIBRARY

TYPE	DESIGNATION	DESCRIPTION
WV5-3D-L	WEBVISION 5 3D Library	WEBVISION 5 licence for using the 2D/3D assemblies library
WV5-3D-S	WEBVISION 5 Graphics Service	Service of creating SVG graphics upon the special request of a customer

MCE USER EXTENSION *4, 5

TYPE	DESIGNATION	DESCRIPTION
MS-SQL-RUN-CAL	MS SQL Server User Access License	Database license for one user

INTERFACES

TYPE	DESIGNATION	DESCRIPTION
WV5-S-BUS+/IP	WEBVISION 5 Interface S-Bus+ IP	S-Bus IP and S-Bus+ IP interface for the use of PCDx-, ecsx-, emsx-systems. Number of automation equipment results from the WV5 basic licence
WV5-M-BUS	WEBVISION 5 Interface M-Bus Basic *2	M-Bus interface for a maximum of 250 meters *2
WV5-M-BUS-E	WEBVISION 5 Interface M-Bus Extension	Extension licence for 250 additional M-Bus meters
WV5-MODBUS	WEBVISION 5 Interface Modbus Basic *2	Modbus TCP/RTU interface for 500 data points *2
WV5-MODBUS-E	WEBVISION 5 Interface Modbus Extension	Extension licence for 500 additional Modbus data points
WV5-ID	WEBVISION 5 Interface Identification Basic	Basic interface for user identification, e.g. at the „Active Directory“ for 50 users
WV5-ID-E	WEBVISION 5 Interface Identification Extension	Extension license for up to 50 additional users for identification
WV5-EXP	WEBVISION 5 Interface Export Basic	Export interface for monitoring with 500 data points by third-party software
WV5-EXP-E	WEBVISION 5 Interface Export Extension	Extension licence for another 500 export data points
WV5-API	WEBVISION 5 Interface API Basic	Communication via a web interface for up to 100 data points
WV5-API-E	WEBVISION 5 Interface API Extension	Extension licence for another 500 API data points

Recommendations:
It is recommended to connect M-Bus and Modbus via an ems2/5 automation equipment on the automation level.
The connections to the OPC DA and UA interfaces, as well as to the Micros Fidelio hotel management software, are recommended via BACnet gateways on the automation level.

WEBVISION 5 MESSAGE MANAGEMENT

TYPE	DESIGNATION	DESCRIPTION
WV5-M-B	WEBVISION 5 Message Basic	Message destinations: email, SMS and pushover notifications, 10 recipients. The mail server is not subject of this module. Modem, gateway and mobile contract are not subject of this module. The pushover app for iOS and Android is available in the respective stores. The costs for the app are not included. *3
WV5-M-100	WEBVISION 5 Message +100 Recipients	Extension by 100 message recipients for WEBVISION 5
WV5-M-PRO	WEBVISION 5 Message Process	Allocation of events to users for internal and external processing
WV5-M-ACK	WEBVISION 5 Message Acknowledgement	Acknowledgement of a notification via external interfaces
WV5-M-ESC	WEBVISION 5 Message Escalation	Escalation in case of missing acknowledgements. Including acknowledgement.
WV5-M-PBX	WEBVISION 5 Message PBX	Telephone system, PBX (Private Branch Exchange), connection to telephone system e.g. via ESPA. It is therefore possible to output messages on the display of a device connected to the telephone system.

WEBVISION 5 - ENHANCED BUILDING MANAGEMENT SOFTWARE

WEBENCON ENERGY DATA MANAGEMENT

BASIC LICENCES

TYPE	DESIGNATION	DESCRIPTION
WE-B	WEBENCON Basic	WEBENCON basic licence for a maximum of five consumption points
WE-E-10-DP	WEBENCON Extension 10 DP	WEBENCON basic license extension by 10 consumption points
WE-E-50-DP	WEBENCON Extension 50 DP	WEBENCON basic license extension by 50 consumption points
WE-E-100-DP	WEBENCON Extension 100 DP	WEBENCON basic license extension by 100 consumption points

EXTENSION LICENCES

TYPE	DESIGNATION	DESCRIPTION
WE-CON	WEBENCON Extension Controlling	WEBENCON extension module Controlling – individual evaluation and reporting of consumption data, costs, loads and emissions of various consumption points and cost centres
WE-REP	WEBENCON Extension Reporting	WEBENCON extension module Reporting – cost overviews and export of data lists
WE-COS	WEBENCON Extension Cost	WEBENCON extension module Cost – cost determination via detailed tariffs, cost centre IDs
WE-MOB	WEBENCON Extension Mobile	WEBENCON extension module Mobile - mobile logging of energy consumption, reading tours, plausibility check
WE-LIM	EBENCON Extension Limiting	WEBENCON extension module Limiting – alarming in case of limit value violations, limit values through functions, learning limit values

SPECIAL BUILDING MANAGEMENT SOFTWARE

TYPE	DESIGNATION	DESCRIPTION
DC-CONTR-SMA	DIGICONTROL Software Maintenance Agreement	DIGICONTROL Software Maintenance Agreement - regular updates of the management system
DC-DDS	DIGICONTROL Document Service	Provision of plant-specific documents
WV5-VTR-500	WEBVISION 5 Erweiterung 500 virtuelle Trends	Extension by 500 virtual trends that have not been created in the automation equipment
WV5-WEBALARM	WEBVISION 5 - WEBALARM	Well-arranged information display e.g. on touch panel PCs in porter‘s lodges with bidirectional watchdog function
WV5-EVENT	WEBVISION 5 - Event Control	Event-based overriding of defined data point groups on management level
WV-RTP	RoomTimePlanner	RoomTimePlanner - Calendar integration

*1: The maximum number of BACnet objects is limited to 2000 per device.
*2: External hardware may be required.
*3: When using the Pushover Service, external service providers may incur costs.
*4: The SQL license defines, among other things, the number of users / devices that can be applied for WEBVISION.
Take advantage of our licence consulting.
*5: The MS SQL database / licence can also be provided by the user.

WEBVISION 5

Management and control equipment (MCE)

About 80% of total costs arising within the life cycle of a building account for its operation. The share of all buildings in the global primary energy consumption is at 40% per year. Accordingly, there is a huge potential to make a significant contribution to the economy and the responsible use of resources through the efficient operation of buildings. WEBVISION 5 faces these challenges.

WEBVISION 5 is a tool for the efficient operation and monitoring of buildings and property portfolios and allows convenient and energy-efficient control, monitoring and optimisation of all trades - from heating, sanitary, ventilation and air conditioning to lighting and shading. Versatile interfaces also enable the integration of other building trades.

WEBVISION 5 is a web-based software that uses the infrastructure of modern networks and works via standard browsers on PC or mobile devices.

Efficient building management starts with sustainable engineering

Take advantage of WEBVISION 5 if you wish to manage the steadily increasing complexity of building automation and control systems professionally. WEBVISION 5 already provides the maximum level of efficiency in engineering. All project and automation data from WEBPROJECT (planning and project engineering), webCADpro and/or the iBASuite.Builder (configuration and programming of automation equipment) serve WEBVISION 5 as basis for the installation and automatic configuration of hierarchical menus, operating pages and plant graphics. This saves costs and time, reduces the service expenses to a minimum and provides 100% consistency from planning to operation.

Integrated BACS management

WEBVISION 5 represents the effective interaction of automation equipment and all other components of building automation. The open system architecture, the use of worldwide standards and uniform interfaces ensure maximum flexibility when implementing integration solutions.

BACnet

The BACnet standard BACnet profile B-AWS, BACnet Advanced Workstation, in WEBVISION 5 guarantees an open communication, the compatibility with third-party products and an energy-efficient and reliable operation of plants. WEBVISION 5 is a highly effective tool for the realisation of energy-efficient and sustainable buildings, in particular in combination with DIGICONTROL BACnet building controllers (B-BC) ems2, ems4 and ems5.

Compatibility with existing systems

Existing DIGICONTROL systems can be upgraded to WEBVISION 5 by migration even without adjusting the automation equipment. The implementation of the proven communication protocols BACnet IP and BACnet MS/TP ensure the compatibility of WEBVISION 5 with the devices and installations of embedded third-party systems.

Management and control equipment (MCE) Basic module

WEBVISION 5

WEBVISION 5 enables the convenient control, monitoring, optimisation and energy-efficient operation of all trades within buildings and distributed properties. This entails heating, sanitary technology, ventilation, air-conditioning, lighting and shading. Open interfaces allow the integration of further trades, such as facility management, hotel management, etc. The WEBVISION 5 basic modules contain all necessary individual modules for that purpose.

General

- Certified as B-AWS (BACnet Advanced Workstation)
- BACnet functions in accordance with AMEV profile MBE-A & MBE-B
- Based on SQL databases
- Tenant-capable with strict data separation
- Web-based as server client system
- Secure information transmission by means of TLS encryption
- Virtualisation on VMware and Hyper-V
- Responsive Web Design (RWD) - automatic, continuous, semantic adaptation to screen size and resolution of the respective terminal device

Technical monitoring (TMon) in plant graphics including energy monitoring (EMon)

- Scalable vector graphics (SVG)
- Web Graphics (JPG, PNG, GIF,...)
- Set points and current values
- State detection like limit values or manual intervention
- Alarm and event data
- Display and historization of BACnet and virtual trends that have not been logged in the automation equipment as well as consumption points
- Visualisation of states and time series in the form of graphics and dashboards

Operating concept

- Being integrated in the header, it enables the continuous evaluation of the plant state by means of the alarm and event state using colour coded priorities
- Interactive overview of properties with Google Maps ®
- Intuitive menu navigation via tree structure, breadcrumbs or graphic navigation
- Search for objects, data point keys or designations for quick display or creation of groups
- Context menus
- Clipboard for the Creation of bookmarks and for the Linking or moving of objects via drag & drop
- Multiple selection and change of value
- Integrated device browser and BACnet browser
- Location and authorisation-dependent views: Overview graphics, HVAC primary plants, floor plans, room representations, tabular data point overviews
- Application of the corporate identity into the WEBVISION 5 user interface

- Graphical operation of weekly and exception schedules
- Transfer of BACnet Schedule or Calendar object information from one central element to other elements of the same type by means of drag and drop
- Interactive translation of the plant identification system key as tooltip

Trends and trend profiles

- Up to 20 automatically scaled trend curves with colour selection
- Up to four Y-axes with zoom function
- Freely selectable logging period
- Adjustment of the reading interval (polling) and change of value (COV) during runtime
- Optionally customised export to e.g. median hourly values

Alarm and event management

- Current and historical
  - Visual and acoustic, can be temporarily disabled
  - Visible, modular instructions for action
  - Categories for grouping priorities
  - Acknowledgement with time stamp and user
  - Navigation to related graphics/structures
  - Filter function
- System messages
  - Login
  - Change of value and user
  - Project adjustment
  - Message forwarding
  - Forwarding statistics

Message management

- Message processing
  - User-specific processing of events
  - Comments in the course of processing
  - Completion, transfer and acknowledgement
- Various recipients (destinations): e-mail, SMS, app for push notifications, printer, JSON, XML, etc.
- Message profiles
  - Grouping recipients
  - Assignment of event categories, notification classes (BACnet) and specific alarms
  - Assignment of PIK (plant identification key) -based filters, e.g. trades
- Document management
  - Images, documents, archives
  - Creation and assignment of instructions for action
  - Attachments for e-mails
- Integrated self-monitoring (watchdog) via independent processes in the optional extension „WEBALARM“

Interfaces

- Central BACnet implementation
- S-Bus IP and S-Bus+ IP for new and existing plants
- API communication via a web interface
- M-Bus field bus for meter data logging
- Modbus communication protocol with master/slave architecture
- Connection to a central „Identity Management System“, e.g. to the „Active Directory“, available at the user‘s/customer‘s premises
- Export interface for external monitoring and historicization
- Connection of further interfaces via gateways, e.g. OPC, Hotel management software, etc.

Administration of users and tenants

- Roles as grouping of authorisations
- Optional linking of different roles with one user
- Inheritance of settings
  System -> Tenant -> User
- The following language packages can be set for users: German, English, Dutch, Further languages can be added in tabular form based on the UTF8 character set.

Project engineering

- Device import / update
  - Individual
  - Planned and time-controlled batch import
  - Read out controller for project engineering off site
- Plant structure
  - Is generated automatically for the ems automation equipment, similar to programming.
  - Continued flexible creation and adjustment

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Continued from page 145

- WEBPROJECT planning server for automatically animated planning data
- Display editor
  - Creating and editing templates
  - Time saving through cross-project reuse of templates, e.g. for single room control or primary plants
  - Comprehensive and arbitrarily extendable SVG symbol library in 2D, DIN and 3D
  - Simple creation of animated plant graphics as Vector graphics
  - Offline mode for animation simulation/testing
- Event Control
  - Event-based overriding of defined data point groups on management level

Third party integration

- Within the scope of the interoperability of WEBVISION 5, compatible BACnet automation devices by other manufacturers can also be integrated into existing systems. The BACnet revisions and PICS documents provide information about compatibility. Our export sales team will be happy to answer any questions you may have about integration.

WEBVISION 5 is available as a local on-premises installation or as Software as a Service in the data centre.

DASHBOARDS

Flexible user interface design

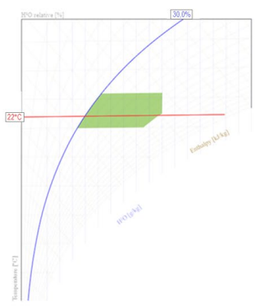
Dashboards

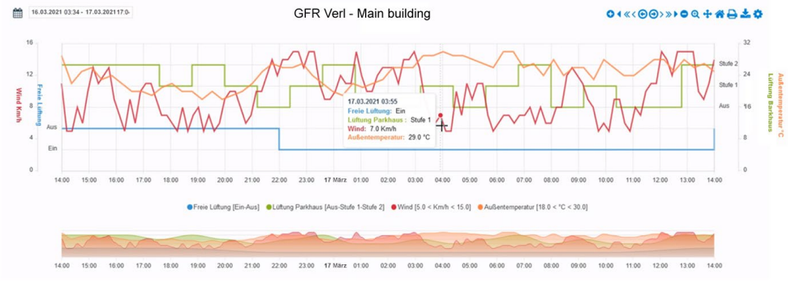
There are no limits when it comes to designing dashboards within WEBVISION 5. All elements of WEBVISION can be brought into a common context within a view by means of the integrated graphic editor.

- Dynamic HVAC graphics
- Animated measurement values:
  - Digital
  - Analogue
  - Multistate
  - Calculated Values
- Setpoint adjustment, slider and links
- Coloured text messages that flash in the event of a fault
- Alarm and event lists
- Trends and trend profiles:
  - Live or historic
  - Consumption and costs
- Dynamic vector graphics:
  - HX diagrams
  - Counters and meters/clocks
  - Individual representations and visualisations
- Contents of external websites

The dashboards can be displayed being embedded in WEBVISION. Access can be restricted.

The display can be separated from WEBVISION and viewed on a browser-capable end device, e.g. a TV in the reception area..





Enhanced BACS management software

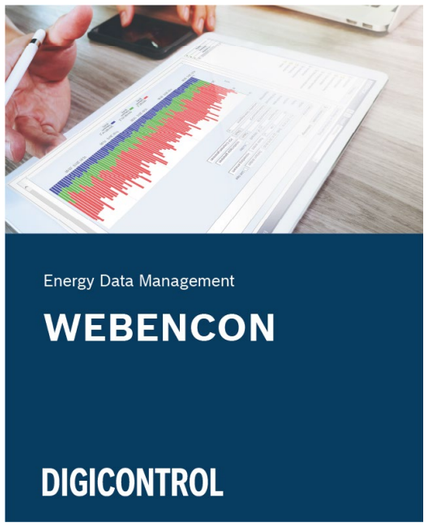
Our portfolio for the implementation of comprehensive building management solutions is completed by the software packages of enhanced building management. Take advantage of these packages to tailor your system to the specific requirements.

Customised representations or views for specific target groups optimise the information content and meet the strictest demands. Depending on the authorisations and the point of use, the displays can be customised to your needs by means of WEBALARM and the DASHBOARD application. When using the RoomTimePlanner, appointments which have already been planned in the calendar do not have to be entered into the building management again but are integrated as if by magic.

Do you require regular updates for your system in a self-hosted infrastructure? Benefit from our service and book the software maintenance of your DIGICONTROL BACS management system.

WEBVISION 5 - WEBENCON

Energy data management



Saving energy is one of the most important energy reserves and thus the most significant contribution to environmental and climate protection. The energy data management according to ISO 50001 provides the basis for the continuous improvement process of production processes and plants as well as real estate by means of energy balancing.

Through the integration of WEBENCON in WEBVISION 5, the management and control equipment (MC E) merges into technical monitoring (TMon) with energy monitoring (EMon) according to VDI 6041. Key figure compilation (KPI, EnPI) and analytics enable the continuous optimization of building operation.

Through the visualization of processed information within the MCE and the integration into the notification management, potentials become visible and measures can be initiated and continuously checked in terms of their effectiveness.

WEBENCON

- Technical monitoring in accordance with VDI 6041
- Analytics, KPIs & EnPIs
- Access to the system is TLS-encrypted via the web browser. The measurement data and project information are historized in an SQL database.
- Peak load costs can be benchmarked and reduced via the calculation and weather-adjusted display of consumption & costs.
- Excel-based, individual evaluations of consumption and costs can be created automatically and sent by e-mail.
- The immediate evaluation of consumption, frequencies, emissions and more enables versatile display options and diagram functions.
- The change of meters, energy sources or tariffs carried out in the system enables consistently plausible calculations.
- Via WEBVISION 5, events can be logged and notifications can be sent when linear or learning limit values are exceeded.

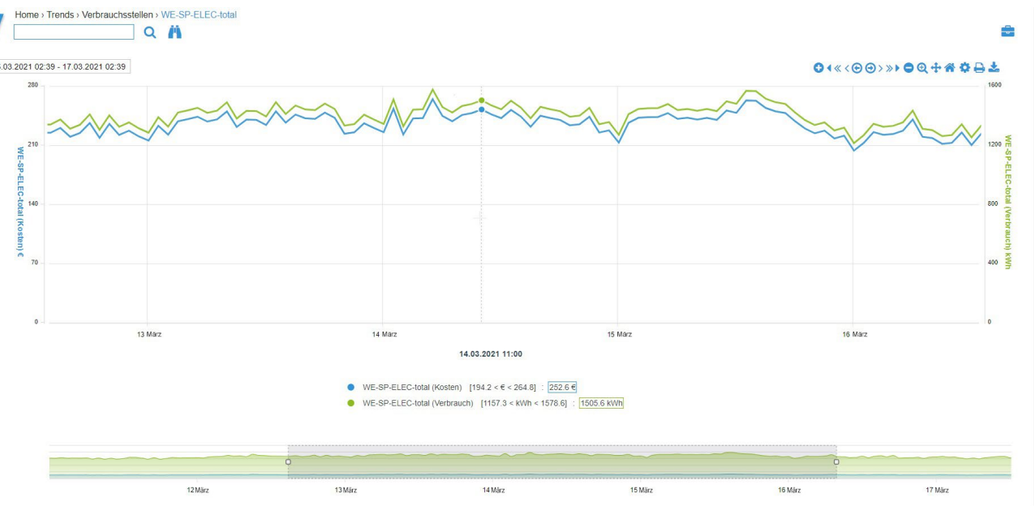
Integration

Through the integration of consumption points, similar to trends in the management and control equipment (MCE), processed information from energy data management is harmoniously integrated into the BACS management.

Description	Name	Property	Building	Room	Counter	Links
EV-AU-ELEC-total (S_G)	EV-AU-ELEC-total (S_G)	Event	Room	equipment room	S_G 123	
EV-AU-ELEC-WP	EV-AU-ELEC-WP	Event	Room	equipment room	WP-ELEC 123	
EV-AU-HEAT-total (W_G)	EV-AU-HEAT-total (W_G)	Event	Room	equipment room	W_G 123	
EV-AU-HEAT-WP	EV-AU-HEAT-WP	Event	Room	equipment room	WP-HEAT 123	

Display

Consumption profiles integrated into graphics extend the information content of building automation graphics. The EMon thus becomes present to the user and can be used as a valuable analysis tool for the efficient operation of buildings.



WEBENCON Basic

Energy data management software - Basic licence

The basic license allows multi-tenant data collection, administration and structuring. Meter readings or consumptions are logged automatically or manually. Consumption and costs of a consumption point can be displayed in order to identify possible weak points in energy-efficient operation. The data are stored in an SQL database and can be exported to common office software packages for further processing.

The basic functions of the management and control equipment (MCE) are used for interfaces, notification management and logging. A wide range of structural data overviews provide a clear overview of the individually configured energy data management system.

Scope

- Virtual consumption points via any functions
- Administration of manual and automatic consumption points
- Change of meters, tariffs and energy sources
- Plausibility check and generation of correction values
- Linear limit value monitoring
- Data display of consumption and costs
- Cost calculation by means of average costs
- Export of Excel tables and PDF documents
- Trend display of consumption and costs
- Overviews of structural data, e.g. consumption points, properties, buildings

WEBENCON Controlling

Energy data management software extension module - Controlling

Regular, systematic analyses of consumption data can be carried out over freely definable time intervals with the WEBENCON Controlling extension module. Meaningful representations of the desired data can be created as tables or graphics using individual templates. Complex relationships can be visualised by means of combinable outputs such as consumption, power, costs and emissions. Different time intervals can also be displayed in a diagram for comparison. The calculation of characteristic values is the basis for a benchmark. All analyses form the foundation for energy controlling, which enables the identification and active implementation of efficiency-promoting, cost-reducing measures.
The calculation of characteristic values and Energy Performance Indicators (EnPIs) is the basis for benchmarks and part of a certification pursuant to ISO 50001. In addition, the success of implemented efficiency measures can be shown in the form of qualitative data.

Scope

- Creation and administration of individual evaluations and reports
- Output as chronological sequence, individual characteristic values (KPI, EnPI) or frequency distribution
- Output of consumptions, performance, costs and emissions
- Integration of individual Excel templates
- Weather adjustment
- Benchmarking
- Automatic execution and forwarding of evaluations by e-mail as Excel spreadsheet, CSV or PDF document
- ISO 50001 – Degree of fulfilment indicator

WEBENCON Reporting

Energy data management software extension module - Reporting

Individual and detailed cost overviews can be created by means of the extension module WEBENCON Reporting, e.g. for a cost calculation based on the actual incurred costs.It is possible to create and manage individual, detailed cost overviews according to consumption point or cost centre.
The Cost module is required for the Reporting module.

Scope

- Automatic creation of cost overviews
- Automatic dispatch of cost overviews as Excel spreadsheet and as PDF document by e-mail

WEBENCON Cost

Energy data management software extension module - Cost

The extension module WEBENCON Cost provides a source-related, detailed evaluation of energy costs for all recorded media. The creation of cost centre IDs enables you to distribute the costs of a consumption point to individual users. The extension module WEBENCON Cost is an additional extension of the functionality of the modules Controlling and Reporting. Thus, WEBENCON Controlling also provides a cost calculation for cost centres. A cost overview according to tariff items is possible in WEBENCON Reporting. An export to standard office software packages is possible for individual further processing in the accounting system.

Scope

- Creation and management of individual, detailed tariffs
- Working with cost centre IDs
- Functional extension of the Controlling and Reporting modules
- CSV interface to the accounting system

WEBENCON Limiting

Energy data management software extension module - Limiting

Early detection of excessive energy or water consumption avoids costs and shortens the response time in case of errors. The extension module WEBENCON Limiting allows setting limit values for consumption per time. An alarm can also be triggered. In this way, damage, e.g. to a water pipe, is detected within a very short time after its occurrence. However, not all limit values are linear. They depend on another value. Limit values can be set in WEBENCON Limiting depending on other parameters e.g. outdoor temperature or operating hours. Energy curves in companies are also often periodic. Limit values can be monitored in WEBENCON Limiting with the help of these periods in a learning way.

Scope

- Creation and management of individual, detailed limit value profiles
- Limit value monitoring with function-dependent limit values e.g. outdoor temperature
- Limit value monitoring with learned limit values from previous intervals
- Optional message processing and forwarding by WEBVISION 5 (MCE)

WEBENCON Mobile

Energy data management software extension module - Mobile

If consumption points are not connected to the automatic data logging, the extension licence WEBENCON Mobile enables manual logging, e.g. on a laptop.
For this purpose, WEBENCON Mobile provides an office import and export interface. The meter-reader can receive direct feedback on the plausibility of the values on site. Similarly, any reading tours - with regard to media, buildings, etc. can be individually compiled and processed when a recording device or the printed form is used. User access control through password protection with logging function is part of WEBENCON Mobile.

Scope

- Creation and management of individual, detailed meter reading tours
- Plausibility check of the manual input
- Office import/export interface

Web-based alarm and notification management

WEBALARM

WEBALARM is applied for displaying and acknowledging prioritised alarms and events, e.g. on touch panel monitors and as add-on for WEBVISION 5.

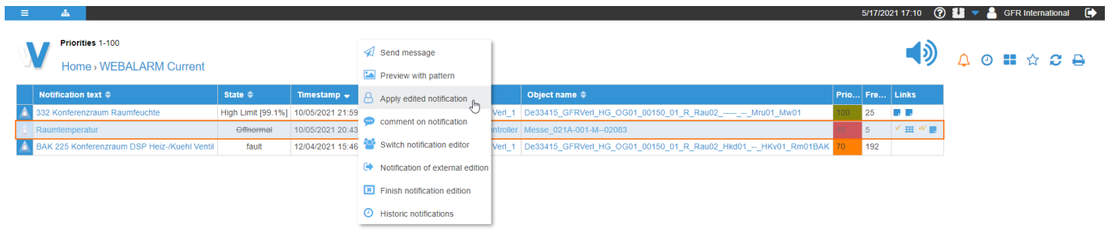
It is preferably used in alarm centres and porter's lodges. It is characterised by a safe and clear display of information and an easy and intuitive operation. A complete usage is possible without a personalised login. Alarms can be optically and/or acoustically represented and sorted according to type, message text, event state, time stamp, property, plant, object name (data point key) and frequency. Diverse hint features support the user when processing alarms or events and enable him to react quickly and safely, even in critical alarm situations. Current alarms (incl. the acknowledged alarms), which correspond to the colour-coded priorities assigned in WEBALARM, are displayed in a concise list. Additional texts, such as instructions, are displayed below the corresponding notification. By using the context menu, messages can be transmitted via the integrated interfaces to all registered recipients again. Historical alarms and events can also be viewed.

Mutual monitoring of the notification management is possible by means of a bidirectional watchdog extension between WEBALARM and WEBVISION 5.

Can be combined with WEBVISION 5 licence extension „message processing".

WEBALARM - Display of relevant alarms

- Display and acknowledgement
- Current and historical
- Integration of instructions for action
- Sending messages
- Watchdog between WEBVISION 5 & WEBALARM
- Can be combined with „message processing"



Document Service

DIGICONTROL Document Service (DDS)

The documentation of each plant requires huge amounts of paper, sometimes in duplicate. Changes are tedious and time-consuming. The DIGICONTROL document service breaks new ground and offers lively, sustainable documentation.

The integration is done within the management and control equipment WEBVISION 5. Access is carried out via any terminal device with a web browser. Any data sheets can be accessed online via a QR code on the device in the field. Adaptation and maintenance is a central component of every documentation.

The following document types are available during project hand-over:

- Circuit diagrams
- Measuring and control technology diagrams
- Data point lists according to VDI 3814
- Rule descriptions
- Data sheets
- Cable lists
- Building automation function lists
- Motor lists

Event Control

WEBVISION 5 Event Control

WEBVISION 5 Event Control integrates functions of an automation station into the building management system. For example, complex light scenes can be easily saved and assigned to a desired trigger. The operation is performed intuitively from the graphics or by drag and drop. The concise scene administration allows to keep an overview of the wide variety of configurations and to link them with each other effectively. All data points and extensive calendar functions are available as triggers.

All required scenes for an event can be set by overriding for all trades and resetting to the value of the automation level later on. This comprises the lighting of the car park, the enabling of elevators, the lighting mood and the comfort temperature at the event location.

The benefits

- Automation on the management level
- Event control across trades

Scope

- Simple setting and configuration of scenes
- Intuitive assignment of triggers
- Clear administration
- Data points and calendar functions as triggers

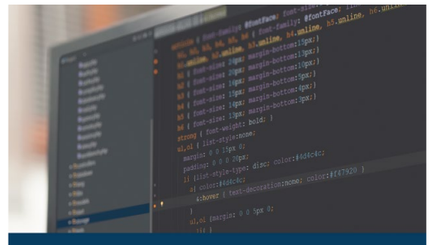
Software maintenance contract for DIGICONTROL management systems

DIGICONTROL Software-Maintenance Contract

Software is the heart of our digitalised world, which is developing exponentially. This results in a high demand on reliability, functionality, comfort and cyber security. Software for management systems is part of this digitalised world and must keep pace with the constantly growing requirements of, among other things, environment, application and users. These can be covered in a predictable way by a software maintenance contract.

The software maintenance contract is available for the products WEBVISION 5 and the extension applications. It comprises a yearly update for the purchased management system. Therefore, the acquired software is always state-of-the-art and optimally suited for the requirements of the digital world.

Furthermore, it is possible to sign agreements on support contingents or the maintenance of IT infrastructure in direct combination with our management systems. Please contact your sales representative for more information.



Our services at a glance:

Software components:

- WEBVISION 5 | Management and control equipment
- WEBENCON | Energy data management system
- WEBALARM

Update contents:

- Documentation
- Bug fixes
- Update of libraries

RoomTimePlanner

Planning of utilisation times and set point value

The RoomTimePlanner enables the integration of calendars and time sources into the management of the building automation and control system.

In practice, the occupancy times of rooms are often only entered once when the building or system is put into operation and then they remain unchanged. This means that the operating mode of the building automation and the general room conditions in particular are not adapted to the actual utilisation of the building. Instead, the room temperature setpoints are unnecessarily maintained - even if the utilisation is interrupted or the room is not used at all.

The RoomTimePlanner transfers appointments from different time management systems to BACnet or Modbus objects.

The RoomTimePlanner continuously recalculates the times and the setpoints for heating the rooms - based on the actual room occupancy according to the entries in appointment calendars - and transfers them to the building automation and control system. This allows to save energy and operate the building more efficiently in every phase of utilisation.

Available time management systems:

- Timetabling software GP Untis/ WebUntis
- Exchange Server (Outlook)
- Google Calendar
- Yahoo Calendar
- Lotus Notes
- CSV
- iCal
- Direct input

The appointments can be mapped onto the following BACnet objects:

- Analogue Output Object
- Analogue Value Object
- Binary Output Object
- Binary Value Object
- Multistate Output Object
- Multistate Value Object
- Schedule Object

Operator station for WEBVISION

DIGICONTROL - Operator station

Operator station for DIGIVISION (Sample configuration)
also available in 19”

TECHNICAL DATA

Network	2 x RJ45 Gigabit Ethernet onboard LAN ports
Casing	Chieftec Bigtower black
Mainboard	Supermicro
CPU	Intel Core i5
Main memory	8 GB
Graphic card	CPU integrated Intel HD graphic, shared RAM, 1x VGA, 1x HDMI, 1x DVI, 1x Display port
Disk	240GB SSD S/ATA, 2,5“
Drives	DVD-+RW burner
Keyboard / Mouse	Keyb. Cherry G83 + Logitech optical (black, USB)
Operating system	Windows Professional

TYPE

DV-Bedienplatz

Tower server system for WEBVISION

DIGICONTROL - Server Tower

Tower server system (Sample configuration)

TECHNICAL DATA

Network	2 x RJ45 Gigabit Ethernet onboard LAN ports
Casing	Chenbro Server Tower
Mainboard	Supermicro
CPU	Intel Core i7
Main memory	32 GB
Graphic card	CPU integrated Intel HD graphic, shared RAM, 1x VGA, 1x HDMI, 1x DVI, 1x Display port
Drives	DVD-+RW burner
Keyboard / Mouse	Keyb. Cherry G83 + Logitech optical (black, USB)
Operating system	Windows Server

TYPE

DV-Server-Tower

19“ Server system for WEBVISION

DIGICONTROL - Server 19“

19” server system (Sample configuration)

TECHNICAL DATA

Network	2 x RJ45 Gigabit Ethernet onboard LAN ports
Casing	Chenbro 19” server housing, 4HE
Mainboard	Supermicro Server
CPU	Intel Core i5
Main memory	32 GB
Graphic card	CPU integrated Intel HD graphic, shared RAM, 1x VGA, 1x HDMI, 1x DVI, 1x Display port
Disk	2x 480GB SSD S/ATA, 2,5“ (RAID 1) + 2x 1TB HDD S/ATA, 3,5“ (RAID 1)
Drives	DVD-+RW burner
Keyboard / Mouse	Keyb. Cherry G83 + Logitech optical (black, USB)
Operating system	Windows Server

TYPE

DV-Server 19”

Embedded PC

DIGICONTROL - Embedded PC

Server system for WEBVISION 5 up to a maximum of 5 automation devices as embedded PC (sample configuration).
Suitable for installation in control cabinet, if applicable, in connection with touch panel monitor.
Also available in design as:

- Operating station
- Maintenance / dial-in computer

TECHNICAL DATA

Power adapter	65W external power adapter
Casing	Shuttle Embedded industrial PC
CPU	Intel Core i5
Main memory	8 GB (16 GB)
HDD	500 GB SSD (without Raid)
Graphic	HDMI Full HD
LAN	10/100/1000 x 1 802.11a/b/g/n/ac
Audio	2x cinch (Line in/out)
USB ports	2x 3.0, 4x 2.0
Continuous operation	Suitable for 24/7 operation
Operating system	Windows Server or Windows Professional
Serial port	1x RS 232, 1x RS 232/422/485

TYPE

DV-EMBEDDED-PC

Touch panel display for a server system

DIGICONTROL - Touch panel display

Touch panel as add-on for a server system (Sample configuration)

TECHNICAL DATA

Temperature range	0 ~ 50 °C
Point of use	Installation in door of control cabinet
Resolution	1920*1080, 16:9
Screen diagonal	54.6 cm (21.5”)
Touch panel	Multitouch
Frame	For control cabinet door
Graphic	1x HDMI, 1x DVI, 1x VGA

TYPE

DV-TOUCH-DISPLAY

Touch panel PC as operator station system

DIGICONTROL - Touch panel PC

Touch panel PC as operator station system (Sample configuration)

TECHNICAL DATA

Temperature range	-20 ~ 60 °C
Point of use	Door of control cabinet, wall mounting or desktop unit (with pedestal)
Resolution	1920*1080, 16:9
Screen diagonal	38.1 cm (15”)
Touch panel	Multitouch
Power adapter	24 V DC
CPU	Intel Atom Dual Core
Main memory	4 GB (8 GB)
HDD	64 GB SSD
LAN	10/100/1000 x 2
Audio	2x cinch (Line in/out)
Operating system	Windows 10

TYPE

DV-TOUCH-PC

Notebook

DIGICONTROL Notebook

Notebook for WEBVISION - operator station (Sample configuration)

TECHNICAL DATA

Processor	i5 to i7
Main memory	4 GB to 32 GB
HDD capacity	500 GB SSD / SSHD
Screen diagonal (Inch)	15.6 Inch
Resolution	1920 x 1080 FHD

TYPE

DV-Notebook

TFT monitor 24“

DIGICONTROL - TFT 24“

TFT monitor 24” (Sample configuration)

TECHNICAL DATA

Full-HD 1080p	Yes
Resolution	1.920 x 1.080
Screen diagonal	61 cm (24”)

TYPE

DV-TFT24”

Dot matrix printer

DIGICONTROL - Dot matrix printer

Dot matrix printer (Sample configuration)

TECHNICAL DATA

Memory	128 kB
Weight	4.4 kg
Print technology	Dot matrix impact printer
Print speed	Up to 347 characters/s
Print resolution	360 x 180 dpi
Interfaces	1x USB, bidirectionally parallel, Centronics serial
Power supply	230 V
Dimensions (WxDxH)	366 x 275 x 159 mm

TYPE

DV-Nadeldrucker

Laser printer

DIGICONTROL - Laser printer

Laser printer (Sample configuration)

TECHNICAL DATA

Memory	128 mb, expandable up to 384 mb
Weight	10.1 kg
Print technology	Laser
Print speed	Black (A4): up to 12 p./min.; Colour (A4): up to 8 p./min.
Processor	600MHz, ARM 1156 processor core
Print resolution	600 x 600 dpi
Interfaces	1x USB, 1x integrated 10/100 Ethernet
Power supply	230 V
Dimensions (WxDxH)	399 x 453 x 254 mm

TYPE

DV-Laserdrucker

Inkjet printer

DIGICONTROL - Inkjet printer

Inkjet printer (sample configuration)

TECHNICAL DATA

Memory	64 mb
Weight	2.62 kg
Print technology	Thermal inkjet printer
Print speed	Black (A4): up to 28 p./min.; Colour (A4): up to 21 p./min.
Print resolution	B/W up to 600 dpi; Colour up to 4800 dpi
Interfaces	1x USB, wireless 802.11b/g
Power supply	230 V
Dimensions (WxDxH)	433 x 210 x 164 mm

TYPE

DV-Tintenstrahldrucker

Uninterrupted Power Supply (USP)

DIGICONTROL RTX...

The USP system rack-tower model is used to protect highly-sensitive applications against data loss and downtime.
It is an uninterrupted power supply for computers and peripheral devices with a constant 230 V AC, 50 Hz Sinus output voltage. By means of the online process (permanent conversion), response times and switch-over times from mains to battery mode and vice-versa are omitted. Internal bypass, therefore uninterrupted operation even when large loads are connected. Hot swap battery for changing without downtime. It is hot-standby capable for the redundancy mode to increase the operational reliability. Scalable backup power time via external battery packs. Mounting brackets and supporting feet, depending on the area of application, are included.

TECHNICAL DATA

Input voltage	230 V AC
Output voltage	230 V AC, (208 V, 220 V, 240 V adjustable), 50/60 Hz, Switchable output sockets for extension the bridging time for critical consumers
Frequency	50/60 Hz
Interfaces	■ RS232 ■ USB 2.0 Typ-B ■ Potential-free contacts (battery capacity high/low, shutdown) ■ RJ45
Display	Front display

TYPE LIST

TYPE	POWER	BUFFER PERIOD	WEIGHT
DC-RTX1000	1000 VA / 700 W	27 min/11 min (50 % load/100 % load)	14.1 kg
DC-RTX2000	2000 VA / 1400 W	16 min/6 min (50 % load/100 % load)	19.5 kg
DC-RTX3000	3000 VA / 2100 W	17 min/6 min (50 % load/100 % load)	27.5 kg

ACCESSORY

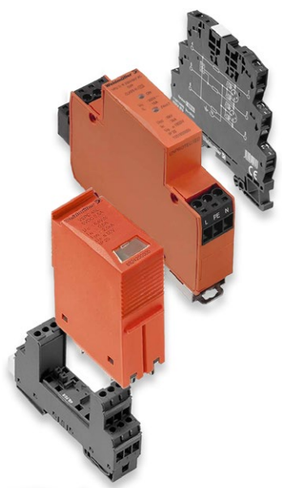
TYPE	DESCRIPTION
DC-RTX2000BP	Battery pack for UPS system DC-RTX2000
DC-RTX3000BP	Battery pack for UPS system DC-RTX3000
PC-USV01	Connection cable UPS (uninterruptible power supply) node
PC-USV02	Connection cable PC – UPS (uninterruptible power supply)

DIGICONTROL

A well thought out concept down to the smallest detail

Highest quality down to the smallest detail eliminates every flaw. Compliance with the VDE standards as well as the guidelines of VDI and VDMA, the CE mark and the quality certificate DIN EN ISO 9001 are a matter of course.

Overvoltage protection class III for automation stations



Overvoltage protection for automation stations in the areas of
- Data
- Measuring / controlling
- Energy distribution

Models:
- 1, 2- or 4-channel
- With or without remote signalling contact
- Assembly directly on mounting rail TS 35 or pluggable for usage in connection with respective base element

TECHNICAL DATA

Degree of pollution	2
Overvoltage category	III
Protection class	IP20
Storage temperature	-40...+80 °C
Operating temperature	-40...+70 °C
Ambient humidity	5...96 % rh.

TYPE LIST

TYPE	NO. OF CHANNELS	RSC	LEAKAGE CURRENT	CONNEC-TION	MOUNTING
VDATACAT6	1	no	5 kA	Ethernet	Mounting rail TS 35
VSPCRS4852CHR	2	yes	2.5 kA	RS485	pluggable on base
VSSC6RS485	1	no	2.5 kA	RS485	Mounting rail TS 35
VSPC2CLHF12VDC	2	no	2.5 kA	CAN bus	pluggable on base
VSPC2CLHF12VDCR	2	yes	2.5 kA	CAN bus	pluggable on base
VPUIIIR230/6	1	yes	3 kA	230 V AC	Mounting rail TS 35
VSPCMOV2CH24VR	2	yes	1 kA / 2.5 kA	24 V AC/DC signal	pluggable on base
VSSC6SLFGLD2405	2	no	2.5 kA	24 V AC/DC signal	Mounting rail TS 35
VSSC4SLFG24/0.5	1	no	2.5 kA	24 V AC/DC signal	Mounting rail TS 35
VSPCMOV2CH230VR	2	yes	1 kA / 2.5 kA	230 V AC	pluggable on base
VSPC1CL24VDCR	1	yes	2.5 kA	M bus	pluggable on base
VSSC6CLFG24/0.5	1	no	2.5 kA	M bus 0...10 V DC	Mounting rail TS 35

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TYPE LIST

TYPE	NO. OF CHANNELS	RSC	LEAKAGE CURRENT	CONNEC-TION	MOUNTING
VSPC2CL24VDCR	2	yes	2.5 kA	0...10 V DC 0...20 mA	pluggable on base
VSPC3/4WIRE24	1	no	2.5 kA	Pt1000	pluggable on base
VSSC6RTD	1	no	2.5 kA	Pt1000	Mounting rail TS 35
VSPC2SL24VDCR	2	yes	2.5 kA	24 V DC	pluggable on base
VSPC4SL24VDCR	4	yes	2.5 kA	24 V DC	pluggable on base
VSPC2SL24VACR	2	yes	2.5 kA	24 V AC	pluggable on base
VSSC6MOV24V	1	no	1 kA	24 V AC/DC	Mounting rail TS 35
VSSC6MOV240V	1	no	1.5 kA	230 V AC/DC	Mounting rail TS 35

ACCESSORY

TYPE	DESCRIPTION
VSPCBASE24CHFGR	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC MOV 2CH 24V R, VSPC MOV 2CH 230V R, VSPC RS485 2CH R
VSPCBASE2CLFG	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 2CL HF 12VDC
VSPCBASE2CLFGR	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 2CL 24VDC R, VSPC 2CL HF 12VDC R
VSPCBASE1CLFGR	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 1CL 24VDC R
VSPCBASE24CHFG	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 3/4WIRE 24VDC
VSPCBASE2SLFGR	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 2SL 24VDC R, VSPC 2SL 24VAC R
VSPCBASE4SLFGR	Base element for assembling on the mounting rail TS 35 for overvoltage protection plug of types: VSPC 1CL 24VDC R

Voltage supply for automation stations

Switch-mode power supplies

PRO ECO 72 W 24 V 3 A | ...120 W 24 V 5 A | ...240 W 24 V 10 A | ...480 W 24 V 20 A

The switched-mode power supply units of the PRO ECO series provide all basic functions and convince with impressively high performance and flexibility. They feature a compact design, high efficiency and are extremely easy to service. They can be universally used thanks to temperature protection, short-circuit resistance and overload protection. They also have extensive safety functions and can be easily combined with the capacity module CP M CAP and the USP control unit CP DC UPS 24 V 20 A/10 A (in conjunction with the battery modules CP A BATTERY 24 V DC7.2 AH, CP A BATTERY 24 V DC12 AH) to provide redundant power supply. The power supply units are mounted horizontally on the TS 35 mounting rail.

TECHNICAL DATA

Floating contact	Yes
Insulation voltage	Input / Output: 3 kV
Protection against overheating	Yes
Relay	Output voltage > 21.6 V / < 20.4 V
Outputs	Voltage 24 V DC +/- 1 %
Inputs	Voltage 100...240 V AC
Leakage current	Max. 1 mA
Residual ripple	< 50 mV @ 24 V DC
Frequency band	47...63 Hz
Current consumption	@ 230/115 V AC: 0.6/1.1 A (...3 A); 1.2/2.4 A (...5 A); 1.2/2.4 A (...10 A); 2.4/4.8 A (...20 A)
Contact load	No contact: max. 30 V DC / 0.5 A
Mounting	Horizontal on mounting rail TS 35
Protection class	IP00
Protection class	I, with PE connection
Pollution degree	2
Operating temperature	-40...+85 °C
Ambient humidity	5...95 % relative humidity
Standards/rules/guidelines/ approvals	For use with electronic equipment according to EN50178 / VDE0160 Electrical machine equipment: according to EN60204 Protection against dangerous shock currents according to E0106-101 Safety extra-low voltage: SELV according to EN60950, PELV according to EN60204 Protective separation, protection against electrical shock: VDE0100-410 / according to DIN57100-410 Safety transformers for switched-mode power supply units: according to EN61558-2-17 eClass 6.2: 27-04-90-04 Limitation of mains voltage harmonic currents according to EN61000-3-2 Vibration resistance IEC 60068-2-6 : 1 g according to EN50178 Shock resistance IEC 60068-2-27: 15 g in all directions EN55022: Klasse B EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (Burst), EN 61000-4-5 (Surge), EN 61000-4-6 (conducted), EN 61000-4-8 (Fields), EN 61000-4-11 (Dips)

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TYPE LIST

TYPE	NOMINAL CURRENT	POWER CONSUMPTION	WEIGHT	DIMENSIONS
PROECO72/24/3	3 A	72 W	0.5 kg	34 x 125 x 100 mm
PROECO120/24/5	5 A	120 W	0.6 kg	40 x 125 x 100 mm
PROECO240/24/10	10 A	240 W	1.0 kg	60 x 125 x 100 mm
PROECO480/24/20	20 A	480 W	1.6 kg	100 x 125 x 120 mm

Voltage supply for automation stations

UPS - control unit

CP DC UPS 24 V 20 A/10 A

The UPS control unit CP DC UPS 24 V 20 A/10 A, the associated battery modules CP A BATTERY 24 V DC7.2/12 AH and the power supply units of the PRO ECO series form a complete DC UPS system. The input voltage from the UPS control unit is directly connected to the load in normal operation. The system immediately switches to battery operation in case of mains failure (drop of DC input voltage). As soon as the mains supply has been restored, the system switches back to the normal operating mode and the battery is fully recharged by means of the integrated charger. Three relay outputs, three additional active transistor outputs and a control input for locking battery operation provide full remote control via SPS or DCS control. Multiple operating modes and a comfortable status display provide fast fault diagnosis and optimum customisation to the application. It is installed horizontally on the mounting rail TS 35 in the control cabinet.

TECHNICAL DATA

Voltage	24 V
Parallel connection option	■ Battery: yes, max. 2 ■ Output: yes, max. 2; yes, with diode module
Floating contact	Yes
Overload protection	Yes
Outputs	Voltage 24 V DC +/- 1 %
Memory	Battery: 1.3/3.4/7.2/12/17 Ah; selectable with rotary switch
Nominal current	20 A @ 60 °C A
Residual ripple	< 50 mV @ 24 V DC
Current consumption	■ DC: max. 200 mA (without battery), max. 0.5 A (with fully charged battery) ■ typ. 55 mA @24 V DC / PoE Class 1 (0.44 - 3.84 W)
LED display	Three-colour LED battery capacity (max. load)
Weight	0.98 kg
Dimensions	66 x 130 x 150 mm
Protection class	IP00
Protection class	III, without PE connection, for SELV
Over-voltage category	III
Pollution degree	2
Operating temperature	-25...+70 °C
Ambient humidity	5...95 % rh., without condensation
Standards/rules/guidelines/ approvals	EN50178 / VDE0160; EN60204; VDE0106-101; VDE0100-410 / nach DIN57100-410

TYPE

CPDCUPS24/20-10

Voltage supply for automation stations

Battery modules for UPS control unit

CP A BATTERY 24 V DC7.2 AH | ...12 AH

The battery modules CP A BATTERY 24 V DC7.2/12 AH are used in conjunction with the UPS control unit CP DC UPS 24 V 20 A/10 A. They consist of high-quality Panasonic batteries. These are sealed, maintenance-free lead-fleece batteries. The battery modules are equipped with a temperture sensor to ensure optimum battery charging and battery life. This enables temperature-compensated charging of the batteries. The clear design and plug-in-connectors for the battery connection and the temperature probe allow a safe and quick installation of the batteries.

TECHNICAL DATA

Voltage	24 V DC
Parallel connection option	Yes
Battery type	Maintenance-free AGM lead-acid battery
Charging current	Max. 1.08 A (DC7.2 AH) / 1.80 A (DC12 AH)
Buffer time	■ 10 A: 26.5 min (DC7.2 AH) / 51 min (DC12 AH) ■ 20 A: 11.5 min (DC7.2 AH) / 22.7 min (DC12 AH) ■ 40 A: 5 min (DC7.2 AH) / 9.2 min (DC12 AH)
Protection against inverse voltage	Yes
Outputs	Electricity max. 50 A
Lifespan	At 20 °C: 9...12 years (DC7.2 AH) / 6...9 years (DC12 AH)
Storage temperature	-15...+40 °C
Operating temperature	0...+40 °C
Ambient humidity	5...95 % relative humidity
Standards/rules/guidelines/ approvals	Shock wall acc. to IEC 68-2-27: 30 g Vibration DIN rail/wall acc. to IEC 68-2-6: -/2.3 g eClass 6.2: 27-04-06-03
Other remarks	Series switching capability: No Latest commissioning: 9 months Temperature sensor NTC 100kΩ

TYPE LIST

TYPE	WEIGHT	TRICAL CHARGE	DIMENSIONS
CPABATT24/7.2	5.90 kg	7.2 Ah	162 x 155 x 134 mm
CPABATT24/12	9.22 kg	12.0 Ah	229 x 155 x 134 mm

Voltage supply for automation stations

Capacity module

CP M CAP

Redundant power supply systems increase the availability and consequently the operating time of machinery. The capacitance module CP M CAP enables safe power supply even during peak times (e.g. when the engine is started) and the specific triggering of circuit breakers. It can be installed in addition to the power supply at any time.
The relay module monitors the 24 V supply voltage. A quick and subsequent installation on the switched-mode power supply units of the PRO ECO series can be performed by means of a simple click-on assembly. It will be installed horizontally on the mounting rail TS 35 in the control cabinet.

TECHNICAL DATA

Voltage	24 V DC
Floating contact	Yes
Recovery time for the capacitor	Approx. 1 s
Insulation voltage	0.5 kV input/output housing
Switching thresholds	21.6 V DC, relay on for power good, 20.4 V DC, relay off for power fail
Voltage monitoring	Yes
Peak current output	Load-dependent (typ. 40 A for 1 ms)
Mounting	Horizontal on mounting rail TS 35
Lifespan	>500.000 h according IEC 1709 (SN29500)
Protection class	IP00
Protection class	III, without PE connection, for SELV
Pollution degree	2
Storage temperature	-40...+85 °C
Operating temperature	-25...+70 °C
Ambient humidity	5...95 % rh., without condensation
Standards/rules/guidelines/ approvals	Vibration resistance IEC 60068-2-5: 1 g according to EN´50178 Shock resistance IEC 60068-2-27: 15 g in all directions eClass 6.2: 27-04-92-01 eClass 7.1: 27-04-92-01 EN50178 / VDE0160; EN60204; SELV according to EN60950, PELV according to EN60204 EN55022: Class B EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (Burst), EN 61000-4-5 (Surge), EN 61000-4-6 (conducted), EN 61000-4-8 (Fields), EN 61000-4-11 (Dips)

TYPE

CPMCAP

Electronic power controller

DIGICONTROL DC-ESL...

Data sheet number 52121

For quasi-continuous power control of ohmic loads, such as the heating elements in air heaters, steam generators, fan convectors etc. Suitable for all controllers with a control signal of 0...10 V, 2...10 V, 0...20 mA or 4...20 mA. Housing with heat sink and integrated circuit; for panel mounting on rails as per DIN/EN 50022. DIP switches for selecting the control signal. LED for displaying the switching status. Screw terminals for electric wires of 1 mm² (for control signals) and 4 mm² (power signals).

TECHNICAL DATA

Voltage	230...400 V~ +/- 20 %, 50...60Hz
Tolerance in power supply	± 20 %, 50...60 Hz
Activation	Control signal y: 0/2...10 V, Ri > 100 kΩ 0/4...20 mA, Ri < 170 Ω
Power consumption	Max. 5 VA
cos phi	> 0.95
Weight	0.5 kg
Protection class	IP20
Protection class	II
Over-voltage category	II
Storage temperature	-25...+65 °C
Operating temperature	0...+65 °C
Ambient humidity	0...95 % rh. (without condensation)
Standards/rules/guidelines/ approvals	CE Conformity EMC immunity EN 61000-6-1; 2 EMS Irradiation EN 61000-6-3; 4 Safety EN 60730-1

TYPE LIST

TYPE	SWITCHING POWER	NOMINAL CURRENT	SWITCHING	NUMBER OF ESL
DC-ESL116-3,7	3.7 kW	16 A	Single-phase	1
DC-ESL116-6,4	6.4 kW	16 A	Two-phase	1
DC-ESL116-11	11.0 kW	16 A	Y, Δ connection	2
DC-ESL116-19	19.0 kW	16 A	Δ connection	3

Electronic active energy consumption meters, single-phase, direct measuring

DIGICONTROL W-WLZ1D-M-Bus | W-WLZ1D-Modbus

The electronic single-phase energy meters with M bus/Modbus RTU interface enable reading of all relevant data, such as energy (total and partial) current, voltage, active and reactive power.

General specifications
- Single-phase energy meter, 230 V AC, 50 Hz
- Direct measurement up to 32 A
- Display of energy, active power, voltage and current
- M-Bus/Modbus interface for retrieving data
- Reactive power and cosφ available via interface
- Up to 250 (M-Bus) / 247 (Modbus) meters can be connected to the interface
- 7-digit LCD display
- Can be sealed with sealing cap (accessory)
- 1 tariff
- MID version

TECHNICAL DATA

Voltage	230 V AC, 50 Hz, -20/+15 %
Reference/maximal current	Iref = 5 A, Imax = 32 A
Starting/minimum current	Ist = 20 mA, Imin = 0.25 A
Version	Direct measuring meter up to 32 A Single-tariff meter Can be sealed with sealing cap (accessory)
Power consumption	0.4 W
Display	7-digit LCD (backlit, 5 mm high digits)
Electrical connection	■ Main circuit conductor cross-section max. 6 mm² ■ Control circuit conductor cross-section max. 2.5 mm²
Accuracy	Class B according EN50470-3 Class 1 according IEC62053-21
Mounting	Top hat rail 35 mm according EN60715
Counting range	00`000.00...99`999.99 100`000.0...999`999.9
Pulses per kWh	2000
Protection class	II
Insulation characteristics	4 kV / 50 Hz test according to VDE0435 for energy meters 6 kV 1.2 / 50 µs surge voltage according to IEC255-4 2 kV / 50 Hz test according to VDE0435 for interface
Storage temperature	-30...+85 °C
Operating temperature	-25...+55 °C
Ambient humidity	Max. 75 % rh. (without condensation)
Environment	Mechanical M2 Electromagnetic E2

◂ CONTINUED FROM PAGE 176

Standards/rules/guidelines/approvals	Surge voltage according to IEC61000-4-5: At main circuit 4 kV At bus interface 1 kV Burst voltage according to IEC61000-4-4: At main circuit 4 kV At bus interface 1 kV ESD according to IEC61000-4-2: Contact 8 kV MID approved

TYPE LIST

TYPE	DATA SHEET	INTERFACES
W-WLZ1D-M-Bus	83430	M bus
W-WLZ1D-Modbus	83431	Modbus

CONTINUED ON PAGE 176 ▸

Electronic active energy consumption meters, three-phase, direct measuring

DIGICONTROL WLZ3D-M-Bus | WLZ3D-Modbus

The electronic three-phase energy meters with M-Bus/Modbus RTU interface allow reading of all relevant data, such as energy (total and partial) current, voltage, active and reactive power.

General specifications

- Three-phase energy meter, 3x230/400 V AC, 50 Hz
- Direct measurement up to 65 A
- Display of energy, active power, voltage and current for each phase
- Display of total active power
- M-Bus/Modbus interface to query data
- Reactive power for each phase or total, available via interface
- Up to 250 (M-Bus) / 247 (Modbus) meters can be connected to the interface
- 7-digit LCD display
- Can be sealed with sealing cap (accessory)
- 2 tariffs
- MID version

TECHNICAL DATA

Voltage	3x 230/400 V AC, 50 Hz, -20/+15 %
Reference/maximal current	Iref = 10 A, Imax = 65 A
Starting/minimum current	Ist = 40 mA, Imin = 0.5 A
Version	Direct measuring meter up to 65 A Single- or two-tariff meter Can be sealed with sealing cap (accessory)
Power consumption	0.4 W per phase
Display	■ 7-digit LCD (backlit, 6 mm high digits) ■ Without mains voltage capacitor-aided LCD, maximum 2 times during 10 days
Electrical connection	■ Control circuit conductor cross-section max. 2.5 mm² ■ Main circuit conductor cross-section 1.5 - 16 mm²
Accuracy	Class B according EN50470-3 Class 1 according IEC62053-21
Mounting	Top hat rail 35 mm according EN60715
Counting range	00`000.00...99`999.99 100`000.0...999`999.9
Pulses per kWh	1000
Protection class	II
Insulation characteristics	4 kV / 50 Hz test according to VDE0435 for energy meters 6 kV 1.2 / 50 µs surge voltage according to IEC255-4 2 kV / 50 Hz test according to VDE0435 for interface
Storage temperature	-30...+85 °C
Operating temperature	-25...+55 °C
Ambient humidity	Max. 75 % rh. (without condensation)
Environment	Mechanical M2 Electromagnetic E2

◂ CONTINUED FROM PAGE 178

Standards/rules/guidelines/ approvals	Surge voltage according to IEC61000-4-5: At main circuit 4 kV At bus interface 1 kV Burst voltage according to IEC61000-4-4: At main circuit 4 kV At bus interface 1 kV ESD according to IEC61000-4-2: Contact 8 kV MID approved

TYPE LIST

TYPE	DATA SHEET	INTERFACES
W-WLZ3D-M-Bus	83440	M bus
W-WLZ3D-Modbus	83441	Modbus

CONTINUED ON PAGE 178 ▸

Electronic active energy consumption meters, three-phase, transducer measuring

DIGICONTROL WLZ3W-M-Bus | WLZ3D-Modbus

The electronic three-phase energy meters with M bus/Modbus RTU interface enable the reading of all relevant data like energy (total and partial), current, voltage and active and reactive power.

General specifications

- 3-phase energy meter, 3x230/400 V AC, 50 Hz
- Measurement through a transformer 5...1500 A
- Display of energy, effective power, voltage and current per phase
- Display of total active power
- M-Bus/Modbus interface to retrieve the data
- Reactive power per phase or total, available via interface
- Up to 250 (M-Bus) / 247 (Modbus) meters can be connected with one interface
- 7-digit LCD display
- Can be sealed with sealing cap (accessory)
- 1 tariff
- MID version

TECHNICAL DATA

Voltage	3x 230/400 V AC, 50 Hz, -20/+15 %
Reference/maximal current	Iref = 5 A, Imax = 6 A
Starting/minimum current	Ist = 10 mA, Imin = 0.05 A
Converter ratio	5 : 5 / 50 : 5 / 100 : 5 / 150 : 5 / 200 : 5 / 250 : 5 / 300 : 5 / 400 : 5 / 500 : 5 / 600 : 5 / 750 : 5 / 1000 : 5 / 1250 : 5 / 1500 : 5
Version	Meter for transformer connection 5...1500 A Single-tariff meter Can be sealed with sealing cap (accessory)
Power consumption	0.4 W per phase
Display	■ 7-digit LCD (backlit, 6 mm high digits) ■ Without mains voltage capacitor-aided LCD, maximum 2 times during 10 days
Electrical connection	■ Control circuit conductor cross-section max. 2.5 mm² ■ Main circuit conductor cross-section 1.5 - 16 mm²
Accuracy	Class B according EN50470-3 Class 1 according IEC62053-21
Mounting	Top hat rail 35 mm according EN60715
Counting range	000`000.0...999`999.9 1`000`000...9`999`999
Pulses per kWh	10
Protection class	II
Insulation characteristics	4 kV / 50 Hz test according to VDE0435 for energy meters 6 kV 1.2 / 50 µs surge voltage according to IEC255-4 2 kV / 50 Hz test according to VDE0435 for interface
Storage temperature	-30...+85 °C
Operating temperature	-25...+55 °C
Ambient humidity	Max. 75 % rh. (without condensation)
Environment	Mechanical M2 Electromagnetic E2

◂ CONTINUED FROM PAGE 180

Standards/rules/guidelines/ approvals	Surge voltage according to IEC61000-4-5: At main circuit 4 kV At bus interface 1 kV Burst voltage according to IEC61000-4-4: At main circuit 4 kV At bus interface 1 kV ESD according to IEC61000-4-2: Contact 8 kV Air 15 kV MID approved

TYPE LIST

TYPE	DATA SHEET	INTERFACES
W-WLZ3W-M-Bus	83450	M bus
W-WLZ3W-Modbus	83451	Modbus

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Carrier protocol converter

DIGICONTROL DC-COM-Serv

Data sheet number 51030

The DC-COM-Serv is used as carrier protocol converter for converting a standard M-Bus or Modbus to Ethernet TCP/IP. The serial interface of the server can be switched between the standards RS232, RS422 and RS485. 1x Com-Server Highspeed Industry and 1x product CD are included in the scope of delivery.

TECHNICAL DATA

Voltage	PoE or DC 24 V...48 V (+/- 10 %) bzw. AC 18 Veff...30 Veff (+/- 10 %)
Current consumption	typ. 55 mA @24 V DC / PoE Class 1 (0.44 - 3.84 W)
Electrical connection	Pluggable screw terminal
Interfaces	1xRS232-, RS422-interface, DB9 plug, switchable
Baud rate	50 ro 230.400 Baud
Data format	7.8 Data bit, 1.2 Stop bit No, Even, Odd, Mark, Space Parity
Flow control	Hardware handshake, XON-/XOFF-protocol of deselectable
Galvanic isolation	Min. 1500 Volt
Network	10/100 BR autosensing
Lifespan	637.767 h @25 °C gem. MIL-HDBK-217
Weight	Approx. 200 g
Housing	Plastic compact housing for top-hat rail mount
Dimensions	105 x 75 x 22 mm
Storage temperature	-40...+70 °C
Operating temperature	0...+60 °C
Ambient humidity	0...95 % rh. (without condensation)

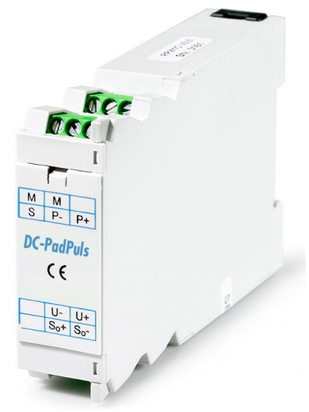
TYPE	INTERFACES
DC-COM-Serv	1xRS232-, RS422-interface, DB9 plug, switchable

Pulse adapter

DIGICONTROL DC-PadPuls

Data sheet number 83160

Single-channel pulse adapter DC-PadPuls used in consumption meters with pulse generators as appropriate M-Bus slaves. This way the consumption data of a simple water meter or an electric meter can be logged centrally by data telecommunication via the M-Bus.



Technical data

- Operation without an external power supply, power supply via M-Bus or built-in battery
- Full metering function also in battery mode (battery backup in case of bus failure)
- Connection: potential-free pulse generator (reed contact, optocoupler)
- Alternative connection of pulse generators with S0 interface according to DIN 43864 (external 24 V DC power supply unit necessary!)
- Maximum pulse frequency: 20 Hz; debouncing of pulse signals
- Adjustable pulse value and unit
- M-Bus protocol addcording to EN 1434-3
- Complete parameterizationvia the bus with write protection feature
- Mounting on DIN top hat rail

TYPE
DC-PadPuls

M-Bus Converter

DIGICONTROL PW...

The M-Bus converters of the series DC-PW are level converters / masters for the operation of M-Bus networks with up to 250 standard devices.

TYPE LIST

TYPE	DATA SHEET	MAX. NUMBER OF TERMINAL-DEVICES	INTERFACES
DC-PW3	51021	3	RS232 / M-Bus
DC-PW20	51022	20	RS232 / M-Bus
DC-PW60	51023	60	RS232 / M-Bus
DC-PW250-RS232	51024	250	RS232 / M-Bus
DC-PW250-RS485	51024	250	RS485 / M-Bus

Frequency converter 0.75 - 250kW | IP21

DIGICONTROL DC-ACH580-01-...

Data sheet number 61100

Frequency converter for building technology, for continuously variable speed control of three-phase asynchronous motors, permanent magnet synchronous motors and synchronous reluctance motors. It is used for fan-, pump- and compressor applications.With plain text display in different languages, manual-off-auto-function, help button for full-text search, backup and parameter copy function, alphanumerical and graphical representation of data, integrated real-time clock for diagnosis and control funcions, navigation buttons for simple operation, USB interface for parametrisation and operation via PC/ laptop. The operating panel can be removed without any tools.

TECHNICAL DATA

Outputs	■ 2 analogue outputs ■ Voltage signal 0 to 10 V, Rload: > 100 kΩ ■ Current signal 0 to 20 mA, Rload: > 500 Ω ■ Internal auxiliary voltage 24 V DC +/- 10 %, max. 250 mA ■ Max. switching voltage 250 V AC/30 V DC, max. continuous current 2 A eff.
Inputs	■ 2 analogue inputs ■ Selection of the current/voltage input mode via the operating panel ■ Voltage signal 0 (2) to 10 V, Rin > 200 kΩ ■ Current signal 0 (4) to 20 mA, Rin = 100 Ω ■ Potentiometer set point value 10 V +/- 1 % max. 20 mA ■ 6 digital inputs ■ 12 to 24 V DC, 24 V AC, connectivity of PTC sensors supported by a single digital input; PNP or NPN connector
Mains connection	Voltage and power range: three-phase, 380 to 480 Volts, +10/-15 %, automatic detection of supply voltage Frequency: 48 to 63 Hz Power factor of the fundamental oscillation: 0.98 Efficiency at rated output: 98 %
Sensor	■ Each analogue input and the digital input 6 can be configured for PTC with up to 6 transmitters. ■ Both analogue outputs can be used for the supply of the PT 100 sensors.
Electrical connection	Voltage: three-phase, from 0 up to supply voltage Frequency: 0 to 500 Hz
Slots	■ One slot for optional field bus modules: BACnet IP (2 ports), Profibus DP, Ethernet (EtherNet/IP, Modbus TCP, LonWorks ■ One slot for optional I/O extensions: external 24 V AC/DC, 2x RO/1xDO or 6xDI 115/230 V, 2xRO
Interfaces	■ Standard protocols (EIA 485): BACnet MS/TP, Modbus RTU and N2 ■ Available as external option: Ethernet-adapter for remote monitoring ■ Also available as pluggable options: BACnet/IP LonWorks, Modbus TCP etc.
Protection class	IP21
Storage temperature	-40...+70 °C
Operating temperature	-15...+50 (no frost allowed) °C
Ambient humidity	0...95 % rh. (without condensation)

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Standards/rules/guidelines/approvals

Low-voltage directive 2006/95/EG
EMV Guideline 2004/108/EG
Quality assurance system ISO 9001 and environmental protection system in accordance with ISO 14001
CE-, UL-, cUL- and EAC authorisations
Standards and guidelines:
Potential separation in accordance with PELV
RoHS (Limitation of hazardous substances)
EN 61800-5-1:2007; IEC/EN 61000-3-12; EN 61800-3:2004 + A1:2012 category C2 (first Environment, restricted availability)
Safe torque shut-off (EN 61800-5-2)
EMV (in compliance with (EN 61800-3): Class C2 (first Environment, restricted availability)
Harmonics: IEC/EN 61000-3-12

TYPE LIST

TYPE	I-OUTPUT	P-MOTOR	WEIGHT	DIMENSIONS
DC-ACH580-01-02A7-4	2.6 A	0.75 kW	4.5 kg	303 x 125 x 210 mm
DC-ACH580-01-03A4-4	3.3 A	1.1 kW	4.5 kg	303 x 125 x 210 mm
DC-ACH580-01-04A1-4	4.0 A	1.5 kW	4.5 kg	303 x 125 x 210 mm
DC-ACH580-01-05A7-4	5.6 A	2.2 kW	4.5 kg	303 x 125 x 210 mm
DC-ACH580-01-07A3-4	7.2 A	3 kW	4.6 kg	303 x 125 x 223 mm
DC-ACH580-01-09A5-4	9.4 A	4 kW	4.6 kg	303 x 125 x 223 mm
DC-ACH580-01-12A7-4	12.6 A	5.5 kW	4.6 kg	303 x 125 x 223 mm
DC-ACH580-01-018A-4	17 A	7.5 kW	7.5 kg	394 x 125 x 227 mm
DC-ACH580-01-026A-4	25 A	11 kW	7.5 kg	394 x 125 x 227 mm
DC-ACH580-01-033A-4	32 A	15 kW	14.9 kg	454 x 203 x 228 mm
DC-ACH580-01-039A-4	38 A	18.5 kW	14.9 kg	454 x 203 x 228 mm
DC-ACH580-01-046A-4	45 A	22 kW	14.9 kg	454 x 203 x 228 mm
DC-ACH580-01-062A-4	62 A	30 kW	19 kg	600 x 203 x 257 mm
DC-ACH580-01-073A-4	73 A	37 kW	19 kg	600 x 203 x 257 mm
DC-ACH580-01-088A-4	88 A	45 kW	34 kg	732 x 203 x 295 mm
DC-ACH580-01-106A-4	106 A	55 kW	34 kg	732 x 203 x 295 mm

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TYPE LIST

TYPE	I-OUTPUT	P-MOTOR	WEIGHT	DIMENSIONS
DC-ACH580-01-145A-4	145 A	75 kW	45 kg	726 x 252 x 369 mm
DC-ACH580-01-169A-4	169 A	90 kW	55 kg	880 x 284 x 370 mm
DC-ACH580-01-206A-4	206 A	110 kW	55 kg	880 x 284 x 370 mm
DC-ACH580-01-246A-4	246 A	132 kW	70 kg	965 x 300 x 393 mm
DC-ACH580-01-293A-4	293 A	160 kW	70 kg	965 x 300 x 393 mm
DC-ACH580-01-363A-4	363 A	200 kW	98 kg	955 x 380 x 418 mm
DC-ACH580-01-430A-4	430 A	250 kW	98 kg	955 x 380 x 418 mm

ACCESSORY

TYPE	DESCRIPTION
FBIP-21	Adapter module BACnet/IP (2-port)

Frequency converter 0.75 - 250kW | IP55

DIGICONTROL DC-ACH580-01-...

Data sheet number 61100

Frequency converter for building technology, for continuously variable speed control of three-phase asynchronous motors, permanent magnet synchronous motors and synchronous reluctance motors. It is used for fan-, pump- and compressor applications.With plain text display in different languages, manual-off-auto-function, help button for full-text search, backup and parameter copy function, alphanumerical and graphical representation of data, integrated real-time clock for diagnosis and control functions, navigation button for simple operation, USB interface for parametrisation and operation via PC/ laptop. The operating panel can be removed without any tools.

TECHNICAL DATA

Outputs
- Internal auxiliary voltage 24 V DC +/- 10 %, max. 250 mA
- 3 relay outputs
- Voltage signal 0 to 10 V, Rload: > 100 kΩ
- Current signal 0 to 20 mA, Rload: < 500 Ω
- Max. switching voltage 250 V AC/30 V DC, max. continuous current 2 A eff.
- 2 analogue outputs

Inputs
- Selection of the current/voltage input mode via the operating panel
- Voltage signal 0 (2) to 10 V, Rin > 200kΩ
- 2 analogue inputs
- 12 to 24 V DC, 24 V AC, connectivity of PTC sensors supported by a single digital input, PNP or NPN connector (5 DI with NPN connector)
- 6 digital inputs
- Potentiometer set point value 10 V +/- 1 % max. 20 mA
- Current signal 0 (4) to 20 mA, Rin = 100 Ω

Mains connection
Voltage and power range: three-phase, 380 to 480 Volts, +10/-15% (from 0.75 to 250 kW), automatic detection of supply voltage
Frequency: 48 to 63 Hz
Power factor of the fundamental oscillation: 0.98
Efficiency at rated Output: 98%

Sensor
- Each analogue input and the digital input 6 can be configured for PTC with up to 6 transmitters.
- Both analogue outputs can be used for the supply of the PT 100 sensors.

Electrical connection
Voltage: three-phase, from 0 up to supply voltage
Frequency: 0 to 500 Hz

Slots
- One slot for optional I/O extensions: external 24 V AC/DC 2xRO/1xDO or 6xDI 115/230 V, 2XRO
- One slot for optional field bus modules: BACnet IP (2-port), Profibus DP, Ethernet (EtherNet/IP, Modbus TCP, LonWorks

Interfaces
- Available as external option: Ethernet-adapter for remote monitoring
- Also available as pluggable options: BACnet/IP LonWorks, Modbus TCP etc.
- Standard protocols (EIA 485): BACnet MS/TP, Modbus RTU and N2

Protection class IP55
Storage temperature -40...+70 °C
Operating temperature -15...+50 (no frost allowed) °C
Ambient humidity 0...95 % rh. (without condensation)

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Standards/rules/guidelines/ approvals
Low-voltage directive 2006/95/EG
EMV guideline 2004/108/EG
Quality assurance system ISO 9001 and environmental protection system in accordance with ISO 14001
CE-, UL-, cUL- and EAC authorisations
Standards and guidlines:
Potential separation in accordance with PELV
RoHS (restriction of hazardous substances) EN 61800-5-1:2007; IEC/EN 61000-3-12; EN 61800-3:2004+A1:2012 category C2 (first Environment, restricted availability); Safe torque shut off (EN 61800-5-2)
EMV (in compliance with (EN 61800-3): Class C2 (first environment, restricted availability)
Harmonics: IEC/EN 61000-3-12

TYPE LIST

TYPE	I-OUTPUT	P-MOTOR	WEIGHT	DIMENSIONS
DC-ACH580-01-02A7-4+B056	2.6 A	0.75 kW	5.1 kg	303 x 125 x 222 mm
DC-ACH580-01-03A4-4+B056	3.3 A	1.1 kW	5.1 kg	303 x 125 x 222 mm
DC-ACH580-01-04A1-4+B056	4.0 A	1.5 kW	5.1 kg	303 x 125 x 222 mm
DC-ACH580-01-05A7-4+B056	5.6 A	2.2 kW	5.1 kg	303 x 125 x 222 mm
DC-ACH580-01-07A3-4+B056	7.2 A	3 kW	5.5 kg	303 x 125 x 233 mm
DC-ACH580-01-09A5-4+B056	9.4 A	4 kW	5.5 kg	303 x 125 x 233 mm
DC-ACH580-01-12A7-4+B056	12.6 A	5.5 kW	5.5 kg	303 x 125 x 233 mm
DC-ACH580-01-018A-4+B056	17 A	7.5 kW	7.8 kg	394 x 125 x 239 mm
DC-ACH580-01-026A-4+B056	25 A	11 kW	7.8 kg	394 x 125 x 239 mm
DC-ACH580-01-033A-4+B056	32 A	15 kW	15.1 kg	454 x 203 x 237 mm
DC-ACH580-01-039A-4+B056	38 A	18.5 kW	15.1 kg	454 x 203 x 237 mm
DC-ACH580-01-046A-4+B056	45 A	22 kW	15.1 kg	454 x 203 x 237 mm
DC-ACH580-01-062A-4+B056	62 A	30 kW	20 kg	600 x 203 x 265 mm
DC-ACH580-01-073A-4+B056	73 A	37 kW	20 kg	600 x 203 x 265 mm
DC-ACH580-01-088A-4+B056	88 A	45 kW	34 kg	732 x 203 x 320 mm
DC-ACH580-01-106A-4+B056	106 A	55 kW	34 kg	732 x 203 x 320 mm

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TYPE LIST

TYPE	I-OUTPUT	P-MOTOR	WEIGHT	DIMENSIONS
DC-ACH580-01-145A-4+B056	145 A	75 kW	46 kg	726 x 252 x 380 mm
DC-ACH580-01-169A-4+B056	169 A	90 kW	56 kg	880 x 284 x 381 mm
DC-ACH580-01-206A-4+B056	206 A	110 kW	56 kg	880 x 284 x 381 mm
DC-ACH580-01-246A-4+B056	246 A	132 kW	74 kg	965 x 300 x 452 mm
DC-ACH580-01-293A-4+B056	293 A	160 kW	74 kg	965 x 300 x 452 mm
DC-ACH580-01-363A-4+B056	363 A	200 kW	102 kg	955 x 380 x 477 mm
DC-ACH580-01-430A-4+B056	430 A	250 kW	102 kg	955 x 380 x 477 mm

ACCESSORY

TYPE	DESCRIPTION
FBIP-21	Adapter module BACnet/IP (2-port)

DIGICONTROL

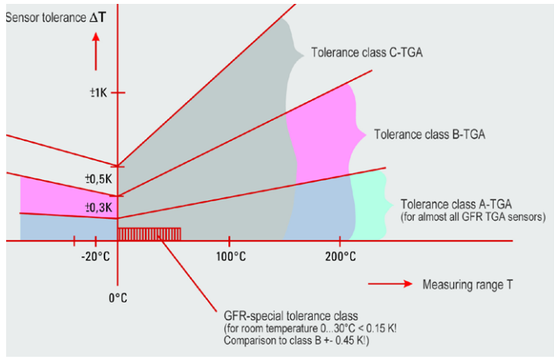
Sensors, actuators, fittings, valves

Whether sensors, regulators, heat volume counters, valves, actuator drives or explosion-proof components, the comprehensive and first-class DIGICONTROL field devices portfolio guarantee an optimum performance and system-compatible integration. Planners, builders and operators of buildings and properties appreciate the continuous availability of a well-chosen range of products that are in stock, the dependable service and the knowledgeable advice of an experienced team. Even uncommon components are quickly available.

Tolerances and stability of sensors

The range of temperature sensors has been developed and designed in parallel with and according to the new version of VDI guideline 3512. This guideline provides a basis for classifying the quality of temperature sensors for building automation, which is more precise than simply specifying tolerance classes (for sensor resistors). It helps to improve the energy balance of buildings and to optimise the installation of temperature sensors.

DIGICONTROL temperature sensors improve energy efficiency and thus increase savings. This is of particular interest in light of the European Union‘s „Green Building“ programme



A decent measuring element does not necessarily make a good sensor!

The goal of increasing energy savings and efficiency in building automation has led to higher stability and accuracy standards for temperature sensors. A market survey reveals a wealth of available temperature sensor types. However, these sensors are not always clearly structured or classified according to their stability and tolerance ratings. Nevertheless, these specifications are crucial for accurately estimating their energy efficiency and saving potential.

The publication of standard VDI/VDE 3512 has set the benchmark for higher requirements regarding energy-efficient building and room automation. Builders now have a basis for selecting the most suitable temperature measurement technology. VDI/VDE 3512 Part 4 distinguishes between TBA tolerance classes A/B/C. Temperature sensors complying with the corresponding test results may be labelled „A TBA“, „B TBA“ or „C TBA“ and the VDI/ VDE mark. The highest tolerance class is “A TBA”.

Outside temperature sensor with optional radiation protection plate

DIGICONTROL F-ATF121B

Data sheet number 81002

The outside temperature sensor F-ATF121B convectively measures the air temperature using primary sensors installed in a plastic casing. It is especially designed for use in damp rooms as well as outdoor areas or outer facades. It has an optional radiation protection plate and is also suitable in places with high heat radiation.

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Measuring range	-35...+60 °C
Measuring current	≤ 2 mA
Sensor	Pt1000
Electrical connection	By means of screw terminals
Switching	Two conductor connection
Housing	Plastic housing, light grey
Protection class	IP65

TYPE

F-ATF121B

ACCESSORY

TYPE	DESCRIPTION	
F-ATF-B	Radiation protection plate for outside temperature sensor F-ATF121B	

Outside humidity sensor

DIGICONTROL F-AFF-U

Data sheet number 81276

The outside humidity sensor measures the relative humidity outside and converts these measurements into standard signals. Measurement converters are designed for the exact measurement of humidity. The transmitters are designed for the exact measurement of humidity.. Humidity measurement is based on the capacitative measurement principle.

TECHNICAL DATA

Voltage	15...24 V AC
Outputs	0...10 V DC correspond 0...100 % rh
Aberration humidity	MB 40...60 % rh. ± 2 % rh. at 20 °C
Sensor	Condensation-proof humidity–temperature sensor transmitter SHT 75, Sensor protection sintered bronze filter
Mounting	Surface and wall mounting
Switching	Four lead connection
Housing	Plastic housing, light grey
Protection class	IP65
Operating temperature	-30...+60 °C
Other remarks	Mounting and installation have to be performed in compliance with the pertinent rules and standards being effective at the measurement location. Particular attention shall be paid to guideline VDE/ VDI 3521 part 3.

TYPE

F-AFF-U

Outdoor humidity and temperature sensor

DIGICONTROL F-AFTF-U

Data sheet number 81050

The outdoor humidity and temperature sensor measures the relative humidity and temperature outdoors and converts these measured values into standard signals.A digital humidity sensor is used for collecting the measured value. The humidity measurement is based on the capacitive measuring principle.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Outputs	■ Temperature: 0...10 V in measuring range from -20...+80°C ■ Humidity: 0...10 V corresponds to 0...100 % rh.
Aberration temperature	+/- 0,4 K
Aberration humidity	measuring range 30...70 % rh. +/- 3 % rh. over 20 °C
Sensor	Condensation-proof humidity–temperature sensor transmitter SHT 75, Sensor protection sintered bronze filter
Housing	Plastic housing, light grey
Dimensions	58 x 35 x 64 mm
Protection class	IP65
Operating temperature	-30...+80 °C

TYPE

F-AFTF-U

Mounted temperature sensor

DIGICONTROL F-ALTF221

Data sheet number 81011

This mounted temperature sensor can be attached to pipelines using straps for non-invasive measurement of liquid and gas temperatures. The temperature of the liquid or gases is indirectly detected via the surface temperature and is subject to ambient temperature influences. The mounting part can be installed for this parallel or diagonal to the PG/KV connection.

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Measuring range	-35...+110 °C
Measuring current	≤ 1,15 mA
	Aluminium with special thermal foil
Sensor	Pt1000
Mounting	Attachment to the pipe with mounting strap made of CrNi-Steel (diameter 13....92 mm)
Switching	Two conductor connection
Housing	Plastic housing, light grey
Protection class	IP65
Other remarks	Always observe any regulations and standards valid at measuring location when installing this device. Guideline VDE/VDI 3512 Part 3 should be noted in particular.

TYPE

F-ALTF221

Room temperature sensor

DIGICONTROL F-RTF121

Data sheet number 81031

Room temperature sensors convectively measure the air temperature by using their internal primary sensors through the housing vent slots or via an external protection tube (diameter 2 mm).

TECHNICAL DATA

Tolerance class	A
Measuring range	-35...+60 °C
Measuring current	≤ 1,15 mA
Sensor	Pt1000
Electrical connection	By means of screw terminals
Mounting	Wall mounting or flush-mounted box, diameter 55 mm
Housing	Plastic, pure white
Protection class	IP20
Option	Surcharge prices on request: - Other measurement ranges, e.g. -50...+50 °C or 0...+50 °C - Measurement converter with analogue output 0...10 V or 4...20 mA - Stainless steel housing
Other remarks	Restriction of areas: in the housing

TYPE

F-RTF121

ACCESSORY

TYPE	DESCRIPTION
F-ARA1E	Cover frame for ERC 1/2/3/4 for UP sockets
F-VS	Vandalism protection (ball protection grating)

Room temperature sensor setpoint-potentiometer

DIGICONTROL F-RTF321

Data sheet number 81041

Room temperature sensors convectively measure the air temperature by using their internal primary sensors through housing vent slots with built-in sensors. A built-in potentiometer serves as a set point generator for the room temperature.

TECHNICAL DATA

Tolerance class	A
Measuring range	-35...+60 °C
Measuring current	≤ 1,15 mA
Sensor	Pt1000
Electrical connection	By means of screw terminals
Mounting	Wall mounting or flush-mounted box, diameter 55 mm
Housing	Plastic, pure white
Protection class	IP20
Option	Surcharge prices on request: - Other measurement ranges, e.g. -50...+50 °C or 0...+50 °C - Measurement converter with analogue output 0...10 V or 4...20 mA
Other remarks	Restriction of areas: in the housing Potentiometer: 1 kΩ, 5 kΩ, 10 kΩ or other are possible, please always state the Ohm value

TYPE

F-RTF321

ACCESSORY

TYPE	DESCRIPTION
F-ARA1E	Cover frame for ERC 1/2/3/4 for UP sockets
F-VS	Vandalism protection (ball protection grating)

Mean value temperature sensor

DIGICONTROL F-MWTF121PE...

Data sheet number 81091

Mean value temperature sensors are used to measure the average temperature of the medium in pipes and ducts. The arrangement should generally be mounted diagonally and reticulated to the flow.

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Bending radius minimal	≥ 150 mm
Measuring current	≤ 2 mA
Sensor	Pt1000
Mounting	Cast aluminium mounting flange
Switching	Two conductor connection
Sensor	PE hose black
Housing	Plastic housing, light grey
Protection class	IP65

TYPE LIST

TYPE	NOMINAL LENGTH	CAPILLARY HOLDER
F-MWTF121PE1500	1500 mm	3 pieces
F-MWTF121PE3000	3000 mm	4 pieces
F-MWTF121PE6000	6000 mm	8 pieces

Rapid duct temperature sensor

DIGICONTROL F-FKATF121-...

Data sheet number 81025

The rapid duct temperature sensor is designed for quick temperature control in air ventilation ducts. Its tapered measurement point guarantees effective t90 (response) times, even in disadvantageous heat transitions (for instance, where the airflow is weak).

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Measuring range	-35...+150 °C
Response Time	t90: ≤ 8 s
Measuring current	≤ 1,15 mA
Sensor	Pt1000
Mounting	Cast aluminium mounting flange
Switching	Two conductor connection
Sensor	Diameter 6 mm at diameter 4.5 mm, material 1.4571
Housing	Plastic housing, light grey
Protection class	IP65
Other remarks	Always observe any regulations and standards valid at measuring location when installing this device. Guideline VDE/VDI 3512 Part 3 should be noted in particular.

TYPE LIST

TYPE	INSTALL. LENGTH
F-FKATF121-100	100 mm
F-FKATF121-150	150 mm
F-FKATF121-200	200 mm
F-FKATF121-250	250 mm
F-FKATF121-300	300 mm
F-FKATF121-400	400 mm
F-FKATF121-450	450 mm

Cable temperature sensor

DIGICONTROL F-KTF121

Data sheet number 81021

This temperature sensor, consisting of a connection cable and a small VA protective sleeve, is designed for any measurement of temperatures. Example: insertion in immersion sleeves

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Measuring range	-35...+150 °C
Measuring current	≤ 1,15 mA
Sensor	Pt1000
Mounting	Insertion in Immersion sleeves, clamping to pipes etc.
Switching	Two conductor connection
Sensor	1.5 m, silicon cable, free wires with end splices, Diameter 6x50 mm, material 1.4571
Protection class	IP54
Other remarks	Always observe any regulations and standards valid at measuring location when installing this device. Guideline VDE/VDI 3512 Part 3 should be noted in particular.

TYPE

F-KTF121

Flexible submersible temperature sensor

DIGICONTROL F-ROF121-...

Data sheet number 81080

The flexible submersible sensor is used for temperature measurement in pipelines and containers when using additional thermowells. It has an elastic and changeable thermowell intermediate part in the form of a silicon rubber cable. Because of this, the installation length can be maintained without any significant limitation to the degree of protection. The elastic intermediate part also provides for flexible suspension, thus eliminating errors with regard to the installation position in the additional thermowell.

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	A
Tolerance class	A-TGA
Measuring range	-35...+150 °C
Measuring current	≤ 1,15 mA
Sensor	Pt1000
Mounting	Installable in the additional thermowell
Switching	Two conductor connection
Sensor	Diameter 6 mm, material VA
Housing	Plastic housing, light grey, partially contains the rolled up cable
Protection class	IP64
Other remarks	Always observe any regulations and standards valid at measuring location when installing this device. Guideline VDE/VDI 3512 Part 3 should be noted in particular.

TYPE LIST

TYPE	INSTALL. LENGTH
F-ROF121-250	50-250 mm
F-ROF121-450	300-450 mm

Immersion sleeves

DIGICONTROL T-THM... | T-THN...

Data sheet number 81100

Immersion sleeves with screw terminal for cable temperature sensor F-KTF1... and screw-in immersion sensor F-ROF1... for installation in hot and cold water networks.

TECHNICAL DATA

Mounting	Internal thread G 1/2”

TYPE LIST

TYPE	OPERATING PRESSURE	INSTALL. LENGTH	MATERIAL	AMBIENT TEMPERATURE
T-THM100	20 bar	100 mm	Nickel-plated brass	max. 150 °C
T-THM150	20 bar	150 mm	Nickel-plated brass	max. 150 °C
T-THM200	20 bar	200 mm	Nickel-plated brass	max. 150 °C
T-THM250	20 bar	250 mm	Nickel-plated brass	max. 150 °C
T-THM300	20 bar	300 mm	Nickel-plated brass	max. 150 °C
T-THM400	20 bar	400 mm	Nickel-plated brass	max. 150 °C
T-THM450	20 bar	450 mm	Nickel-plated brass	max. 150 °C
T-THN100	40 bar	100 mm	Stainless steel, 1.4571	max. 400 °C
T-THN150	40 bar	150 mm	Stainless steel, 1.4571	max. 400 °C
T-THN200	40 bar	200 mm	Stainless steel, 1.4571	max. 400 °C
T-THN250	40 bar	250 mm	Stainless steel, 1.4571	max. 400 °C
T-THN300	40 bar	300 mm	Stainless steel, 1.4571	max. 400 °C
T-THN400	40 bar	400 mm	Stainless steel, 1.4571	max. 400 °C
T-THN450	40 bar	450 mm	Stainless steel, 1.4571	max. 400 °C

Pipeline temperature sensor

DIGICONTROL F-ETF521

Data sheet number 81071

The type ETF pipeline sensor can be installed in pipeline networks, containers or exhaust ducts, depending on the installed sensor, in the range of -35 to +600 °C. It has an exchangeable measuring insert.

TECHNICAL DATA

Insulating resistance	> 100 MΩ bei 20 °C (500 V DC)
Accuracy class according to TGA	C
Tolerance class	A-TGA
Measuring range	-35...+600 °C
Measuring current	≤ 1,15 mA
Operating pressure	40 bar
Install. length	160, 250, 400 (max. 1000) mm 80 mm
Sensor	Pt1000
Mounting	Internal thread G 1/2”
Switching	Two conductor connection
Sensor	Diameter 9 mm, material 1.4571
Housing	Connection head Form B in accordance with DIN 43729, cast aluminium
Protection class	IP54
Ambient temperature	Max. head temperature +120 °C
Other remarks	The cable connection is made in the head. For this, the cable is to be led into the head via the M16x1.5 screw-on cable connection. Always observe any regulations and standards valid at measuring location when installing this device. Guideline VDE/ VDI 3512 Part 3 should be noted in particular.

TYPE

F-ETF521

Outdoor brightness sensor

DIGICONTROL F-AHF

Data sheet number 81201

The device is used for the measuring the illumination. The measuring signal of the brightness sensor is converted into the standard signal 0...10 V and output. Delivery state 20 kLux.

TECHNICAL DATA

Voltage	15...36 V DC or 24 V AC (one-way rectification)
Outputs	Illuminance: 0...10 Volt
Measuring range	0...500 kLux, 0...1 kLux, 0...2 kLux, 0...5 kLux, 0...20 kLux (default), 0...60 kLux
Temperature drift	< ± 5 % EW/10 K
Measurement error of illumination level	< ± 10 % EW
Switch-on run-in time	1 min
Response Time	t90: < 3 s
Sensor	Transparent cap / glass
Current consumption	Max. 20 mA at 24 V DC
Electrical connection	By means of screw terminals
Housing	Plastic housing, pure white, similar to RAL 9010
Protection class	IP65
Ambient temperature	-20...+50 °C
Storage temperature	-20...+50 °C
Ambient humidity	10...95 % rh.

TYPE

F-AHF

Room air quality sensor

DIGICONTROL F-RLQ

Data sheet number 81210

The measurement converter is used to measure air quality. It converts the measurement signal to the standard signal of 0 to 10 volts. The recording range of the air quality is calibrated for uses, for example, for the monitoring of residential rooms and conference areas. Applications can be found, for example, in the monitoring of air quality in: Residential and working rooms, Laboratories and sales areas, Meeting and conference areas, In commercial areas, Production monitoring. The device is internally equipped to provide the option of automatic or manual characteristic curve correction.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Outputs	0...10 V
Measuring range	Air quality: calibration for normal loads
Switch-on run-in time	2 min
Response Time	t90: < 60 s
Sensor	Sensor in the housing, chemical mixed gas sensor
Electrical connection	By means of screw terminals
Accuracy	Air quality: ± 25 % EW (based on calibration gas)
Mounting	For direct wall mounting, AP with vent slots
Housing	Plastic housing, pure white
Dimensions	75 x 75 x 25 mm
Protection class	IP30
Storage temperature	-20...+50 °C
Operating temperature	0...+50 °C
Ambient humidity	10...95 % rh.

TYPE

F-RLQ

Duct air quality sensor

DIGICONTROL F-KLQ1

Data sheet number 81223

This measurement converter is used to measure air quality. It converts the measurement signal to the standard signal of 0 to 10 volts. Applications can be found, for example, in the monitoring of air quality in: Residential and rooms, Laboratories and sales areas, Meeting and conference areas, in commercial areas, Production monitoring. The device is internally equipped to provide the option of automatic or manual characteristic curve correction. The mounting flange included with the delivery makes the mounting/installation of this device uncomplicated. As an option, the pipe length of this version of the device can be adapted to the customer's measuring specifications.

TECHNICAL DATA

Voltage	15...36 V DC or 24 V AC (one-way rectification)
Outputs	0...10 V (default)
Measuring range	Air quality: calibration for normal loads
Switch-on run-in time	2 min
Response Time	t90: < 60 s
Sensor	Sintered filter, sensor in the housing, chemical mixed gas sensor
Electrical connection	By means of screw terminals
Accuracy	Air quality: ± 25% EW (based on calibration gas)
Sensor	Aluminium, diameter 16 mm, length about 200 mm
Housing	Plastic housing, pure white, similar to RAL 9010
Protection class	IP65
Storage temperature	-20...+50 °C
Operating temperature	0...+50 °C
Ambient humidity	10...95 % rh.

TYPE

F-KLQ1

Room CO2 and temperature sensor

DIGICONTROL F-RCO2T2

Data sheet number 82216

By the combination of CO2 and temperature measurement in a modern, assembly friendly case the measurand transducer F-RCO2T1 sets new standards in HVAC technology. The CO2 measuring is based on the approved infrared method. A patented calibration procedure compensates ageing effects and provides an excellent long-term stability.

TECHNICAL DATA

Voltage	24 V AC +/- 20 % / 15...35 V DC
Outputs	0...10 V
Measuring range	CO2: 0...2000 ppm Temperature: 0...50 °C
Response Time	t63: < 110 s
Current consumption	Typ. 14 mA + output current, max. 0.3 A for 0.3 s
Sensor	2 beam infrared cell (non-dispersive infrared technology (NDIR))
Electrical connection	Screw terminals max. 1.5 mm²
Accuracy	CO2: at 25 °C and 1013 mbar
Temperature dependence	Typ. +/- (1+ CO2 concentration ppm / 1000) ppm/°C (-20...45 °C)
Housing	Plastic; lid RAL 9003 (signal white), floor RAL 7035 (light grey)
Dimensions	85 x 100 x 26 mm
Protection class	IP30
Storage temperature	-20...+60 °C
Operating temperature	-20...+60 °C
Ambient humidity	0...90 % rh. (without condensation)
Standards/rules/guidelines/ approvals	EN 61326-1, EN 61326-2-3

TYPE

F-RCO2T2

Room CO2, humidity and temperature sensor

DIGICONTROL F-RCO2TF1

Data sheet number 82215

By combining the measurement of CO2, relative humidity (rh) and temperature (T) and by having a modern and easy to install housing, the F-RC02TF1 sets a new standard in the field of HVAC (heating/ventilation/ air conditioning) technology. A patented auto-calibration procedure compensates for the aging of the infrared source and ensures outstanding long term stability.

TECHNICAL DATA

Voltage	24 V AC +/- 20 % / 15...35 V DC
Outputs	0...10 V (corresponds to 0...100 % rh.)
Measuring range	CO2: 0...2000 ppm Temperature: 0...50 °C Humidity: 10...90 % rh.
Response Time	t63: < 110 s
Current consumption	Typ. 14 mA + output current, max. 0.3 A for 0.3 s
Sensor	2 beam infrared cell (non-dispersive infrared technology (NDIR))
Electrical connection	Screw terminals max. 1.5 mm²
Accuracy	CO2:
Temperature dependence	Typ. +/- (1+ CO2 concentration ppm / 1000) ppm/°C (-20...45 °C)
Housing	Plastic; lid RAL 9003 (signal white), floor RAL 7035 (light grey)
Dimensions	85 x 100 x 26 mm
Protection class	IP30
Storage temperature	-20...+60 °C
Ambient humidity	0...90 % rh. (without condensation)
Standards/rules/guidelines/ approvals	EN 61326-1, EN 61326-2-3

TYPE

F-RCO2TF1

CO2 and temperature measuring transmitter for duct mounting

DIGICONTROL F-KCO2T1

Data sheet number 81221

The measuring transmitter F-KC02T1 is designed for duct mounting and enables an accurate and long-term stable measurement of the CO2 concentration and temperature. The compact and stylish housing allows simple mounting by means of a mounting flange. The CO2 sensing element uses Non-Dispersive Infrared Technology (NDIR). A patented auto-calibration procedure compensates for drift caused by the aging of the sensing element and guarantees outstanding long term stability. The air to be monitored is led to the measuring cell by means of convection via the measuring head and a 12mm pipe. The gas exchange with the measuring cell is performed via a membrane by diffusion, i.e. the gas in the measuring cell circulates in a closed system which avoids pollution of the CO2 sensor.

TECHNICAL DATA

Voltage	24 V AC +/- 20 % / 15...35 V DC
Outputs	0...10 V
Measuring range	CO2: 0...2000 ppm Temperature: 0...50 °C
Flow speed	Min. 1 m/s m/s
Response Time	t63: < 100 s at 3 m/s air speed in the duct
Current consumption	Typ. 15 mA + output current, max. 350 mA for 0.3 s
Sensor	■ Measuring rate approx. 15 s ■ 2 beam infrared cell (non-dispersive infrared technology (NDIR))
Electrical connection	■ 3 ■ Via screw terminals for wires up to 2.5 mm²
Accuracy	CO2:
Temperature dependence	Typ. +/- (1+ CO2 concentration ppm / 1000) ppm/°C (-20...45 °C)
Sensor	Length 200 mm
Housing	Polycarbonate; UL94V-0 approved
Dimensions	101 x 80.6 x 46 mm
Protection class	Housing: IP65 / NEMA 4 Sensor tube: IP20
Storage temperature	-20...+60 °C
Ambient humidity	0...95 % rh. (without condensation)
Standards/rules/guidelines/ approvals	EN 61326-1, EN 61326-2-3

TYPE

F-KCO2T1

Room motion sensor

DIGICONTROL F-BW360-1

Data sheet number 81241

The device is used to detect persons at a distance of up to 10 meters. If a movement is detected, the potential-free relay output will be closed. The holding time of the output (closed relay contact), measured from the time of the last detected movement, can be set via a potentiometer from 4 seconds to 16 minutes. The sensor is characterised by a large range combined with a compact design.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Outputs	Potential-free changeover contact, max. 48 V, 1 A
Detection range	360°, opening angle max. 90°/110°, up to 10 m
Exposure time	Adjustable form four seconds to 16 minutes
Current consumption	Max. 25 mA at 24 V DC
Sensor	PIR motion sensor MTS 10/360, hermetically sealed sensor
Electrical connection	By means of screw terminals
Mounting	Wall mounting, AP
Housing	Plastic housing, pure white, similar to RAL 9010
Dimensions	75 x 75 x 25 mm
Protection class	IP30
Operating temperature	0...+50 °C
Ambient humidity	10...95 % rh.
Other remarks	Function controller “min time max” - setting of holding time

TYPE

F-BW360-1

Room brightness sensor

DIGICONTROL F-LS500-1

Data sheet number 81251

The device is used to measure the illuminance. The measuring signal of the brightness sensor is converted into the standard signal 0...10 V and put out. The instruments are calibrated using a cold light lamp (5700 K, similar to daylight). Application areas are e.g.: lighting control, illumination-dependent control of blinds, awnings and outdoor lights, monitoring of the lighting conditions at workplaces, greenhouses, living rooms, twilight sensors and brightness-dependet circuits. The sensor is characterised by ist compact design, low power consumption and high reliability.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Outputs	0...10 V
Measuring range	500 Lux / 1 kLux / 20 kLux, factory setting 500 Lux
Sensor	Photodiode with filter, glass cover, hermetically sealed sensor
Current consumption	Max. 25 mA at 24 V DC
Electrical connection	By means of screw terminals
Mounting	Wall mounting, AP
Housing	Plastic housing, pure white, similar to RAL 9010
Dimensions	75 x 75 x 25 mm
Protection class	IP30
Operating temperature	0...+50 °C
Ambient humidity	10...95 % rh.
Other remarks	Function controller “offset/threshold” - “offset” illuminance +/- 5 %

TYPE

F-LS500-1

Combined room brightness and motion sensor

DIGICONTROL F-BW/LS360/500-1

Data sheet number 81231

The device is used to detect persons at a distance of up to 10 metres and to measure the illuminance. The device is supplied with a voltage output (10 V for movement, 0 V for no movement). The hold time of the output, measured from the time of the last detected movement, can be set by a potentiometer from 4 seconds to 16 minutes. The measuring signal of the room brightness sensor is converted into the standard signal 0...10V and output. The devices are calibrated using a cold light lamp (5700 K, similar to daylight). Fields of application are for example light control, light-dependent control of blinds, awnings and outdoor lights, monitoring of lighting conditions at workplaces, greenhouses, living rooms, twilight sensor and brightness-dependent circuits. The sensor is characterised by its large range, compact design, low power consumption and high reliability.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Outputs	■ Illuminance: 0...10 V ■ Motion: potential-free changeover contact, max. 48 V, 1 A
Measuring range	500 Lux / 1 kLux / 20 kLux, factory setting 500 Lux
Temperature drift	< ± 5 % EW/10 K
Detection range	360° scope, opening angel max. 90°/110°, up to 10 m
Melting time t90	< 3 s
Exposure time	Adjustable form about 4 seconds to about 16 minutes
Switch-on run-in time	3 min
Sensor	PIR motion sensor MTS 10/360, photodiode with filter, glass cover, hermetically sealed sensors
Current consumption	Max. 25 mA at 24 V DC
Electrical connection	By means of screw terminals
Mounting	Wall mounting, AP
Housing	Plastic housing, pure white, similar to RAL 9010
Dimensions	75 x 75 x 25 mm
Protection class	IP30
Storage temperature	-20...+50 °C
Operating temperature	0...+50 °C
Ambient humidity	10...99 % rh.

TYPE

F-BW/ LS360/500-1

Room humidity and temperature sensor

DIGICONTROL F-RFTF-E

Data sheet number 81266

The room humidity and temperature measuring transmitter F-RFTF-E is the ideal solution for indoor applications in the field of HVAC (heating, ventilation and air-conditioning) technology. The stylish, functional housing enables easy installation and a fast exchange of the sensing unit for service purposes. The high quality humidity sensor and state-of-the art microprocessor controlled electronics are the guarantee for best accuracy and a wide range of options.

TECHNICAL DATA

Voltage	15...40 V DC or 24 V AC +/- 20 %
Outputs	0...10 V
Measuring range	Temperature: 0...50 °C Humidity: 0...95 % rh.
Current consumption	Typ. 4 mA in case of DC supply Typ. 15 mAeff in case of AC supply
Electrical connection	Screw terminals max. 1.5 mm²
Accuracy	Temperature: ± 0.25 K at 20 °C and 24 V DC Humidity: ± 2 % rh. (40...60 % rh.) / ± 3 % rh.(10...90 % rh.) at 20 °C and 24 V DC
Housing	Polycarbonate, front cover RAL 9003 (signal white), back cover RAL 7035 (light grey)
Protection class	IP30
Storage temperature	-25...+60 °C
Operating temperature	-5...+55 °C
Standards/rules/guidelines/ approvals	EN 61326-1, EN 61326-2-3

TYPE

F-RFTF-E

Room humidity/temperature sensor for extreme conditions

DIGICONTROL F-RFTF-20U

Data sheet number 81261

The humidity/temperature sensor measures the relative humidity and the temperature of the air and other non-aggressive gases and converts these measurements into standard signals. Measurement converters are tasked with measuring the humidity and temperature. A digital combination humidity – temperature sensor is used to collect these measurements. Humidity measurement is based on the capacitive measuring principle.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Outputs	■ Humidity: 0...10 V DC corresponds to 0...100 % rh. ■ Temperature: 0...10 V DC corresponds to 0...50 °C
Measuring range	Temperature: 0...50 °C Humidity: 0...100 % rh.
Aberration temperature	± 0,4 K
Aberration humidity	MB 30...70 % rh. ± 2 % rh. at 20 °C
Sensor	Sintered bronze filter
Mounting	Wall mounting, AP
Sensor	Length = 23 mm Diameter = 12 mm
Housing	Plastic housing, light grey
Dimensions	58 x 35 x 64 mm
Protection class	IP65
Ambient temperature	-30...+80 °C

TYPE

F-RFTF-20U

Duct humidity and temperature sensors

DIGICONTROL F-KFTF-S

Data sheet number 82168

Calibratable duct humidity- / temperature sensor measures the relative humidity and / or the temperature of the air and converts the measurands into a standard signal of 0-10 V. It has four switchable temeprature ranges and is applied in non-aggressive dust-free atmospheres in refrigeration, air conditioning, ventilation und clean room technology. Relative humidity is the quotient of water vapour partial pressure divided by the saturation vapour pressure at the respective gas temperature. These measuring transducers are designed for exact detection of humidity. A digital long-term stable sensor is used as measuring element for humiditiy measurement.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Outputs	0...10 V
Measuring range	Temperature: -35...+35 °C, -35...+75 °C, 0...+50 °C, 0...+80 °C Humidity: 0...100 % rF
Aberration temperature	+/- 0,2 K +25 °C K
Long term stability	+/- 1 % / Year
Aberration humidity	typically +/- 2,0 % (20...80 % r.H.) at +25 °C, otherwise +/- 3,0 %
Current consumption	0.05 A / 24 V AC; 0.09 A / 24 V DC
Sensor	Digital humidity sensor with integrated temperature sensor, plastic sinter filter, diameter = 16 mm, length = 35 mm, exchangeable
Electrical connection	2-, 3- or 4-wire connection, 0.14 - 1.5 mm² via terminal screws, M16 x 1.5 including strain relief
Mounting	By mounting flange, plastic
Housing	Synthetic, material polyamide, 30 % glass-bead reinforced, with quick release screws (recess/cross slot combination), Colour traffic white (similar like RAL 9016)
Dimensions	72 x 64 x 37.8 mm
Protection class	III
Protection class	IP65
Storage temperature	-35...+85 °C
Operating temperature	-30...+75 °C
Ambient humidity	< 95 % rh., non-condensing air
Standards/rules/guidelines/ approvals	CE conformity according to EMC directive 2014/30/EU, according to EN 61326-1, according to EN 61326-2-3

TYPE

F-KFTF-S

Duct humidity/temperature for extreme conditions

DIGICONTROL F-KFTF-20U

Data sheet number 81271

The duct humidity sensor measures the relative humidity and the temperature of the air and other non-aggressive gases and converts these measurements into standard signals. The housing is suitable for direct duct mounting. The mounting flange makes it possible to steplessly change the immersion depth for the duct mounting. This is used in refrigeration, ventilation and air conditioning systems.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Outputs	■ Humidity: 0...10 V corresponds 0...100 % rh. ■ Temperature: 0...10 V corresponds 0...50 °C
Measuring range	Temperature: 0...50 °C Humidity: 0...100 % rh.
Aberration temperature	± 0,5 K
Aberration humidity	MB 40...60 % rh. ± 2 % rh. at 20 °C
Sensor	Condensation-proof humidity–temperature sensor transmitter SHT 75, Sensor protection sintered bronze filter
Mounting	In duct with mounting flange
Sensor	Length = 200 mm Diameter = 12 mm
Housing	Plastic housing, light grey
Dimensions	58 x 35 x 64 mm
Protection class	IP65
Ambient temperature	-30...+110 °C

TYPE

F-KFTF-20U

Optical smoke switch for room monitoring

DIGICONTROL R-RS142

Data sheet number 81280

The R-RS142 optical smoke switch reacts promptly to smouldering fires as well as to flaming fires that develop smoke. An additional temperature sensor is triggered at an ambient temperature of 70 °C. The R-RS142 operates on the light scatter principle. lnside the sensing chamber a light source and a light sensor are arranged so that the light normally does not fall on the sensor. It is only when airborne particles enter the chamber that light is scattered onto the sensor. The R-RS142 electronic circuitry also monitors the smoke detection system for slight contamination (dust and dirt build-up), heavy contamination and faults (sensing chamber failure). LEDs provide an optical indication of the operating status of the R-RS142. A long-term compensation function automatically maintains a constant difference between the quiescent signal and the alarm threshold, until a set limit indicating heavy contamination is reached. A relay contact opens in the alarm state or on power failure.

TECHNICAL DATA

Voltage	max. 30 V DC
Relay	Potential-free NC contact
Switching capacity	Max. 30 W
Nominal current	max. 1 A
Current consumption	At 28 V DC: max. 21 mA quiescent / max. 10 mA in Alarm / max. 25 mA in fault
Operating threshold	Smoke according to EN 54, Part 7
Function	The R-RS142 signals its functional status via pin 3 to an RS-ZA142 smoke switch status indicator, whose coloured LEDs give an additional remote optical indication of the instrument's condition.
Weight	120 g
Housing	White RAL 9010
Protection class	IP42
Operating temperature	-20...+60 °C
Standards/rules/guidelines/ approvals	DiBT approval for hold-open systems: Z-6.5-1571 and Z-6.5-1725

TYPE

R-RS142

ACCESSORY

TYPE	DESCRIPTION	
R-RS-11S143A	Universal base for surface-mounted and bracket installation in dry areas	
R-RS-11S143AF	Base for surface-mounted and bracket installation in damp areas	
R-RS-11S143UH	Base for installation in hollow ceilings, with masking ring.	
R-RS-ZA142-AP	The smoke switch status indicator RS-ZA142-AP displays the states of the connected smoke switches and transfers this information to a superordinate system. Design: surface mounting	

Smoke switch system for ventilation duct monitoring

DIGICONTROL R-LRS01

(incl. smoke switch R-ORS210)

Data sheet number 81286

By using the ventilation smoke switch system R-LRS01, smoke can be detected at an early stage. The propagation of smoke in the ventilation system is prevented due to the timely detection. The R-LRS01 can be used in ducts with rectangular and round cross-sections. It is designed for the field of application within buildings.

TECHNICAL DATA

Voltage	max. 30 V DC
Relay	Potential-free NC contact
Nominal current	max. 1 A
Current consumption	At 28 V DC: 22 mA quiescent / 11 mA in alarm / 16 mA in fault
Operating threshold	According to construction testing and principles for smoke triggers installations (12/76)
Mounting	On the ventilation duct 2 x Ø 28-30 mm / 150 mm distance to fxing in housing 2 x max. 6/206 mm distance
Function	The R-LRS01 is RS-Bus capable and compatible with the smoke switch status indicator RS-ZA142. The operating states pollution, fault and alarm of the smoke switch are transferred to the RS-ZA142 and displayed there via the communication interface (PIN 3 smoke switch). In addition to the optic display, a floating change-over contact is available for each operating state which can be used for the control and transfer of the operating states to superordinate systems like a building control system.
Air flow	1 m/s up to 20 m/s
Point of use	Ventilation ducts
Housing	White RAL 9010 PC/aluminium tube
Weight	(Without tube) approx. 350 g
Dimensions	250 x 100 x 135 mm
Protection class	IP40
Operating temperature	-20...+60 °C
Ambient humidity	0...95 % rh. (without condensation)
Standards/rules/guidelines/ approvals	VdS tested G 207083
Maintenance	Yearly

TYPE

R-LRS01

ACCESSORY

TYPE	DESCRIPTION
R-ORS210	The optical smoke switch R-ORS210 is used in the R-LRS01 system. The relay in the optical smoke switch opens on alarm, heavy dirt, malfunction or power failure. The smoke switch R-ORS210 has an alarm storage and must be reset (briefly interrupting the power supply) to the operating condition. The relay contact can switch voltages up to 30 V AC / DC.

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ACCESSORY

TYPE	DESCRIPTION
R-RS-ZA142-AP	The smoke switch status indicator RS-ZA142-AP displays the states of the connected smoke switches and transfers this information to a superordinate system. Design: surface mounting
918-5H-Pruefgas	Test aerasol for smoke detectors and switches.

Smoke switch for air duct monitoring with VDC recognition

DIGICONTROL R-KRM-X...

Data sheet number 81290

The duct smoke detector R-KRM-X... was developed for smoke detection in ventilation ducts. It is a combination of a smoke detector and an adapter system, whose measuring tube and housing have been specially customised for an optimum air flow through the smoke detector.

TECHNICAL DATA

Outputs	■ Relay outputs: potential-free ■ Alarm relay locked: 1 changeover contact, 8 A, 250 V AC or 24 V DC / 1 normally closed contact, 8 A, 250 V AC or 24 V DC ■ Pollution relay: 1 NC contact, 6 A, 250 V AC or 24 VDC
Electrical connection	Connection type 3 x M16
Function	Scattered light RM 3.3-S (ALN-E)
Air flow	1 m/s to 20 m/s
LED display	LED display: Pollution degree % - flashing 99 %, flashes when trying to unclock if the detection chamber is not empty yet
Housing	Adapter housing: ASB Air measuring tube: Aluminium/plastic, minimum length 160 mm, standard length 600 mm, maximum length 3009 mm
Dimensions	Approx. 271 x 172 x 85 mm
Protection class	IP54
Operating temperature	-20...+50 °C
Ambient humidity	10...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	VdS testet G 219046 / G 219053

TYPE LIST

TYPE	VOLTAGE	NOMINAL CURRENT	INTERFACES
R-KRM-X-1	230 V AC +/- 10 %, 50/60 Hz	0.03 A	-
R-KRM-X-1-MOD	230 V AC +/- 10 %, 50/60 Hz	0.03 A	RS485 / Modbus
R-KRM-X-1-BAC	230 V AC +/- 10 %, 50/60 Hz	0.03 A	RS485 / BACnet
R-KRM-X-2	24 V AC/DC 16-27.6 V AC / 21.6-27.6 V DC	0.120 A	-
R-KRM-X-2-MOD	24 V AC/DC 16-27.6 V AC / 21.6-27.6 V DC	0.120 A	RS485 / Modbus
R-KRM-X-2-BAC	24 V AC/DC 16-27.6 V AC / 21.6-27.6 V DC	0.120 A	RS485 / BACnet

ACCESSORY

TYPE	DESCRIPTION
R-KRM-KS-X	Mounting bracket for insulated / round ducts

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ACCESSORY

TYPE	DESCRIPTION
R-KRM-KS-WDG-X	Mounting bracket for insulated / round ducts in connection with R-KRM-WDG-X
R-KRM-WDG-X	Protective and insulating housing with alarm display for outdoor mounting

Smoke switch for duct monitoring with DIBt certification

DIGICONTROL R-KRM-...-DZ

Data sheet number 81289

The duct smoke detector R-KRM-...-DZ was developed for smoke detection in ventilation ducts. It is a combination of a smoke detector and an adaptor system, its measuring tube and housing were especeally customized for an optimum air flow through the smoke detector. The device is certified in connection with fire and smoke protection dampers.

TECHNICAL DATA

Outputs	■ Relay outputs: potential-free ■ Alarm relay locked: 1 change-over contact 250 V, 8 A; 1 break contact 250 V, 6 A ■ Pollution relay: 1 break contact 250 V, 6 A ■ System fault relay: 1 break contact 250 V, 6 A ■ Airflow relay: 1 break contact 250 V, 6 A
Nominal current	0.140 A
Electrical connection	Connection type 3 x M16
Function	Scattered light (Tyndall-effect)
LED display	LED Display: Display degree of pollution in % / flashing > 70 % LED in housing: Green: operation Blue: missing air flow Yellow: fault electronics, smoke detector defective, under-voltage Red: smoke alarm, incl. pollution > 99 %, is flashing while attempting to unlock, when the detector chamber is not empty yet
Housing	Adapter housing: ASB Air measuring tube: Aluminium/plastic, minimum length 160 mm, standard length 600 mm, maximum length 3009 mm
Protection class	IP54
Operating temperature	-10...+50 °C
Ambient humidity	10...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	DiBT approvals: Z-78.6-200 (at 24 V devices only in conjunction with power supply) Vds testest G 210148
Maintenance	Once yearly

TYPE LIST

TYPE	VOLTAGE	NOMINAL CURRENT
R-KRM-2-DZ	24 V AC/DC	0.140 A
R-KRM-1-DZ	230 V AC	0.140 A

ACCESSORY

TYPE	DESCRIPTION
R-NT02	Base power unit 24 V DC for duct smoke detector
R-KRM-WDG-X	Protective and insulating housing with alarm display for outdoor mounting

Water detector

DIGICONTROL R-SWM...

Data sheet number 81305

The electronic water detector serves to monitor containers and rooms. The tare weight of the water detector rests on its four plastic feet. The sensors are approx. 0.5 mm higher. Underground condensation is not recorded. If the sensor does not record any water, the relay contact is closed, the green LED indicates operation. The red LED displays water alarm. If water is recorded or in the event of power failure, contact terminal 3-4 opens. The device must not be used as safety-related equipment.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 15 %
Outputs	Break contact, LED displays, relay contact max. 1 A, max. 60 V
Measuring current	max. 0,15 mA
Sensitivity	Input ~0,8–1 MΩ (1,25–1 µS)
Current consumption	Max. 20 mA
Sensor	2x2 Detector electrodes, water conductivity
Electrical connection	Connection cable LIYY 4x0,14 / Length 4 m, outer cable diameter 3,7 mm
Weight	130 g
Housing	Plastic, alkali-proof grouted
Dimensions	46 x 34 x 28 mm
Protection class	IP68
Storage temperature	-30...+80 °C
Operating temperature	0...+60 °C
Ambient humidity	0...95 % rh.
Standards/rules/guidelines/ approvals	DIN16945, DIN53505, DIN53482
Accessories	V2A mounting bracket/assembly bracket with 2 anchorage bores
Other remarks	In the event of alarm or power failure the contact terminal 3-4 opens. R-SWM3: In the event of alarm, the contact remains locked in. R-SWM3.2: In the event of alarm, the contact does not remain locked in.

TYPE LIST

TYPE
R-SWM3
R-SWM3.2

Dew-point / condensation monitor

DIGICONTROL R-KW1

Data sheet number 82006

The condensation monitor R-KW1 is used for monitoring the condensation on cooling ceilings, for preventing condensation at critical spots in heating-, ventilation- and air conditioning systems and as dew point monitor for plants that are operated near the dew point. Due to the temperature coupling between the condensation monitor and the environment, the relative humidity is a measure for the dew point. The condensation monitor measures the relative humiditiy near the dew point by means of its high-quality capacitive sensor. When reaching the switching point of 90 % rh., the output will provide an early warning signal for the initiation of counter measures (increasing the water flow temperature, reducing the cooling capacity, switching on the heating, etc...).An LED additionally indicates the danger of condensation.Thanks to the special protection coating, sensor and electronics are highly insensitive to dust and dirt. The device can be mounted on walls and pipes (up to 2”).

TECHNISCHE DATEN

Voltage	24 V AC/DC +/- 20 %
Switching capacity	Max. 24 V AC/DC, 1 A
Outputs	Potential-free relay with changeover contact
Measuring range	10...100 % rH.
Switching point	90 +/- 3 % rh. at 20 °C
Response Time	At change of pipe/wall temperature: t90 < 3 min At change of relative humidity: t90 < 25 sek
Current consumption	< 6 mA DC / < 10 mA AC
Sensor	Humidity HC105 Protection by special coating (permeable to water vapour)
Electrical connection	5-pole push-in terminal, max. 1.5 mm²
Hysteresis	5 % rh. V
LED display	LED, red
Housing	Polycarbonate, fire resistant according UL94-V0
Weight	60 g
Protection class	IP40
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Standards/rules/guidelines/ approvals	Electromagnetic compatibility: EN 61326-1, EN 61326-2-3 Industrial environment CE-Conformity

TYPE

R-KW1

Room hygrostat

DIGICONTROL R-RH-...

Data sheet number 82005

Suitable for closed- loop control and monitoring of the relative humidity in offices and living areas, bathrooms, laboratories, control cabinets, computer rooms, etc.. Not suitable for aggressive gases.

TECHNICAL DATA

Voltage	24 V AC/DC
Outputs	Switching, 1-level floating change-over contact
Aberration humidity	max. 3 % rh.
Switching capacity	■ Dehumidify: 5 (0.2) A, min. 100 mA ■ Humidify: 3 (0.2) A, min. 100 mA
Sensor	Plastic fibres
Electrical connection	0.14 - 2.5 mm², via screw terminals on printed circuit board
Switching differential	Approx. 4 % rh.
Setting range	25...95 % rh.
Mounting	Wall mounting or on in-wall flush box (diameter 55 mm), base with 4-hole for mounting on vertically or horizontally installed in-wall flush boxes for cable entry from the back, with predetermined breaking point for on-wall cable entry from top/bottom in case of plain on-wall installation
Function	Humidifying: wire terminals 1 and 2 Dehumidifying: wire terminals 1 and 2
Housing	Plastic, material ABS, colour pure white
Dimensions	98 x 98 x 39 mm
Protection class	IP30
Protection class	III
Operating temperature	0...+40 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU, Low-voltage directive 2014/35/EU

TYPE LIST

TYPE	SWITCHING DIFFERENTIAL	SETTING RANGE	SCALE
R-RH-2	Approx. 4 % rh.	25...95 % rh.	Scale outside
R-RH-2U	Approx. 4 % rh.	25...95 % rh.	Scale inside

Duct-hygrostat

DIGICONTROL R-KH10

Data sheet number 82001

Suitable for closed- loop control and monitoring of the relative humidity in ventilation and air conditioning ducts, climatic chambers, swimming pools, greenhouses, etc. and for the open-loop Control of humidifcation and dehumidifcation plants. It is not suitable for aggressive gases.

TECHNICAL DATA

Outputs	Switching, 1-level
Medium	Air, pressureless, non-aggressive
Switching capacity	15 (2) A; 24...250 V AC, min. 100 mA
Electrical connection	0.14 - 1.5 mm², via screw terminals, cable gland M20 x 1.5; including strain relief
Contacts	Dust-sealed microswitch as single-pole, potential-free change-over switch (change over contact)
Switching differential	Approx. 3...6 % rh.
Setting range	35...100 % rh.
Accuracy	+/- 4 % rh.
Mounting	Via mounting flange
Function	Humidify: Contacts 1 – 4 have to be wired. The switching points ON/OFF are approx. 2.5 rel.hum. above or below the chosen value. Dehumidify: Contacts 1 - 2 have to be wired. The switching points ON/OFF are approx. 2.5 rel.hum. above or below the chosen value.
Sensor	Brass nickel-plated, installation length 223 mm, diameter 20 mm
Air flow	Max. 8 m/s
Housing	Plastic, polyamide, 30 % glass bead fortified, with quick-release screws, colour pure white
Dimensions	108 x 73.5 x 70 mm
Protection class	IP65
Protection class	I
Ambient temperature	0...60 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU, Low-voltage directive 2014/35/EU

TYPE

R-KH10

Frost protection thermostat, mechanical, single-stage, with switching output

DIGICONTROL R-FW...

Data sheet number 81500

Mechanical frost protection thermostat with switching output, fully-active sensor rod, with automatic reset, in various capillary tube lengths. The frost protection thermostat is used for air-side temperature monitoring of heating registers against freezing up and to avoid frost damages, e. g. in ventilation and air conditioning ducts. All devices are intrinsically safe and furnished with sensor break protection. In case of damage to the capillary-membrane system the frost sensing thermostat automatically switches to the heating function.

TECHNICAL DATA

Outputs	Switching capacity: 10 (2) A, AC 250 V; signal voltages < 24V can also be switched due to the gold-plated contacts
Electrical connection	0.14 - 2.5 mm², via screw terminals
Contacts	Dust-sealed microswitch as single-pole, potential-free change-over switch (change over contact)
Switching differential	2 +/- 1 K
Setting range	-10...+15 °C, factory setting to +5 °C
Mounting	With mounting brackets Installation position arbitrary
Housing	Synthetic, material polyamide, 30 % glass-bead reinforced, with quick release screws (recess/cross slot combination), Colour traffic white (similar like RAL 9016)
Dimensions	126 x 90 x 50 mm
Protection class	IP65
Protection class	I
Storage temperature	-30...+70 °C
Operating temperature	Min: setting range +2 °C, max: +70 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC Directive 2014/30/EU Low voltage directive 2014/35/EU

TYPE LIST

TYPE	CAPILLARY TUBE	SWITCHING DIFFERENTIAL	SETTING RANGE
R-FW3-1	3000 mm	2 +/- 1 K	-10...+15 °C, factory setting to +5 °C
R-FW6-1	6000 mm	2 +/- 1 K	-10...+15 °C, factory setting to +5 °C
R-FW12-1	12000 mm	2 +/- 1 K	-10...+15 °C, factory setting to +5 °C

2-phase frost protection thermostat with continuous and switching output

DIGICONTROL R-FWS...-1

Data sheet number 82058

Electronic forst protection thermostat with switching relay output, continuous temperature, and valve output (summation output 0-10 V) as well as control and cascading input (0-10 V), in impact-resistant plastic housing wiht quick-locking screws, with display as standard, with fully active sensor rod made of copper.
The frost guard serves for monitoring of air conditioning systems, heat exchangers, heating coils and similar plants and prevents frost damage and freezing.
The limit value shortfall is detected at the coldest measuring point of the capillary, the sensor rod is active over the complete length. By means of self-diagnostics, capillary breakage, operating voltage fault or electrical damage to the sensor are detected as faults and the relay automatically switches to frost.
The innovative 2-phase frost protection thermostat enables the simple linking of several devices (cascading) for demand-oriented, area-wide frost monitoring. Delivery includes mounting brackets.

TECHNICAL DATA

Voltage	24 V AC/DC
Outputs	■ 1x 0-10 V temperature (corresponds to 0...+15 °C) ■ 1x 0-10 V valve (frost signal with control voltage and cascading) ■ 1x potentail free changeover contact (24 V), setting range 0...+15 °C
Measuring range	0...+15 °C
Switch-on run-in time	1 min
Response Time	t90: < 5 s
Current consumption	Max. 10 mA at 24 V DC
Electrical connection	0.14 - 1.5 mm², via screw terminals, cable gland M16 x 1.5; including strain relief
Switching differential	2 K
Accuracy	+/- 1 K (at +10 °C)
Input	1x 0-10 V control input AS 1x 0-10 V cascading input
Mounting	With mounting brackets
Housing	Plastic, UV stabilized, material polyamide, 30 % glass bead reinforced, with quick release screws, colour traffic white (similar like RAL 9016), tranparent lid for display
Dimensions	126 x 90 x 50 mm
Protection class	IP65
Protection class	III
Ambient temperature	-15...+50 °C
Storage temperature	-30...+70 °C
Operating temperature	Min: setting range +2 °C, max: +70 °C
Ambient humidity	< 95 % rh., non-condensing air
Standards/rules/guidelines/ approvals	CE conformity, electromagnetic compatibility according to EN 61326, EMC Directive 2014/30/EU

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TYPE LIST

TYPE	CAPILLARY TUBE	SWITCHING DIFFERENTIAL
R-FWS3-1	3000 mm	2 K
R-FWS6-1	6000 mm	2 K

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Differential power switch for gaseous media

DIGICONTROL R-LDS...

Data sheet number 82070

As flow indicators in differential pressure function, the pressure switches of type R-LDS, being installed in air ducts, monitor filters, fans and air dampers in primary / secondary closed-loop controls. Additionally, the pressure switches of type R-LDS are ideally suited for the thermal protection of air heaters or for monitoring industrial cooling air circuits. Medium: air and non-aggressive gases.

TECHNICAL DATA

Switching capacity	Ohmic: 5 A at 250 V AC, 4 A at 30 V DC
Medium	Air and neutral gases
Overpressure (one sided)	■ 50 mbar at -30...+85 °C ■ 75 mbar at -30...+75 °C
Media temperature	-30...+85 °C
Electrical connection	By means of screw terminals
Contacts	Change-over switch
Mounting	Pneumat. Connection - Hose sleeves d = 6.2 mm
Weight	Without bracket: approx. 93 g With bracket: approx. 143 g
Protection class	IP00 (with hood IP54/65)
Storage temperature	-40...+85 °C
Operating temperature	-30...+85 °C
Standards/rules/guidelines/ approvals	DVGW in accordance with DIN1854 Low-voltage directive 2014/35/EU Gas appliances directive 2009/142/EC

TYPE LIST

TYPE	SWITCHING DIFFERENTIAL	SETTING RANGE
R-LDS300	+/- 5 Pa	20...300 Pa
R-LDS500	+/- 5 Pa	50...500 Pa
R-LDS1000	+/- 2.5 Pa	100...1000 Pa

V-Belt monitor

DIGICONTROL R-DRIW-E16

Data sheet number 82090

The V-belt monitor R-DRIW-E16 is used to monitor rotary movements (underspeeding) of V-belt driven drive shafts. Inductive proximity switches are used to detect rotary speed. The inductive proximity switch R-SN-DRIW (see Accessories) is used for logging the rotational speed.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Power consumption	0.6 W
Weight	70 g
Dimensions	22.5 x 60 x 60 mm
Protection class	IP20
Storage temperature	-25...+70 °C
Operating temperature	0...+55 °C
Standards/rules/guidelines/ approvals	EMC test Emission: per EN 50 081 T1 Interference immunity: per EN 50 082 T2
Other remarks	Input side: - Monitoring range: max. 4200 pulses/min - Turn-off range: 120 pulses/min - Start control: 60 s Output side: - Output contact: 2 change-over contacts - Continuous current max: 6 A, total current max. 8 A for both relays

TYPE
R-DRIW-E16

ACCESSORY

TYPE	DESCRIPTION
R-SN-DRIW	Two-wire sensor with integrated LED for R-DRIW..., cable length 2 m, incl. holding bracket

Paddle vane relais

DIGICONTROL R-WFS-1EPL

Data sheet number 82100

The R-WFS-1EPL ist applicable for flow monitoring of gaseous media in ventilation and air conditioning ducts, in air intake and exhaust devices of ventilators or electric heating registers (also for contaminated, oily air), o ras flow controller and airflow monitor.

TECHNICAL DATA

Switching capacity	15 (8) A; 24...250 V AC, at 24 V AC minimum 150 mA
Electrical connection	0.14 - 1.5 mm², via screw terminals, cable gland M20 x 1.5; including strain relief
Contacts	Dust-sealed microswitch as single-pole, potential-free change-over switch (change over contact)
Switching differential	Differential speed ≥ 1 m/s
Function	Contact 1-3 breaks when flow rate drops to the preconfigured value. Simultaneously, contact 1-2 closes and can be used as signal contact. Device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusting screw clockwise.
Mounting	Vertical Installation in horizontal air ducts. Minimum smoothing distance = 5x duct diameter upstream and downstream of vane. For airspeeds > 5 m/s, vane has to be trimmed at the marked spots. Thereby the minimum switch-off value increases to about 2.5 m/s and the minimum switch-on value to ca. 4 m/s.
Housing	Plastic, material polyamide, 30 % glass bead fortified, pure white
Dimensions	108 x 73.5 x 70 mm
Protection class	IP65
Protection class	I
Ambient temperature	-40...+85 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU, Low-voltage directive 2014/35/EU
Other remarks	Base body: galvanised steel Moving arm: brass Vane: stainless steel, V2A

TYPE

R-WFS-1EPL

Air-flow sensor

DIGICONTROL R-KLSW4

Data sheet number 82112

The air-flow sensor is suitable for monitoring and controlling air- flows in ducts, fans, butterfly valves, for flow-dependent monitoring of humidifiers and electrical heat registers in accordance with DIN 57100 part 420 or for the application in connection with DDC systems. The device has temperature compensation.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Medium	Pollutant-free, non-condensing air
Media temperature	-10...+80 °C
Immersion depth	130 mm
Response Time	1...10 s
Operating pressure	10 bar
Power consumption	Approx. 2 VA
Electrical connection	0.14 - 1.5 mm², via screw terminals on printed circuit board
Connection	One change-over contact (floating)
Contact load	250 V AC; 6 A; 1.5 kVA
Mounting	PG7, mounting flange
Sensor	Metal (brass, nickel-plated), diameter 10 mm, length 140 mm
Air flow	0.1 - 30 m/s
LED display	Voltage: Green LED Flow: Yellow LED - Relay picks Start-up delay: Yellow LED - 60 s (Jumper can be activated)
Temperature gradient	15 K/min
Housing	Plastic, material polyamide, 30 % glass bead fortified, pure white
Dimensions	108 x 73.5 x 70 mm
Protection class	Housing IP65 / Sensor IP67
Protection class	III
Over-voltage category	II
Ambient temperature	-20...+60 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU Low-voltage directive 2014/35/EU

TYPE

R-KLSW4

Air-flow sensor

DIGICONTROL R-KLSW10

Data sheet number 82111

The air-flow sensor is suitable for monitoring and controlling air- flows in ducts, fans, butterfly valves, for flow-dependent monitoring of humidifiers and electrical heat registers in accordance with DIN 57100 part 420 or for the application in connection with DDC systems. The device has temperature compensation.

TECHNICAL DATA

Voltage	24 V AC/DC +5 % / -13 %
Medium	Pollutant-free, non-condensing air
Outputs	0-10 V (relative)
Media temperature	0...+80 °C
Current consumption	Approx. 3 VA
Electrical connection	0.14-1.5 mm², via pluggable screw terminal on printed circuit board, cable gland M16 x 1.5 including strain relief, exchangeable, max. inner diameter 10.4 mm
Air flow	0.1-30 m/s
Sensor	Diameter 10 mm, immersion depth approx. 140 mm, metal
Housing	Plastic, material polyamide, 30 % glass bead fortified, pure white
Dimensions	72 x 64 x 37.8 mm
Protection class	IP65
Protection class	III
Operating temperature	0...+60 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU, Low-voltage directive 2014/35/EU

TYPE

R-KLSW10

Flow indicator for piping installation

DIGICONTROL R-SW...

Data sheet number 82120

The R-SW-... is a mechanical flow indicator with paddle for piping installation, suitable for flow monitoring of liquid and gaseous media in pipelines, hydraulic systems from 1/2” up to 8” diameter, as flow monitor or water-failure safety device, e.g. for pumps in heating and cooling circuits, refrigeration machines, vaporisators, compressors and heat exchangers.

TECHNICAL DATA

Media temperature	Max. +120 °C
Switching capacity	15 (8) A; 24...250 V AC, at 24 V AC min. 150 mA
Electrical connection	0.14 - 1.5 mm² via screw terminals
Contacts	Dust-sealed microswitch as single-pole, potential-free change-over switch (change over contact)
Function	Contact COM-NO/3 (red-yellow) opens when flow rate drops to the preset value. Simultaneously, contact COM-NC/2 (red-blue) closes and can be used as signal contact. Device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusting screw clockwise.
Housing	Plastic, material polyamide, 30 % glass bead fortified, pure White Screw-in unit is brass or stainless steel
Dimensions	108 x 73.5 x 70 mm
Protection class	I
Protection class	IP65
Operating temperature	-40...+85 °C
Standards/rules/guidelines/ approvals	CE conformity, EMC guideline 2014/30/EU, Low-voltage guideline 2014/35/EU
Other remarks	Base body: galvanised steel Cable gland: M 20x1.5 with strain relief Paddle: stainless steel, 1.4401, VA

TYPE LIST

TYPE	MEDIUM	DIAMETER NOMINAL	OPERATING PRESSURE	MATERIAL	WEIGHT
R-SW-1EPL	Normal	1-8”	11 bar	Brass	350 g
R-SW-2EPL	Aggressive	1-8”	30 bar	Stainless steel	400 g
R-SW-3EPL	Normal	1/2”	11 bar	Brass	350 g
R-SW-4EPL	Normal	3/4”	11 bar	Brass	350 g

Universal thermostat TW (-10..50°C)

DIGICONTROL R-TUC...

Data sheet number 82212

It is applied for controlling and onitoring temperatures of liquids in bathrooms, containers, pipelines and ducts.Due to its modular structure, it can be used as contact thermostat, rod thermostat, double thermostat and as thermostat with remote sensor.Variants as temperature monitors (TW), safety temperature monitors (STW), temperature limiters (TB) or safety temperature limiters (STB).The scope of delivery includes a brass immersion sleeve of 100 mm length.

TECHNICAL DATA

Contact load	Terminal 1-2: 230 V~, 10 (2.5) A (at break contact); Terminal 1-4: 230 V~, 2 (0.4) A
Time constant	In water with thermowell LW 7
Sensor cartridge	6.5 mm
Weight	0.2 kg
Degree of protection	IP54
Protection class	I
Ambient temperature	0...70 °C
Storage temperature	-25...+80 °C

TYPE LIST

TYPE	CAPILLARY TUBE	SWITCHING DIFFERENTIAL	SETTING RANGE	FUNCTION	TEMPERATURE
R-TUC101F003	1600 mm	Approx. 4.2 K	-10...+15 °C	TW	Max. 140 °C
R-TUC102F001	700 mm	Approx. 5.6 K	5...30 °C	TW	Max. 200 °C
R-TUC105F001	700 mm	Approx. 5.6 K	15...95 °C	TW	Max. 200 °C
R-TUC106F001	700 mm	Approx. 5.6 K	40...120 °C	TW	Max. 200 °C
R-TUC107F001	700 mm	Approx. 5.6 K	50...130 °C	TW	Max. 200 °C
R-TUC108F001	700 mm	Approx. 5.6 K	80...160 °C	TW	Max. 200 °C
R-TUC207F003	1600 mm	Approx. 10 K	70...130 °C	STW	Max. 160 °C
R-TUC303F001	700 mm	</- 20 K	15...60 °C	TB	Max. 200 °C
R-TUC307F001	700 mm	</- 20 K	50...130 °C	TB	Max. 200 °C
R-TUC407F001	700 mm	</- 20 K	95...130 °C	STB	Max. 160 °C

ACCESSORY

TYPE	DESCRIPTION
0300360008	Strain relief
0300360009	Holder for sensor cartridge
0300360010	Tightening strap for pipe mounting
0300360011	Mounting plate for double thermostats
0300360012	Sensor support spiral for air duct Installation
0300360013	Mounting bracket for duct or wall mounting

Thermowell for R-TUC...

DIGICONTROL T-THN...-TUC | T-THM...-TUC

Protective tube: for one univeral thermostat, for a minimum of two thermostats with a Ø 6 mm

Specifications:
- For installation on pipelines and containers, for integration of sensor cartridges, immersion stems, temperature sensors, temperature controllers of thermostats
- Made of brass (Ms) or stainless steel (V4A)
- Types with cylindrical (G½" A ISO 228/1 flat-sealing) or conial (R½" ISO 7/1 thread-sealing)1 pipe threads
- With compression spring

1 for welding flanges with flat sealing

TECHNICAL DATA

Mounting	Internal thread G 1/2"

TYPE LIST

TYPE	OPERATING PRESSURE	INSTALL. LENGTH	MATERIAL	AMBIENT TEMPERATURE
T-THN100-TUC	25 bar	100 mm	stainlees steel	Max. +450 °C
T-THN300-TUC	25 bar	300 mm	stainlees steel	Max. +450 °C
T-THND100-TUC	40 bar	100 mm	stainlees steel	Max. +450 °C
T-THND200-TUC	40 bar	200 mm	stainlees steel	Max. +450 °C
T-THND450-TUC	40 bar	450 mm	stainlees steel	Max. +450 °C
T-THMD100-TUC	16 bar	100 mm	brass	Max. +160 °C
T-THMD200-TUC	16 bar	200 mm	brass	Max. +160 °C

Room temperature controller

DIGICONTROL R-RTS-T

Data sheet number 82150

One-step mechanical single room controller in bimetal technology with thermal feedback for monitoring or controlling temperatures in dry rooms, or for activating any kind of heating system as room thermostat. For currentless open radiator valves the cooling output from the changeover contact (normally open contact) must be connected. At breaker contacts a maximum of ten valve actuators can be connected and at normally open contacts a maximum of five valve actuators.

TECHNICAL DATA

Voltage	230 V AC
Electrical connection	0.14 - 2.5 mm², via screw terminals on printed circuit board
Contacts	Change-over switch
Contact load	Heating: 10 mA...10 (4) A, DC 30 W; Cooling: 10 mA...5 (2) A
Switching differential	Approx. 0.5 K
Setting range	5...30 °C
Mounting	Wall mounting or flush-mounted box, diameter 55 mm
Housing	Plastic, material ABS, colour pure white
Dimensions	75 x 75 x 25 mm
Protection class	IP30
Protection class	II
Standards/rules/guidelines/ approvals	CE conformity, EMC directive 2014/30/EU, Low-voltage directive 2014/35/EU
Other remarks	Sensor element: bimetal

TYPE

R-RTS-T

Pressure switch

DIGICONTROL R-BCP

Data sheet number 82004

The BCP type is a series of dedicated pressure switches for safety and pressure monitoring of steam and hot water boilers.The BCP incorporates a single-pole changeover microswitch where the contact position depends on the pressure in the connection port and the range set value.For installations, in which operation is particularly critical for safety reason, the use of fail-safe control is recommended.

TECHNICAL DATA

Medium	Steam, water, air
Media temperature	Up to 120 °C (above 230 °C a water-filled loop must be installed) °C
Electrical connection	Plug, DIN 43650, PG 11
Contact load	Minimum: 4 mA, 5 V; Maximum: AC-1: 6 A, AC-15: 1 A, DC-13: 10 W, 250 V
Connection	G 1/2”
Housing	Contact coating silver/gold (gold-plated silver)
Protection class	IP65
Operating temperature	-20...+70 °C
Standards/rules/guidelines/ approvals	CE-marked in accordance with EN 60947-4/-5 CE marked in accordance with PED 97/23/EC, category IV, safety equipment, testing basis pr EN12952-11 and EN12953-9.
Other remarks	Reset function: automatic If used with current higher than 400 mA the gold will disappear and the unit can’t be used at a lower current again.

TYPE LIST

TYPE	TEST PRESSURE	OPERATING PRESSURE	SWITCHING DIFFERENTIAL	SETTING RANGE
R-BCP1	7 bar	6 bar	0.15...0.6 bar	0.1...1.1 bar
R-BCP2	11 bar	10 bar	0.4...1 bar	0...2.5 bar
R-BCP3	18 bar	16 bar	0.7...1.4 bar	0...6 bar
R-BCP4	28 bar	25 bar	1.0...2.5 bar	1...10 bar
R-BCP5	35 bar	32 bar	2.0...3.2 bar	2...16 bar
R-BCP6	45 bar	40 bar	2.5...4 bar	5...25 bar
R-BCP7	70 bar	63 bar	3.0...6.0 bar	10...40 bar

ACCESSORY

TYPE	DESCRIPTION
R-BCP-HB	Holding bracket for R-BCP
R-BCP-MW	Mounting bracket for R-BCP

Pressure relief valve for falling pressure

DIGICONTROL R-BCP

The BCP type is a series of dedicated pressure switches for safety and pressure monitoring of steam and hot water boilers.The BCP incorporates a single-pole changeover microswitch where the contact position depends on the pressure in the connection port and the range set value.For installations, in which operation is particularly critical for safety reason, the use of fail-safe control is recommended.

TECHNICAL DATA

Medium	Steam, water, air
Media temperature	Up to 120 °C (above 230 °C a water-filled loop must be installed) °C
Electrical connection	Plug, DIN 43650, PG 11
Contact load	Minimum: 4 mA, 5 V; Maximum: AC-1: 6 A, AC-15: 1 A, DC-13: 10 W, 250 V
Connection	G 1/2”
Housing	Contact coating silver/gold (gold-plated silver)
Protection class	IP65
Operating temperature	-20...+70 °C
Standards/rules/guidelines/ approvals	CE marked in accordance with EN 60947-4/-5 CE marked in accordance with PED 97/23/EC, category IV, safety equipment, testing basis pr EN12952-11 and EN12953-9.
Other remarks	Reset function: manuel If used with current higher than 400 mA the gold will disappear and the unit can’t be used at a lower current again.

TYPE LIST

TYPE	TEST PRESSURE	OPERATING PRESSURE	SWITCHING DIFFERENTIAL	SETTING RANGE
R-BCP2L	11 bar	10 bar	9 bar	0...2.5 bar
R-BCP3L	18 bar	16 bar	0.4 bar	0...6 bar
R-BCP5L	35 bar	32 bar	1.2 bar	2...16 bar

ACCESSORY

TYPE	DESCRIPTION
R-BCP-MW	Mounting bracket for R-BCP
R-BCP-HB	Holding bracket for R-BCP

Pressure relief valve for rising pressure

DIGICONTROL R-BCP

The BCP type is a series of dedicated pressure switches for safety and pressure monitoring of steam and hot water boilers.The BCP incorporates a single-pole changeover microswitch where the contact position depends on the pressure in the connection port and the range set value.For installations, in which operation is particularly critical for safety reason, the use of fail-safe control is recommended.

TECHNICAL DATA

Medium	Steam, water, air
Media temperature	Up to 120 °C (above 230 °C a water-filled loop must be installed) °C
Electrical connection	Plug, DIN 43650, PG 11
Contact load	Minimum: 4 mA, 5 V; Maximum: AC-1: 6 A, AC-15: 1 A, DC-13: 10 W, 250 V
Connection	G 1/2”
Housing	Contact coating silver/gold (gold-plated silver)
Protection class	IP65
Operating temperature	-20...+70 °C
Standards/rules/guidelines/ approvals	CE-marked in accordance with EN 60947-4/-5 CE marked in accordance with PED 97/23/EC, category IV, safety equipment, testing basis pr EN12952-11 and EN12953-9.
Other remarks	Reset function: manuel If used with current higher than 400 mA the gold will disappear and the unit can’t be used at a lower current again.

TYPE LIST

TYPE	TEST PRESSURE	OPERATING PRESSURE	SWITCHING DIFFERENTIAL	SETTING RANGE
R-BCP3H	18 bar	16 bar	0.4 bar	0...6 bar
R-BCP4H	28 bar	25 bar	0.45 bar	1...10 bar
R-BCP5H	35 bar	32 bar	1.2 bar	2...16 bar
R-BCP6H	70 bar	63 bar	1.5 bar	10...40 bar
R-BCP7H	45 bar	40 bar	2.3 bar	5...25 bar

ACCESSORY

TYPE	DESCRIPTION
R-BCP-MW	Mounting bracket for R-BCP
R-BCP-HB	Holding bracket for R-BCP

Differential pressure transmitter

DIGICONTROL F-DDM...

The calibrateable compact pressure sensors of the F-DDM... series are equipped with 8 switchable measuring ranges, 2 switchable output signals and with or without optional display and are used for measuring above-atmospheric, below-atmospheric, or differential pressures in air. The piezo-resistive measuring element is temperature-compensated and guarantees a high degree of reliability and accuracy. These pressure transmitters have a pushbutton for manual zero point calibration and an adjustable offset. Applications of these pressure sensors are in clean room, medical and filter technology, in ventilation and air conditioning ducts, in spray booths, in large-scale catering facilities, for monitoring filters, for level measurement or for triggering frequency converters. Media measured with these pressure transducers are air, or other gaseous non-aggressive, non-combustible media. The differential pressure sensor is supplied including connection set.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Outputs	0...10 V / 4...20 mA
Long term stability	+/- 1 % / Year
Linearity error	+/- 1 % EW
Temperature drift	+/- 0.1 % of final value / °C
Media temperature	-20...+50 °C
Current consumption	< 45 mA
Electrical connection	3-wire connection, 0,14 - 1,5 mm² via screw terminals, cable gland M16 x 1.5 including strain relief, exchangeable, max. inner diameter 10.4 mm
Hysteresis	0.3 % EW V V
Housing	Plastic, UV-stabilised, material Polyamide, 30 % glass-globe reinforced, colour traffic White (similar to RAL 9016)
Dimensions	■ 72 x 64 x 43.4 (with display) mm ■ 72 x 64 x 37.8 (without display) mm
Protection class	IP65
Protection class	III
Ambient humidity	< 95 % rh., non-condensing air
Standards/rules/guidelines/ approvals	Electromagnetic compatibility according to EN 61326, EMC directive 2014/30/EU

TYPE LIST

TYPE	DATA SHEET	MEASURING RANGE	DISPLAY	ACCURACY
F-DDM-1000	82254	100/300/500/1000 Pa	Without display	Typ. +/- 10 Pa at +25 °C
F-DDM-1000-D	82254	100/300/500/1000 Pa	With display	Typ. +/- 10 Pa at +25 °C
F-DDM-5000	82255	1000/2000/3000/5000 Pa	Without display	Typ. +/- 35 Pa at +25 °C
F-DDM-5000-D	82255	1000/2000/3000/5000 Pa	With display	Typ. +/- 35 Pa at +25 °C

Differential pressure transmitter for gaseous or liquid media

DIGICONTROL F-DDPTM...

Data sheet number 82253

The F-DDPTM... is used to measure differential pressures in air, liquids and oils. The unit is entirely digital and allows switching between measuring ranges. It is also possible to set the zero point after installation, thereby enabling compensation of offset errors. Switching the measuring range affects only the output voltage. It can be set to double or half the differential pressure range. Jumper 2 is used to switch the polarity of the inputs.

TECHNICAL DATA

Voltage	14...30 V DC
Outputs	0...10 V
Linearity error	± 1.0 % FS (line pressure = measuring ranges)
Media temperature	-25...+120 °C
Total error	< ± 1.5 % FS at 25 °C
Nominal pressure	1.2 x Pnenn
Sensor	Stainless steel, no oil reservoir, maintenance-free
Electrical connection	By means of screw terminals
Mounting	1/4” E external threading
Dimensions	100 x 66 x 40 mm
Protection class	IP65
Storage temperature	-20...+80 °C
Operating temperature	-10...+80 °C
Standards/rules/guidelines/ approvals	EN/IEC 61000-4, EN/IEC 50090-2
Other remarks	Line pressure to 1:10

TYPE LIST

TYPE	MEASURING RANGE	DISPLAY
F-DDPTM0,5	0...0.5 bar	Without display
F-DDPTM0,5-D	0...0.5 bar	With 4-character LCD display
F-DDPTM1,0	0...1.0 bar	Without display
F-DDPTM1,0-D	0...1.0 bar	With 4-character LCD display
F-DDPTM2,5	0...2.5 bar	Without display
F-DDPTM2,5-D	0...2.5 bar	With 4-character LCD display
F-DDPTM6,0	0...6.0 bar	Without display
F-DDPTM6,0-D	0...6.0 bar	With 4-character LCD display

Pressure measurement transducer for gaseous or liquid media

DIGICONTROL F-SPT-U...

Data sheet number 82252

The F-SPT-U... pressure measurement transducer is used to measure pressure (relative pressure to the external atmosphere or closed reference) in gaseous or liquid media. The stainless steel membrane is completely vacuum-sealed, extremely burst proof and is suitable for all standard media. Its wide range of possible applications are guaranteed by the high level of precision and the robust, compact design. The F-SPT-U... is supplied with a G 1/4” A Form E process connection.

TECHNICAL DATA

Voltage	12...32 V DC, opt. 12...24 V AC
Outputs	0...10 V
Linearity error	± 0.5 % FS
Media temperature	-40...+125 °C
Total error	< ± 1.5 % FS at 25 °C
Nominal pressure	1.5 x Pnenn
Insulating resistance	< 5 kΩ
Sensor	Stainless steel membrane, CrNiCuNb 17-4 PH stainless steel, no O-ring, no oil
Electrical connection	Angled plug socket DIN 175301-803 A (MVS/A)
Mounting	Process Connection G 1/4” Form E or G 1/2” as standard
Weight	90 g
Housing	X5CrNi18-10
Protection class	IP65
Protection class	I
Storage temperature	-40...+125 °C
Operating temperature	-40...+105 °C
Standards/rules/guidelines/ approvals	EN/IEC 61000-4, EN/IEC 50090-2
Accessories	G 1/4” to G 1/2” adapter
Other remarks	Burst pressure: 3 x Pnom Reducibility % of range: < 0.1 Stability per year % of range: < 0.2 (under reference conditions)

TYPE LIST

TYPE	MEASURING RANGE
F-SPT-U1,0	0...1.0 bar
F-SPT-U2,5	0...2.5 bar
F-SPT-U6,0	0...6.0 bar
F-SPT-U10,0	0...10.0 bar
F-SPT-U16,0	0...16.0 bar
F-SPT-U25,0	0...25.0 bar

◂ CONTINUED FROM PAGE 246

ACCESSORY

TYPE	DESCRIPTION
Adapter G1/4”	for F-SPT-U

CONTINUED ON PAGE 247 ▸

Climate sensor

DIGICONTROL F-ClimaSens-D

Data sheet number 81006

The climate sensor F-ClimaSens-... measures the parameters of wind speed, rainfall (yes/no) brightness (East/South/West), temperature, air humidity and twilight. The voltage outputs can be used to control external devices and/or to log analogue measurement data. The sensor combines the most important parameters which are necessary for the control and monitoring in the building automation, home automation, awnings and blinds control and greenhouse control in an ideal way. The compact design allows a simple and inconspicuous installation. All external parts are corrosion-proof made of high-quality plastic. The F-ClimaSens-... also has a serial interface (RS 422/485), a DCF77 receiver for time/date as well as a condensation protection (heating).

TECHNICAL DATA

Voltage	16...24 V AC / 16...28 V DC
Current consumption	Approx. 250 mA with dewfall protection
Electrical connection	Connection cable 10 m; LiYCY 16x0.14 mm²; UV-resistant
Cable length	Max. 100 m at supply of nominal 24 V and min. 0.5 mm² wire cross-section
Electr. output precipitation	0/10 V (precipitation yes “active”/precipitation no “passive”); load resistance ≥ 100 kΩ
Electr. output brightness	3 x 0...10 V (3 x 0...150 kLux), east-/ south-/west direction; load resistance ≥ 10 kΩ
Electr. output twilight	0...10 V (0...250 Lux); load resistance ≥ 10 kΩ
Measuring range precipitation	Precipitation yes/no
Sensitivity precipitation	0.25 mm/h
Switch-off delay precipitation	Approx. 2 min
Measuring range brightness	0...150 kLux
Spectral range brightness	700...1050 nm
Accuracy brightness	± 3 % of measuring range
Measuring range twilight	0...250 Lux
Spectral range twilight	700...1050 nm
Accuracy twilight	± 5 % of measuring range
Mounting	With stainless steel clip (included in scope of delivery) on mast or wall.
Weight	Max. 1.5 kg
Dimensions	Diameter 130 x 215 mm
Operating temperature	-40...+60 °C
Standards/rules/guidelines/ approvals	EN 61326-1 with EN 61000-4-3 according to EMC-directive or directive 2004/108/EC

TYPE

F-ClimaSens-D

Climate sensor

DIGICONTROL F-ClimaSens-DW

Data sheet number 81006

The climate sensor F-ClimaSens-... measures the parameters of wind speed, rainfall (yes/no) brightness (East/South/West), temperature, air humidity and twilight. The voltage outputs can be used to control external devices and/or to log analogue measurement data. The sensor combines the most important parameters which are necessary for the control and monitoring in the building automation, home automation, awnings and blinds control and greenhouse control in an ideal way. The compact design allows a simple and inconspicuous installation. All external parts are corrosion-proof made of high-quality plastic. The F-ClimaSens-... also has a serial interface (RS 422/485), a DCF77 receiver for time/date as well as a condensation protection (heating).

TECHNICAL DATA

Voltage	16...24 V AC / 16...28 V DC
Current consumption	Approx. 250 mA with dewfall protection
Electrical connection	Connection cable 10 m; LiYCY 16x0.14 mm²; UV-resistant
Cable length	Max. 100 m at supply of nominal 24 V and min. 0.5 mm² wire cross-section
Electr. output precipitation	0/10 V (precipitation yes “active”/precipitation no “passive”); load resistance ≥ 100 kΩ
Electr. output brightness	3 x 0...10 V (3 x 0...150 kLux), east-/ south-/west direction; load resistance ≥ 10 kΩ
Electr. output twilight	0...10 V (0...250 Lux); load resistance ≥ 10 kΩ
Electr. output wind speed	0...10 V (0...40 m/s); load resistance ≥ 10 kΩ
Measuring range precipitation	Precipitation yes/no
Sensitivity precipitation	0.25 mm/h
Switch-off delay precipitation	Approx. 2 min
Measuring range brightness	0...150 kLux
Spectral range brightness	700...1050 nm
Accuracy brightness	± 3 % of measuring range
Measuring range twilight	0...250 Lux
Spectral range twilight	700...1050 nm
Accuracy twilight	± 5 % of measuring range
Measuring range wind speedbrightness	1...40 m/s
Accuracy wind speed	± 0.5 m/s resp. ± 5 % of measuring range
Mounting	With stainless steel clip (included in scope of delivery) on mast or wall.
Weight	Max. 1.5 kg
Dimensions	Diameter 130 x 335 mm
Operating temperature	-40...+60 °C
Standards/rules/guidelines/ approvals	EN 61326-1 with EN 61000-4-3 according to EMC-directive or directive 2004/108/EC

TYPE

F-ClimaSens-DW

Climate sensor

DIGICONTROL F-ClimaSens-DTF

Data sheet number 81006

The climate sensor F-ClimaSens-... measures the parameters of wind speed, rainfall (yes/no) brightness (East/South/West), temperature, air humidity and twilight. The voltage outputs can be used to control external devices and/or to log analogue measurement data. The sensor combines the most important parameters which are necessary for the control and monitoring in the building automation, home automation, awnings and blinds control and greenhouse control in an ideal way. The compact design allows a simple and inconspicuous installation. All external parts are corrosion-proof made of high-quality plastic. The F-ClimaSens-... also has a serial interface (RS 422/485), a DCF77 receiver for time/date as well as a condensation protection (heating).

TECHNICAL DATA

Voltage	16...24 V AC / 16...28 V DC
Current consumption	Approx. 250 mA with dewfall protection
Electrical connection	Connection cable 10 m; LiYCY 16x0.14 mm²; UV-resistant
Cable length	Max. 100 m at supply of nominal 24 V and min. 0.5 mm² wire cross-section
Electr. output precipitation	0/10 V (precipitation yes “active”/precipitation no “passive”); load resistance ≥ 100 kΩ
Electr. output brightness	3 x 0...10 V (3 x 0...150 kLux), east-/ south-/west direction; load resistance ≥ 10 kΩ
Electr. output twilight	0...10 V (0...250 Lux); load resistance ≥ 10 kΩ
Electr. output temperature	0...10 V (-20...+60 °C); load resistance ≥ 10 kΩ
Electr. output humidity	0...10 V (0...100 % r.h.); load resistance ≥ 10 kΩ
Measuring range precipitation	Precipitation yes/no
Sensitivity precipitation	0.25 mm/h
Switch-off delay precipitation	Approx. 2 min
Measuring range brightness	0...150 kLux
Spectral range brightness	700...1050 nm
Accuracy brightness	± 3 % of measuring range
Measuring range twilight	0...250 Lux
Spectral range twilight	700...1050 nm
Accuracy twilight	± 5 % of measuring range
Measuring range temperature	-20...+60 °C
Measuring element temperature	Pt100 1/3 DIN
Accuracy temperature	± 0.5 K @ wind speed > 2.5 m/s
Measuring range humidity	0...100 % rh.
Accuracy humidity	± 3 % in the range of 10...90 % r.h. @ wind speed > 2.5 m/s
Mounting	With stainless steel clip (included in scope of delivery) on mast or wall.
Weight	Max. 1.5 kg
Dimensions	Diameter 130 x 310 mm
Operating temperature	-40...+60 °C
Standards/rules/guidelines/ approvals	EN 61326-1 with EN 61000-4-3 according to EMC-directive or directive 2004/108/EC

TYPE

F-ClimaSens-DTF

Climate sensor

DIGICONTROL F-ClimaSens-DWTF

Data sheet number 81006

The climate sensor F-ClimaSens-... measures the parameters of wind speed, rainfall (yes/no) brightness (East/South/West), temperature, air humidity and twilight. The voltage outputs can be used to control external devices and/or to log analogue measurement data. The sensor combines the most important parameters which are necessary for the control and monitoring in the building automation, home automation, awnings and blinds control and greenhouse control in an ideal way. The compact design allows a simple and inconspicuous installation. All external parts are corrosion-proof made of high-quality plastic. The F-ClimaSens-... also has a serial interface (RS 422/485), a DCF77 receiver for time/date as well as a condensation protection (heating).

TECHNICAL DATA

Voltage	16...24 V AC / 16...28 V DC
Current consumption	Approx. 250 mA with dewfall protection
Electrical connection	Connection cable 10 m; LiYCY 16x0.14 mm²; UV-resistant
Cable length	Max. 100 m at supply of nominal 24 V and min. 0.5 mm² wire cross-section
Electr. output precipitation	0/10 V (precipitation yes “active”/precipitation no “passive”); load resistance ≥ 100 kΩ
Electr. output brightness	3 x 0...10 V (3 x 0...150 kLux), east-/ south-/west direction; load resistance ≥ 10 kΩ
Electr. output twilight	0...10 V (0...250 Lux); load resistance ≥ 10 kΩ
Electr. output wind speed	0...10 V (0...40 m/s); load resistance ≥ 10 kΩ
Electr. output temperature	0...10 V (-20...+60 °C); load resistance ≥ 10 kΩ
Electr. output humidity	0...10 V (0...100 % r.h.); load resistance ≥ 10 kΩ
Measuring range precipitation	Precipitation yes/no
Sensitivity precipitation	0.25 mm/h
Switch-off delay precipitation	Approx. 2 min
Measuring range brightness	0...150 kLux
Spectral range brightness	700...1050 nm
Accuracy brightness	± 3 % of measuring range
Measuring range twilight	0...250 Lux
Spectral range twilight	700...1050 nm
Measuring range wind speedbrightness	1...40 m/s
Accuracy twilight	± 5 % of measuring range
Accuracy wind speed	± 0.5 m/s resp. ± 5 % of measuring range
Measuring range temperature	-20...+60 °C
Measuring element temperature	Pt100 1/3 DIN
Accuracy temperature	± 0.5 K @ wind speed > 2.5 m/s
Measuring range humidity	0...100 % rh.
Accuracy humidity	± 3 % in the range of 10...90 % r.h. @ wind speed > 2.5 m/s
Mounting	With stainless steel clip (included in scope of delivery) on mast or wall.
Weight	Max. 1.5 kg
Dimensions	Diameter 130 x 430 mm
Operating temperature	-40...+60 °C
Standards/rules/guidelines/ approvals	EN 61326-1 with EN 61000-4-3 according to EMC-directive or directive 2004/108/EC

TYPE

F-ClimaSens-DWTF

5.2 Fittings and drives

Small globe valves of cast brass with threaded connection | PN16 | up to 120 °C

DIGICONTROL V-VUL...

◂ CONTINUED FROM PAGE 252

Data sheet number 85002

Used in combination with S-KVA drive for unit valves for the control of heating zones, air secondary-treatment appliances and fan convectors. Valve and drive are assembled either by simply screwing together or by using the bayonet fitting. Nickel-plated (DN 10) valve body of cast brass, DN15 and DN20 of gunmetal with male thread, without cap nut. Spindle of stainless steel with soft-sealing valve cone. Characteristic line is approximately equal percentage. Stuffing box with double O-ring seal. The through valve is closed when the spindle is pressed in.

TECHNICAL DATA

Pressure stage	PN16
Overall length	In accordance with DIN 3841 T1
Leakage rate	0,0001 % of kvs
Characteristic line	Equal percentage
Cone	With soft seal made of EPDM
Bung socket	With double O-ring seal
Spindle	Stainless steel
Operating pressure	16 bar
Mounting	Male thread as per DIN EN ISO 228-1, Class B
Housing	Made of nickel-plated brass casting for DN10 and gun metal for DN15 and DN20
Operating temperature	+2...+120 °C

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE	CONNEC-TION
V-VUL10-0,16	DN 10	0.16 m^3/h	4 mm	G 1/2 B
V-VUL10-0,40	DN 10	0.4 m^3/h	4 mm	G 1/2 B
V-VUL10-0,63	DN 10	0.63 m^3/h	4 mm	G 1/2 B
V-VUL10-1,00	DN 10	1.0 m^3/h	4 mm	G 1/2 B
V-VUL10-1,60	DN 10	1.6 m^3/h	4 mm	G 1/2 B
V-VUL15-3,50	DN 15	3.5 m^3/h	4 mm	G 3/4 B
V-VUL15-2,50	DN 15	2.5 m^3/h	4 mm	G 3/4 B
V-VUL20-4,50	DN 20	4.5 m^3/h	4 mm	G 1 B

ACCESSORY

TYPE	DESCRIPTION
0378133010	1 threaded sleeve, R3/8 flat seal DN10 with cap nut and flat seal
0378133015	1 threaded sleeve, R1/2 flat seal DN15 with cap nut and flat seal
0378133020	1 threaded sleeve, R3/4 flat seal DN20 with cap nut and flat seal
0378134010	1 solder nipple, Ø 12; flat seal DN10, with cap nut and flat seal
0378134015	1 solder nipple, Ø 15; flat seal DN15, with cap nut and flat seal

ACCESSORY

TYPE	DESCRIPTION
0378134020	1 solder nipple, Ø 22; flat seal DN20, with cap nut and flat seal

CONTINUED ON PAGE 253 ▸

Small three-way valve with threaded connection | PN16 | up to 120 °C

DIGICONTROL V-BUL...

Data sheet number 85003

Used as a mixing, diverting or change-over valve in conjunction with S-KVA... drive for unit valves for controlling heating zones, air secondary-treatment appliances, fan convectors and two-wire systems with heat exchanger. Valve and drive are assembled either by simply screwing together or by using the bayonet fitting. Nickel-plated valve body of cast brass, with male thread, without cap nut. Spindle of stainless steel with soft-sealing valve cone for control load and proportioning load. Characteristic curve approximately equal percentage. The flow through the mixing passage has been reduced by 30%. Stuffing box with double O-ring seal. The control passage A-AB is closed when the spindle is pressed in.

TECHNICAL DATA

Pressure stage	PN16
Leakage rate	Control passage A-AB 0,0001 % of kvs, mixing passage B-AB approx. 0,1 % of kvs
Characteristic line	■ Control passage equal-percentage ■ Mixing passage linear
Cone	With soft seal made of EPDM for control passage and mixing passage
Bung socket	With double O-ring seal
Spindle	Stainless steel
Operating pressure	16 bar
Mounting	Male thread as per DIN EN ISO 228-1, Class B
Housing	Made of nickel-plated brass
Operating temperature	+2...+120 °C

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE	CONNEC-TION
V-BUL010-0,40	DN 10	0.4 m^3/h	3.7 mm	G 1/2 B
V-BUL010-0,63	DN 10	0.63 m^3/h	3.7 mm	G 1/2 B
V-BUL010-1,00	DN 10	1.0 m^3/h	3.7 mm	G 1/2 B
V-BUL010-1,60	DN 10	1.6 m^3/h	3.7 mm	G 1/2 B
V-BUL015-2,50	DN 15	2.5 m^3/h	3.7 mm	G 3/4 B
V-BUL015-4,00	DN 15	4.0 m^3/h	3.7 mm	G 1/2 B
V-BUL020-5,00	DN 20	5.0 m^3/h	3.7 mm	G 1 B

ACCESSORY

TYPE	DESCRIPTION
0378133010	1 threaded sleeve, R3/8 flat seal DN10 with cap nut and flat seal
0378133015	1 threaded sleeve, R1/2 flat seal DN15 with cap nut and flat seal
0378133020	1 threaded sleeve, R3/4 flat seal DN20 with cap nut and flat seal
0378134010	1 solder nipple, Ø 12; flat seal DN10, with cap nut and flat seal

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ACCESSORY

TYPE	DESCRIPTION
0378134015	1 solder nipple, Ø 15; flat seal DN15, with cap nut and flat seal
0378134020	1 solder nipple, Ø 22; flat seal DN20, with cap nut and flat seal

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Thermoelectr. Actuators with Positioner for small Valves, continuous, 24 V

DIGICONTROL S-KVA-SA | S-KVA-SD

Data sheet number 84007

Thermoelectric actuators fo the discrete control of heating and cooling systems in direct proportion to the applied control voltage. The control of the actuators is performed by a 0...10 V DC signal via an automation station of series DIGICONTROL ems... or a room controller of series DIGICONTROL R4D.

Features:

- Modern design
- Short response times, resulting in improved control response
- Closing point verification and possible adaptation during operation
- Complete compatibility to the valve adapter system
- Simple plug-in installation
- 360 degree installation position
- Patented 100 % protection in case of leaky valves
- First open function
- Adaptation check on the valve
- Plug-in connecting cable
- Alignment aid on the valve
- Compact size, small dimensions
- All-round function display
- Noiseless and maintenance-free
- High functional safety and long service life
- Certified by TÜV

TECHNICAL DATA

Resistance of control voltage input	100 kΩ
Actuating time	30 s/mm
Control direction	NC (normally closed)
Overvoltage strength	Min. 1 kV (according to EN 60730-1)
Media temperature	0...+100 °C
Inrush current	< 320 mA during max. 2 minutes
Mounting	Connection line 3x 0.22 mm² PVC / white / 1 m / plug-in
Weight	111 g
Housing	Material: Polyamide, colour white (RAL 9003)
Protection class	III
Protection class	IP54
Storage temperature	-25...+60 °C
Operating temperature	0...+60 °C
Standards/rules/guidelines/ approvals	EN 60730

TYPE LIST

TYPE	VOLTAGE	ACTUATOR TRAVEL	ACTUATING FORCE	POWER CONSUMPTION
S-KVA-SA	24 V AC, -10...+20 %, 50-60 Hz, 0...10 V	4.0 mm (optional 5.0 mm)	100 N	1 W
S-KVA-SD	24 V DC, -20...+20 %, 0...10 V	4.0 mm (optional 5.0 mm)	100 N	1 W
S-KVA-SA-6_5	24 V AC, 0-10 V	6.5 mm	125 N	1.2 W

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TYPE LIST

TYPE	VOLTAGE	ACTUATOR TRAVEL	ACTUATING FORCE	POWER CONSUMPTION
S-KVA-SD-6_5	24 V DC, 0-10 V	6.5 mm	125 N	1.2 W

ACCESSORY

TYPE	DESCRIPTION
S-KVA-VA16	Valve adapter for installation on Herz valves of type TS-90
S-KVA-VA39	Valve adapter for installation on Oventrop valves M30x1 (before 1997)
S-KVA-VA152HK	Valve adapter for installation on V-VARIO-DC
S-KVA-VA16H-SK	Valve adapter for installation on Herz valves of type TS-90 Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA39H-SK	Valve adapter for installation on Oventrop valves M30x1 (before 1997) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA59H-SK	Valve adapter for installation on Danfoss valves of type RAVL (d=26mm) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA78-SK	Valve adapter for installation on Danfoss valves of type RA 2000 (e.g. RA-N, d=22mm) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA59	Valve adapter for installation on Danfoss valves of type RAVL (d=26mm)
S-KVA-VA72	Valve adapter for installation on Danfoss valves of type RAV (d=34mm) Please note: Using the protective cover S-KVA-SK1004 is not possible.
S-KVA-VA78	Valve adapter for installation on Danfoss valves of type RA 2000 (e.g. RA-N, d=22mm)
S-KVA-VA80	Valve adapter for installation on DIGICONTROL valves of type V-VUL..., V-BUL..., V-VXL... Valve adapter for installation on Oventrop valves M30x1.5
S-KVA-SK1004	Protective cover against vandalism and theft Please note: When using the protective cover, you always have to apply the corresponding valve adapter S-KVA-VA...-SK.
S-KVA-VA80H-SK	Valve adapter for installation on DIGICONTROL valves of type V-VUL..., V-BUL..., V-VXL... Valve adapter for installation on Oventrop valves M30x1.5 Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA41	Valve adapter for installation on DIGICONTROL valves of type V-AB-QM DN10 to DN32
S-KVA-VA41H-SK	Valve adapter for installation on DIGICONTROL valves of type V-AB-QM DN10 to DN32 Attention: Only when using the protective cap S-KVA-SK1004.

Thermoelectr. Actuator for small Valve, Two-Point, 24/230 V

DIGICONTROL S-KVA-B24 | S-KVA-B230

Data sheet number 84012

Thermoelectric actuators for opening and closing valves on heating circuit distributors of surface heating and cooling systems. The control of the actuators is performed by a two point output or pulse-width modulation signal via an automation station of series DIGICONTROL ems... or a room controller of series DIGICONTROL R4D.

Features:

- Modern design
- Complete compatibility to the valve adapter system
- Simple plug-in installation
- 360 degree installation position
- Patented 100 % protection in case of leaky valves
- First open function
- Adaptation check on the valve
- Alignment aid on the valve
- Compact size, small dimensions
- All-round function display
- Noiseless and maintenance-free
- High functional safety and long service life
- Surge protection guarantee
- Certified by TÜV

TECHNICAL DATA

Control	Two-point output or pulse-width modulation
Actuating time	Approx. 3.5 min
Control direction	NC (normally closed) optional NO (open when de-energized) possible
Overvoltage strength	Min. 2.5 kV (according to EN 60730-1)
Media temperature	0...+100 °C
Mounting	Connection line 2x 0.75 mm² PVC / light grey / 1 m
Weight	100 g
Housing	Material: Polyamide, colour light Grey (RAL 7035)
Protection class	IP54
Storage temperature	-25...+60 °C
Operating temperature	0...+60 °C
Standards/rules/guidelines/ approvals	EN 60730

TYPE LIST

TYPE	VOLTAGE	ACTUATOR TRAVEL	ACTUATING FORCE	POWER CONSUMPTION
S-KVA-B24	24 V AC/DC, -10...+20 %	4.0 mm (optional 5.0 mm)	100 N	1 W
S-KVA-B230	230 V AC, -10...+10 %, 50/60 Hz	4.0 mm (optional 5.0 mm)	100 N	1 W
S-KVA-B24-6_5	24 V NC	6.5 mm	125 N	1.2 W
S-KVA-B230-6_5	230 V NC	6.5 mm	125 N	1.2 W

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ACCESSORY

TYPE	DESCRIPTION
S-KVA-VA152HK	Valve adapter for installation on V-VARIO-DC
S-KVA-VA78-SK	Valve adapter for installation on Danfoss valves of type RA 2000 (e.g. RA-N, d=22mm) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA41H-SK	Valve adapter for installation on DIGICONTROL valves of type V-AB-QM DN10 to DN32 Attention: Only when using the protective cap S-KVA-SK1004.
S-KVA-VA16	Valve adapter for installation on Herz valves of type TS-90
S-KVA-VA59	Valve adapter for installation on Danfoss valves of type RAVL (d=26mm)
S-KVA-VA80H-SK	Valve adapter for installation on DIGICONTROL valves of type V-VUL..., V-BUL..., V-VXL... Valve adapter for installation on Oventrop valves M30x1.5 Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA72	Valve adapter for installation on Danfoss valves of type RAV (d=34mm) Please note: Using the protective cover S-KVA-SK1004 is not possible.
S-KVA-VA39H-SK	Valve adapter for installation on Oventrop valves M30x1 (before 1997) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA39	Valve adapter for installation on Oventrop valves M30x1 (before 1997)
S-KVA-VA80	Valve adapter for installation on DIGICONTROL valves of type V-VUL..., V-BUL..., V-VXL... Valve adapter for installation on Oventrop valves M30x1.5
S-KVA-SK1004	Protective cover against vandalism and theft Please note: When using the protective cover, you always have to apply the corresponding valve adapter S-KVA-VA...-SK.
S-KVA-VA59H-SK	Valve adapter for installation on Danfoss valves of type RAVL (d=26mm) Please note: Only when using the protective cover S-KVA-SK1004.
S-KVA-VA41	Valve adapter for installation on DIGICONTROL valves of type V-AB-QM DN10 to DN32
S-KVA-VA78	Valve adapter for installation on Danfoss valves of type RA 2000 (e.g. RA-N, d=22mm)
S-KVA-VA16H-SK	Valve adapter for installation on Herz valves of type TS-90 Please note: Only when using the protective cover S-KVA-SK1004.

Pressure-independent 6-way ball valve

DIGICONTROL V-SK-IQ...

Data sheet number 85608

V-SK-IQ... is an electronic pressure-independent 6-way control ball valve with integrated ultrasonic measuring unit for setting and controlling a heating/cooling consumer in 4-pipe systems. The control is pressure-independent through permanent flow rate monitoring without minimum differential pressure. Control, changeover und shut-off of the water quantities is performed via only one mobile component. Intelligent integrated flushing function by completely opening and switching off the pressure-independent control function. Control and regulation is analogue via 0-10 V, digital with BACnet or Modbus (selectable). Setting and reading of all parameters such as set point and current water quantities, flushing function, bus addressing, control signals, etc. is possible via Bluetooth with Smartphone, Modbus und BACnet MS/TP. The large Bluetooth range enables adjustment through ceilings, grids and from outside the room. LEDs provide visual indication of the status of power supply and comunication.

TECHNICAL DATA

Voltage	24 V AC (-20 % / +20 %), 50 Hz / 24 V DC (-10 % / +10 %)
Medium	Water (Glykol free)
Inputs	■ 0 - 10 Vdc (0.17 mA) ■ 0.5 - 4.5 Vdc heating mode 100 % - 0 % flow rate heating ■ 5.5 - 9.5 Vdc cooling mode 0 % - 100 % flow rate cooling
Media temperature	+5...+90 °C
Flow measurement	Permanent, ultrasound
Flow characteristic	Linear, equal-percentage
Leakage rate	Close-sealed
Power consumption	In operation 3 W (4 VA), in standby 1.5 W (2 VA)
Setting range	DN 15: 3-1400 l/h, DN 25: 3-2500 l/h
Accuracy	3 l/h
Mounting	6x external thread
Communication	RS 485, Modbus/RTU, BACnet MS/TP, Bluetooth 4.0ACn
Protection class	IP54
Standards/rules/guidelines/approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	PRESSURE STAGE	KVS
V-SK-IQ-15	PN16	1.4 m³/h
V-SK-IQ-25	PN16	2.5 m³/h

6-way ball valve for two sequences

DIGICONTROL V-BR616...

Data sheet number 85610

The 6-way ball valves of the V-BR616 series enable the control of a single consumer from two different thermal energy sources. A changeover between two energy sources is possible in the position 0° and 90°. The centre position (45°) allows closing the supply of both energy sources.
The valve is supplied by means of a four tube system. It has external threads. Corresponding connection kits with internal threads are available as accessories.
The fittings are furnished with an electric rotary drive, S-M106, and can be integrated in building automation and control systems by means of a continuous signal.

Features:
- Can be used in heating-, ventilation and air-conditioning plants for regulating the heating-water and cold-water flow
- Screw joint connection fitting, flat sealing
- Tool-free actuator mounting, installation possible in four positions
- Internal thread on the lower side of the valve for fixing on components and support elements

TECHNICAL DATA

Medium	Cold and warm water, water with glycol up to max. 50 % vol.
	90°
Leakage rate	Leakage rate A, bubble-tight (EN 12666-1)
Differential pressure	2 bar
Mounting	Male thread as per DIN EN ISO 228-1, Class B
Installation position	Upright to horizontal
Housing	Valve body: forging brass CW617N Seals: PTFE
Operating temperature	+5...+90 °C

TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN15-0,25-0,25	0.25 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-0,4	0.25 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-0,65	0.25 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-1	0.25 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-1,3	0.25 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-1,6	0.25 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,25-1,9	0.25 m³/h	1.9 m³/h	15	PN16	G 1/2”

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN15-0,4-0,25	0.4 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-0,4	0.4 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-0,65	0.4 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-1	0.4 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-1,3	0.4 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-1,6	0.4 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,4-1,9	0.4 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-0,25	0.65 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-0,4	0.65 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-0,65	0.65 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-1	0.65 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-1,3	0.65 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-1,6	0.65 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-0,65-1,9	0.65 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-0,25	1 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-0,4	1 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-0,65	1 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-1	1 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-1,3	1 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-1,6	1 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1-1,9	1 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-0,25	1.3 m³/h	0.25 m³/h	15	PN16	G 1/2”

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN15-1,3-0,4	1.3 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-0,65	1.3 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-1	1.3 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-1,3	1.3 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-1,6	1.3 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,3-1,9	1.3 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-0,25	1.6 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-0,4	1.6 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-0,65	1.6 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-1	1.6 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-1,3	1.6 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-1,6	1.6 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,6-1,9	1.6 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-0,25	1.9 m³/h	0.25 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-0,4	1.9 m³/h	0.4 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-0,65	1.9 m³/h	0.65 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-1	1.9 m³/h	1 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-1,3	1.9 m³/h	1.3 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-1,6	1.9 m³/h	1.6 m³/h	15	PN16	G 1/2”
V-BR616-DN15-1,9-1,9	1.9 m³/h	1.9 m³/h	15	PN16	G 1/2”
V-BR616-DN25-0,25-0,25	0.25 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-0,4	0.25 m³/h	0.4 m³/h	25	PN16	G 3/4”

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN25-0,25-0,65	0.25 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-1	0.25 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-1,3	0.25 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-1,6	0.25 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-2,5	0.25 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-3,45	0.25 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,25-4,25	0.25 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-0,25	0.4 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-0,4	0.4 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-0,65	0.4 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-1	0.4 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-1,3	0.4 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-1,6	0.4 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-2,5	0.4 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-3,45	0.4 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,4-4,25	0.4 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-0,25	0.65 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-0,4	0.65 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-0,65	0.65 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-1	0.65 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-1,3	0.65 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-1,6	0.65 m³/h	1.6 m³/h	25	PN16	G 3/4”

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN25-0,65-2,5	0.65 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-3,45	0.65 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-0,65-4,25	0.65 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-0,25	1 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-0,4	1 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-0,65	1 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-1	1 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-1,3	1 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-1,6	1 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-2,5	1 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-3,45	1 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1-4,25	1 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-0,25	1.3 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-0,4	1.3 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-0,65	1.3 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-1	1.3 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-1,3	1.3 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-1,6	1.3 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-2,5	1.3 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-3,45	1.3 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,3-4,25	1.3 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-0,25	1.6 m³/h	0.25 m³/h	25	PN16	G 3/4”

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN25-1,6-0,4	1.6 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-0,65	1.6 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-1	1.6 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-1,3	1.6 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-1,6	1.6 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-2,5	1.6 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-3,45	1.6 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-1,6-4,25	1.6 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-0,25	2.5 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-0,4	2.5 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-0,65	2.5 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-1	2.5 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-1,3	2.5 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-1,6	2.5 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-2,5	2.5 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-3,45	2.5 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-2,5-4,25	2.5 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-0,25	3.45 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-0,4	3.45 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-0,65	3.45 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-1	3.45 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-1,3	3.45 m³/h	1.3 m³/h	25	PN16	G 3/4”

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5.2 Fittings and drives

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TYPE LIST

TYPE	KVS SEQUENCE I	KVS SEQUENCE II	NOMINAL WIDTH	PRESSURE STAGE	CONNECTION
V-BR616-DN25-3,45-1,6	3.45 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-2,5	3.45 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-3,45	3.45 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-3,45-4,25	3.45 m³/h	4.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-0,25	4.25 m³/h	0.25 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-0,4	4.25 m³/h	0.4 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-0,65	4.25 m³/h	0.65 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-1	4.25 m³/h	1 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-1,3	4.25 m³/h	1.3 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-1,6	4.25 m³/h	1.6 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-2,5	4.25 m³/h	2.5 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-3,45	4.25 m³/h	3.45 m³/h	25	PN16	G 3/4”
V-BR616-DN25-4,25-4,25	4.25 m³/h	4.25 m³/h	25	PN16	G 3/4”

ACCESSORY

TYPE	DESCRIPTION
V-BR616-DN25-ISOL	Acoustic classing for 6-way ball valve, DN25
V-BR616-DN15-ISOL	Acoustic classing for 6-way ball valve, DN15
V-BR616-DN25-VE	Connecting parts for 6-way ball valve, DN25
V-BR616-DN15-VE	Connecting parts for 6-way ball valve, DN15

Actuator for 6-way ball valve

DIGICONTROL S-M106

Data sheet number 84850

Electrical drive for 6-way ball valve

Features:

- Microprocessor controlled with automatic self-calibration on start-up
- Wear-free distance measuring system - no potentiometer
- Wire break recognition in 2...10 V DC operation
- Fault recognition in continuous operation (in case of blockage by foreign bodies)
- Manual override
- Changeover from manual to automatic mode
- Rotation direction indicator

TECHNICAL DATA

Voltage	24...230 V AC, > 24 V only in dry room of VDE 0110
Outputs	0...10 V DC
Inputs	0(2)...10 V DC
Power consumption	3.5 VA
Electrical connection	Actuator with 1.5 m cable (flexible)
Actuating time	130 s/mm
Angle of rotation	90°
Torque	6 Nm
Operating mode	S4-50 % ED c/h 1200 EN60034-1
Protection class	IP43
Ambient temperature	0...50 °C

TYPE

S-M106

Thermostatic valve with dynamic thermostatic valve insert

DIGICONTROL V-VARIO-DP...

Data sheet number 85609

The V-VARIO-DP... is a dynamic, adjustable thermostatic valve with a wide setting range. With its patented capsule spring, it automatically controls the flow rate to the amount of water set at the valve, independent of pressure fluctuations in heating and cooling networks. High operational reliability through functional, simple design. The water quantity is adjusted with a key, valve insert can be replaced with mounting device without emptying the system under operating pressure.

TECHNICAL DATA

Pressure stage	PN10
Setting range	20 - 340 l/h
Mounting	Screw connection M 30 x 1.5 mm
Housing	Gunmetal, nickel-plated
Operating temperature	Max. +120 °C
Other remarks	Valve spindle with double O-ring sealing, sealing element maintenance-free, with mounting cap

TYPE LIST

TYPE	PRESSURE STAGE
V-VARIO-DP-10	PN10
V-VARIO-DP-15	PN10
V-VARIO-DP-20	PN10

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	S-KVA-SA	**S-KVA-SD**	**S-KVA-B24**	**S-KVA-B230**
V-VARIO-DP-10	x	x	x	x
V-VARIO-DP-15	x	x	x	x
V-VARIO-DP-20	x	x	x	x

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DIGICONTROL V-VARIO-DC...

Data sheet number 85660

V-VARIO-DC is a pressure-independent control valve. It regulates the set volumetric flow independently of pressure fluctuations in the network. Setting independent of the valve lift for exact control over the entire input signal. The volume flow is infinitely adjustable via a fine adjustment wheel. Settings can be read from the outside. Connection M30 x 1.5 for drives of the S-KVA and VARIOPULSE-VP series.

TECHNICAL DATA

Medium	Water
Media temperature	-10...+120 °C
Pressure stage	PN25
Differential pressure	15 - 800 kPa
Housing	Brass casting

TYPE LIST

TYPE	NOMINAL WIDTH	PRESSURE STAGE	KVS	CONNECTION
V-VARIO-DC-S15	15	PN25	0,065 - 0,37 m³/h	3/4”
V-VARIO-DC-L15	15	PN25	0,22 - 1,33 m³/h	G 3/4”
V-VARIO-DC-XL20	20	PN25	0,3 - 1,8 m³/h	G 1”
V-VARIO-DC-XL25	25	PN25	0,6 - 3,6 m³/h	G 1 1/4”
V-VARIO-DC-XL32	32	PN25	0,55 - 4,0 m³/h	G 1/2”
V-VARIO-DC-L40	40	PN25	1,37 - 9,5 m³/h	RP 1 1/2”
V-VARIO-DC-L50	50	PN25	1,4 - 11,5 m³/h	RP 2”

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	S-VARIOPULSE-VP	**S-KVA-B230-6_5**	**S-KVA-SA-6_5**	**S-KVA-VA152HK**	**S-KVA-B24-6_5**	**S-KVA-SD-6_5**
V-VARIO-DC-S15		x	x	x	x	x
V-VARIO-DC-L15		x	x	x	x	x
V-VARIO-DC-XL20		x	x	x	x	x
V-VARIO-DC-XL25		x	x	x	x	x

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	S-VARIOPULSE-VP	**S-KVA-B230-6_5**	**S-KVA-SA-6_5**	**S-KVA-VA152HK**	**S-KVA-B24-6_5**	**S-KVA-SD-6_5**
V-VARIO-DC-XL32		x	x	x	x	x
V-VARIO-DC-L40	x					
V-VARIO-DC-L50	x					

Actuator for pressure-independent control valve

DIGICONTROL S-VARIOPULSE-VP

Data sheet number 85665

S-VARIOPULSE-VP is an electromotive, microprocessor-controlled actuator with a control signal of 0 (2) - 10 V, switchable to 3-point, with position feedback, characteristic switchable from linear to equal percentage, direction of action reversible and operation switchable to manual mode.

TECHNICAL DATA

Control	0-10 V DC / 3 point
Actuating time	60 s (0-10 V) / 300 s (3 point)
Actuating force	400 N
Stroke	max. 32 mm
Protection class	IP54

TYPE

S-VARIOPULSE-VP

Electronic pressure-independent 2-way control ball valve

DIGICONTROL V-B2-IQ...

Data sheet number 85604

V-B2-IQ... is an electronic pressure-independent 2-way control ball valve with integrated ultrasonic measuring unit for exact setting and control of two different water quantities (e.g. heating/cooling) and integrated return temperature limitation. The control is pressure-independent via continuous flow rate monitoring, without minimum differential pressure via a mobile component. Integrated temperature sensors for measurement and storage of media temperature, spread and energy consumption in watt/h.Intelligent integrated flushing function by completely opening and switching off the pressure-independent control function. Control and regulation is analogue via 0-10 V, digital with BACnet or Modbus (switchable).Setting and reading of all parameters such as set point and present water quantities, flushing function, bus addressing, pending control signals, etc. via Bluetooth with Smartphone, Modbus and BACnet MS/TP. The large Bluetooth range allows setting through ceilings, grids and from outside the room. All sensors are MID certified according to the applicable standard EN 1431-4. The LEDs provide a visual indication of the status of power supply and communication. Switchable from automatic to manual (manual adjustment) via mechanical switch.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Medium	Water (Glykol free)
Inputs	0-10 V DC (0.17 mA)
Media temperature	+2...+100 °C
Flow characteristic	Adjustable as equal-percentage or linear
Connection	PN16 flange
Leakage rate	0.001 % of kvs
Power consumption	3 W (4 VA) in operation / 1.5 W (2 VA) standby
Housing	Polypropylene, steel
Protection class	IP54
Other remarks	Maintenance-free, no calibration necessary

TYPE LIST

TYPE	KVS
V-B2-IQ-DN65	48.8 m^3/h
V-B2-IQ-DN80	70.7 m^3/h
V-B2-IQ-DN100	114.4 m^3/h
V-B2-IQ-DN150	272.2 m^3/h

Electronic pressure-independent 3-way control ball valve

DIGICONTROL V-B3-IQ...

Data sheet number 85603

V-B3-IQ... is an electronic pressure-independent 3-way mixer ball valve with integrated ultrasonic measuring unit for exact setting and control of two different water volumes (e.g. heating/ccoling) and integrated return temperature limitation. The control is pressure-independent via continuous flow rate monitoring, without minimum differential pressure via only one mobile component. Integrated temperature sensors for measurement and storage of media temperature, spread and energy consumption in watt/h. Intelligent integrated flushing function by completely opening and switching off the pressure-independent control function. Control and regulation is analogue via 0-10 V, digital with BACnet or Modbus (switchable). Setting and reading of all parameters such as set point and current water quantities, flushing function, bus addressing, pending control signals, etc. via Bluetooth with Smartsphone, Modbus and BACnet MS/TP. The large Bluetooth range allows setting through ceilings, grids and from outside the room. All sensors are MID certifed according to the applicable standard EN 1431-4. The LEDs provide a visual indication of the status of power supply and communication. Switchable from automatic to manual (manual adjustment) via mechanical switch.

TECHNICAL DATA

Voltage	24 V AC/DC +/- 10 %
Medium	Water (Glykol free)
Inputs	0-10 V DC (0.17 mA)
Media temperature	+2...+100 °C
Flow characteristic	Adjustable as equal-percentage or linear
Connection	DN15 - DN50: Input side - Flat sealing with ISO screw connection Output side - Internal thread ISO 7/1 (Rp) DN65 - DN150: Flange PN16
Leakage rate	0.001 % of kvs
Power consumption	3 W (4 VA) in operation / 1.5 W (2 VA) standby
Communication	Bluetooth, 0-10 V; Modbus; BACnet MS/TP
Housing	Polypropylene, steel
Protection class	IP54
Other remarks	Maintenance-free, no calibration necessary

TYPE LIST

TYPE	KVS
V-B3-IQ-DN15	3.3 m³/h
V-B3-IQ-DN20	5.7 m³/h
V-B3-IQ-DN25	8.1 m³/h
V-B3-IQ-DN32	10.5 m³/h
V-B3-IQ-DN40	19.7 m³/h
V-B3-IQ-DN50	25.0 m³/h
V-B3-IQ-DN65	48.8 m³/h

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TYPE LIST

TYPE	KVS
V-B3-IQ-DN80	70.7 m³/h
V-B3-IQ-DN100	114.4 m³/h
V-B3-IQ-DN150	272.2 m³/h

Two-way valves of brass with screwed connection | PN16 | up to 120 °C

DIGICONTROL V-BR216MZ-...

Data sheet number 85180

Suitable for the control of hot and chilled water (0...+120 °C) in HEVAC systems and individual room or zone control of heating plants.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	≥ 30:1
Leakage rate	EN 1349 – seat-leakage V L1
Characteristic line	Equal %-mod.
Cone	Brass
Spindle	CrNi-steel 1.4305
Stem sealing	O-rings EPDM
Mounting	Body with external thread acc. ISO 228/1 union nuts and gaskets
Housing	Brass

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR216MZ-15-0,25	DN 15	0.25 m^3/h	6.5 mm
V-BR216MZ-15-0,4	DN 15	0.4 m^3/h	6.5 mm
V-BR216MZ-15-0,63	DN 15	0.63 m^3/h	6.5 mm
V-BR216MZ-15-1,0	DN 15	1.0 m^3/h	6.5 mm
V-BR216MZ-15-1,6	DN 15	1.6 m^3/h	6.5 mm
V-BR216MZ-15-2,5	DN 15	2.5 m^3/h	6.5 mm
V-BR216MZ-20-4,0	DN 20	4.0 m^3/h	6.5 mm
V-BR216MZ-25-6,3	DN 25	6.3 m^3/h	6.5 mm
V-BR216MZ-25-8,0	DN 25	8.0 m^3/h	6.5 mm

ACCESSORY

TYPE	DESCRIPTION
V-BR216MZ-15-G	For V-BR216MZ-15: Body with external thread, with brass union nuts and gaskets
V-BR216MZ-20-G	For V-BR216MZ-20: Body with external thread, with brass union nuts and gaskets
V-BR216MZ-25-G	For V-BR216MZ-25: Body with external thread, with brass union nuts and gaskets

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	ΔPMAX S-MC15	**ΔPMAX S-MC55**	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**
V-BR216MZ-15-0,25	600 kPa	-	-	-

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	ΔPMAX S-MC15	**ΔPMAX S-MC55**	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**
V-BR216MZ-15-0,4	600 kPa	-	-	-
V-BR216MZ-15-0,63	600 kPa	-	-	-
V-BR216MZ-15-1,0	600 kPa	-	-	-
V-BR216MZ-15-1,6	300 kPa	-	-	-
V-BR216MZ-15-2,5	300 kPa	-	-	-
V-BR216MZ-20-4,0	300 kPa	-	-	-
V-BR216MZ-25-6,3	150 kPa	-	-	-
V-BR216MZ-25-8,0	150 kPa	-	-	-

Three-way valves of brass with screwed connection | PN16 | up to 120 °C

DIGICONTROL V-BR316MZ-...

Data sheet number 85182

Suitable for the control of hot and chilled water (0...+120 °C) in HEVAC systems and individual room or zone control of heating plants.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	≥ 30:1
Leakage rate	EN 1349 – seat-leakage V L1
Characteristic line	■ A -> AB equal percentage mod. ■ B -> AB linear
Cone	Brass
Spindle	CrNi-steel 1.4305
Stem sealing	O-rings EPDM
Mounting	Body with external thread acc. ISO 228/1 union nuts and gaskets
Housing	Brass

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR316MZ-15-0,25	DN 15	0.25 m^3/h	6.5 mm
V-BR316MZ-15-0,4	DN 15	0.4 m^3/h	6.5 mm
V-BR316MZ-15-0,63	DN 15	0.63 m^3/h	6.5 mm
V-BR316MZ-15-1,0	DN 15	1.0 m^3/h	6.5 mm
V-BR316MZ-15-1,6	DN 15	1.6 m^3/h	6.5 mm
V-BR316MZ-15-2,5	DN 15	2.5 m^3/h	6.5 mm
V-BR316MZ-20-4,0	DN 20	4.0 m^3/h	6.5 mm
V-BR316MZ-25-6,3	DN 25	6.3 m^3/h	6.5 mm
V-BR316MZ-25-8,0	DN 25	8.0 m^3/h	6.5 mm

ACCESSORY

TYPE	DESCRIPTION
V-BR316MZ-15-G	For V-BR316MZ-15: Body with external thread, with brass union nuts and gaskets
V-BR316MZ-20-G	For V-BR316MZ-20: Body with external thread, with brass union nuts and gaskets
V-BR316MZ-25-G	For V-BR316MZ-25: Body with external thread, with brass union nuts and gaskets

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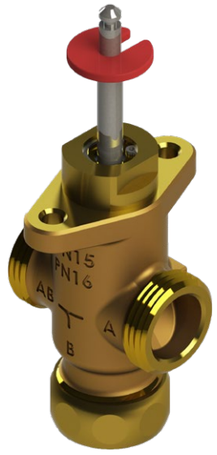
POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	ΔPMAX S-MC15	**ΔPMAX S-MC55**	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**
V-BR316MZ-15-0,25	600 kPa	-	-	-
V-BR316MZ-15-0,4	600 kPa	-	-	-
V-BR316MZ-15-0,63	600 kPa	-	-	-
V-BR316MZ-15-1,0	600 kPa	-	-	-
V-BR316MZ-15-1,6	300 kPa	-	-	-
V-BR316MZ-15-2,5	300 kPa	-	-	-
V-BR316MZ-20-4,0	300 kPa	-	-	-
V-BR316MZ-25-6,3	150 kPa	-	-	-
V-BR316MZ-25-8,0	150 kPa	-	-	-

Two-way valves of red brass with screwed connection | PN16 | up to 150 °C

DIGICONTROL V-BR216RA

Data sheet number 85133



Can be used in heating, ventilation and air-conditioning systems to control the hot and cold water flow from 0...+150 °C. The valves should only be mounted in horizontal position above 130 °C. With stem heater suitable for water with antifreeze compounds down to -15 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	■ DN 15: 50:1 ■ DN 20-50: 100:1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	A -> AB equal %
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Male thread as per DIN EN ISO 228-1, Class B
Housing	Red brass CC491K

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE	CONNECTION
V-BR216RA-15-0,63	DN 15	0.63 m^3/h	12 mm	G 1”
V-BR216RA-15-1,0	DN 15	1.0 m^3/h	12 mm	G 1”
V-BR216RA-15-1,25	DN 15	1.25 m^3/h	12 mm	G 1”
V-BR216RA-15-1,6	DN 15	1.6 m^3/h	12 mm	G 1”
V-BR216RA-15-2,5	DN 15	2.5 m^3/h	12 mm	G 1”
V-BR216RA-15-4	DN 15	4.0 m^3/h	12 mm	G 1”
V-BR216RA-20-5	DN 20	5.0 m^3/h	12 mm	G 1 1/4”
V-BR216RA-20-6,3	DN 20	6.3 m^3/h	12 mm	G 1 1/4”
V-BR216RA-25-8	DN 25	8.0 m^3/h	14 mm	G 1 1/2”
V-BR216RA-25-10	DN 25	10.0 m^3/h	14 mm	G 1 1/2”
V-BR216RA-32-12,5	DN 32	12.5 m^3/h	14 mm	G 2”
V-BR216RA-32-16	DN 32	16.0 m^3/h	14 mm	G 2”
V-BR216RA-40-20	DN 40	20.0 m^3/h	14 mm	G 2 1/4”
V-BR216RA-40-25	DN 40	25.0 m^3/h	14 mm	G 2 1/4”
V-BR216RA-50-31,5	DN 50	31.5 m^3/h	14 mm	G 2 3/4”
V-BR216RA-50-40	DN 50	40.0 m^3/h	14 mm	G 2 3/4”

ACCESSORY

TYPE	DESCRIPTION
V-VS-GG15-2	Fitting set cast iron DN 15 with inside thread.

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◂ CONTINUED FROM PAGE 280

ACCESSORY

TYPE	DESCRIPTION
V-VS-GG20-2	Fitting set cast iron DN 20 with inside thread
V-VS-GG25-2	Fitting set cast iron DN 25 with inside thread
V-VS-GG32-2	Fitting set cast iron DN 32 with inside thread
V-VS-GG40-2	Fitting set cast iron DN 40 with inside thread
V-VS-GG50-2	Fitting set cast iron DN 50 with inside thread

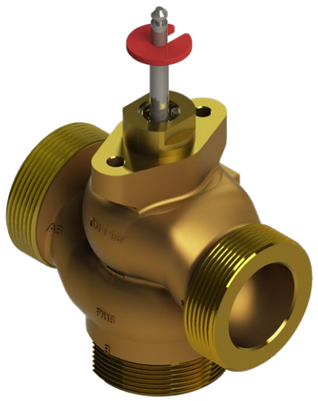
POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	ΔPMAX S-MC15	**ΔPMAX S-MC55**	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**
V-BR216RA-15-0,63	-	1500 kPa	1600 kPa	-
V-BR216RA-15-1,0	-	1500 kPa	1600 kPa	-
V-BR216RA-15-1,25	-	1500 kPa	1600 kPa	-
V-BR216RA-15-1,6	-	1500 kPa	1600 kPa	-
V-BR216RA-15-2,5	-	1500 kPa	1600 kPa	-
V-BR216RA-15-4	-	1500 kPa	1600 kPa	-
V-BR216RA-20-5	-	1250 kPa	1600 kPa	-
V-BR216RA-20-6,3	-	1250 kPa	1600 kPa	-
V-BR216RA-25-8	-	750 kPa	1500 kPa	-
V-BR216RA-25-10	-	750 kPa	1500 kPa	-
V-BR216RA-32-12,5	-	450 kPa	900 kPa	1500 kPa
V-BR216RA-32-16	-	450 kPa	900 kPa	1500 kPa
V-BR216RA-40-20	-	250 kPa	550 kPa	950 kPa
V-BR216RA-40-25	-	250 kPa	550 kPa	950 kPa
V-BR216RA-50-31,5	-	150 kPa	350 kPa	600 kPa
V-BR216RA-50-40	-	150 kPa	350 kPa	600 kPa

Three-way valves of red brass with screwed connection | PN16 | up to 150 °C

DIGICONTROL V-BR316RA-...

Data sheet number 85133



Can be used in heating, ventilation and air-conditioning systems to control the hot and cold water flow from 0...+150 °C. The valves should only be mounted in horizontal position above 130 °C. With stem heater suitable for water with antifreeze compounds down to -15 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	■ DN 15: 50:1 ■ DN 20-50: 100:1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	■ A -> AB equal percentage mod. ■ B -> AB linear
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Male thread as per DIN EN ISO 228-1, Class B
Housing	Red brass CC491K

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE	CONNECTION
V-BR316RA-15-0,63	DN 15	0.63 m³/h	12 mm	G 1”
V-BR316RA-15-1,0	DN 15	1.0 m³/h	12 mm	G 1”
V-BR316RA-15-1,25	DN 15	1.25 m³/h	12 mm	G 1”
V-BR316RA-15-1,6	DN 15	1.6 m³/h	12 mm	G 1”
V-BR316RA-15-2,5	DN 15	2.5 m³/h	12 mm	G 1”
V-BR316RA-15-4	DN 15	4.0 m³/h	12 mm	G 1”
V-BR316RA-20-5	DN 20	5.0 m³/h	12 mm	G 1 1/4”
V-BR316RA-20-6,3	DN 20	6.3 m³/h	12 mm	G 1 1/4”
V-BR316RA-25-8	DN 25	8.0 m³/h	14 mm	G 1 1/2”
V-BR316RA-25-10	DN 25	10.0 m³/h	14 mm	G 1 1/2”
V-BR316RA-32-12,5	DN 32	12.5 m³/h	14 mm	G 2”
V-BR316RA-32-16	DN 32	16.0 m³/h	14 mm	G 2”
V-BR316RA-40-20	DN 40	20.0 m³/h	14 mm	G 2 1/4”
V-BR316RA-40-25	DN 40	25.0 m³/h	14 mm	G 2 1/4”
V-BR316RA-50-31,5	DN 50	31.5 m³/h	14 mm	G 2 3/4”
V-BR316RA-50-40	DN 50	40.0 m³/h	14 mm	G 2 3/4”

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ACCESSORY

TYPE	DESCRIPTION
V-VS-GG15-3	Fitting set cast iron DN 15 with inside thread
V-VS-GG20-3	Fitting set cast iron DN 20 with inside thread
V-VS-GG25-3	Fitting set cast iron DN 25 with inside thread
V-VS-GG32-3	Fitting set cast iron DN 32 with inside thread
V-VS-GG40-3	Fitting set cast iron DN 40 with inside thread
V-VS-GG50-3	Fitting set cast iron DN 50 with inside thread

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR			
	ΔPMAX S-MC15	**ΔPMAX S-MC55**	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**
V-BR316RA-15-0,63	-	1500 kPa	1600 kPa	-
V-BR316RA-15-1,0	-	1250 kPa	1500 kPa	-
V-BR316RA-15-1,25	-	1250 kPa	1600 kPa	-
V-BR316RA-15-1,6	-	1500 kPa	1600 kPa	-
V-BR316RA-15-2,5	-	1500 kPa	1600 kPa	-
V-BR316RA-15-4	-	1500 kPa	1600 kPa	-
V-BR316RA-20-5	-	1250 kPa	1600 kPa	-
V-BR316RA-20-6,3	-	1250 kPa	1600 kPa	-
V-BR316RA-25-8	-	750 kPa	1500 kPa	-
V-BR316RA-25-10	-	750 kPa	1500 kPa	-
V-BR316RA-32-12,5	-	450 kPa	900 kPa	1500 kPa
V-BR316RA-32-16	-	450 kPa	900 kPa	1500 kPa
V-BR316RA-40-20	-	250 kPa	550 kPa	950 kPa
V-BR316RA-40-25	-	250 kPa	550 kPa	950 kPa
V-BR316RA-50-31,5	-	150 kPa	350 kPa	600 kPa
V-BR316RA-50-40	-	150 kPa	350 kPa	600 kPa

Two-way valves of cast iron with flanged connection | PN6 | up to 150 °C

DIGICONTROL V-BR206GF-...

Data sheet number 85143

For use in heating, ventilation and air conditioning systems to control the flow of hot and cold water from 0...+150 °C. Actuator position from 130 °C only horizontal permissible. With stem heater suitable for water with anti-freeze compounds down to -10 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN6
Rangeability	■ DN 15: 50:1 ■ DN 20-150: 100:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	A -> AB equal %
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR206GF-15-0,63	DN 15	0.63 m³/h	14 mm
V-BR206GF-15-1,25	DN 15	1.25 m³/h	14 mm
V-BR206GF-15-1,6	DN 15	1.6 m³/h	14 mm
V-BR206GF-15-2,5	DN 15	2.5 m³/h	14 mm
V-BR206GF-15-4	DN 15	4.0 m³/h	14 mm
V-BR206GF-20-5	DN 20	5.0 m³/h	14 mm
V-BR206GF-20-6,3	DN 20	6.3 m³/h	14 mm
V-BR206GF-25-8	DN 25	8.0 m³/h	14 mm
V-BR206GF-25-10	DN 25	10.0 m³/h	14 mm
V-BR206GF-32-12,5	DN 32	12.5 m³/h	14 mm
V-BR206GF-32-16	DN 32	16.0 m³/h	14 mm
V-BR206GF-40-20	DN 40	20.0 m³/h	14 mm
V-BR206GF-40-25	DN 40	25.0 m³/h	14 mm
V-BR206GF-50-31,5	DN 50	31.5 m³/h	14 mm
V-BR206GF-50-40	DN 50	40.0 m³/h	14 mm
V-BR206GF-65-50	DN 65	50.0 m³/h	20 mm
V-BR206GF-65-63	DN 65	63.0 m³/h	20 mm
V-BR206GF-80-80	DN 80	80.0 m³/h	30 mm
V-BR206GF-80-100	DN 80	100.0 m³/h	30 mm
V-BR206GF-100-125	DN 100	125.0 m³/h	30 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR206GF-100-160	DN 100	160.0 m³/h	30 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC55	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**	**ΔPMAX S-MC250**	**ΔPMAX S-MC500**	**ΔPMAX S-MC1000**
V-BR206GF-15-0,63	600 kPa	600 kPa	-	-	-	-
V-BR206GF-15-1,25	600 kPa	600 kPa	-	-	-	-
V-BR206GF-15-1,6	600 kPa	600 kPa	-	-	-	-
V-BR206GF-15-2,5	600 kPa	600 kPa	-	-	-	-
V-BR206GF-15-4	600 kPa	600 kPa	-	-	-	-
V-BR206GF-20-5	600 kPa	600 kPa	-	-	-	-
V-BR206GF-20-6,3	600 kPa	600 kPa	-	-	-	-
V-BR206GF-25-8	600 kPa	600 kPa	-	-	-	-
V-BR206GF-25-10	600 kPa	600 kPa	-	-	-	-
V-BR206GF-32-12,5	450 kPa	600 kPa	600 kPa	-	-	-
V-BR206GF-32-16	450 kPa	600 kPa	600 kPa	-	-	-
V-BR206GF-40-20	250 kPa	550 kPa	600 kPa	-	-	-
V-BR206GF-40-25	250 kPa	550 kPa	600 kPa	-	-	-
V-BR206GF-50-31,5	150 kPa	350 kPa	600 kPa	-	-	-
V-BR206GF-50-40	150 kPa	350 kPa	600 kPa	-	-	-
V-BR206GF-65-50	-	150 kPa	350 kPa	600 kPa	600 kPa	-
V-BR206GF-65-63	-	150 kPa	350 kPa	600 kPa	600 kPa	-
V-BR206GF-80-80	-	-	230 kPa	350 kPa	600 kPa	-
V-BR206GF-80-100	-	-	230 kPa	350 kPa	600 kPa	-
V-BR206GF-100-125	-	-	140 kPa	250 kPa	500 kPa	-
V-BR206GF-100-160	-	-	140 kPa	250 kPa	500 kPa	-

Three-way valves of cast iron with flanged connection | PN6 | up to 150 °C

DIGICONTROL V-BR306GF-...

Data sheet number 85143

For use in heating, ventilation and air conditioning systems to control the flow of hot and cold water from 0...+150 °C. Actuator position from 130 °C only horizontal permissible. With stem heater suitable for water with anti-freeze compounds down to -10 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN6
Rangeability	■ DN 15: 50:1 ■ DN 20-150: 100:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	A -> AB equal % / B -> AB linear
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR306GF-15-0,63	DN 15	0.63 m³/h	14 mm
V-BR306GF-15-1,25	DN 15	1.25 m³/h	14 mm
V-BR306GF-15-1,6	DN 15	1.6 m³/h	14 mm
V-BR306GF-15-2,5	DN 15	2.5 m³/h	14 mm
V-BR306GF-15-4	DN 15	4.0 m³/h	14 mm
V-BR306GF-20-5	DN 20	5.0 m³/h	14 mm
V-BR306GF-20-6,3	DN 20	6.3 m³/h	14 mm
V-BR306GF-25-8	DN 25	8.0 m³/h	14 mm
V-BR306GF-25-10	DN 25	10.0 m³/h	14 mm
V-BR306GF-32-12,5	DN 32	12.5 m³/h	14 mm
V-BR306GF-32-16	DN 32	16.0 m³/h	14 mm
V-BR306GF-40-20	DN 40	20.0 m³/h	14 mm
V-BR306GF-40-25	DN 40	25.0 m³/h	14 mm
V-BR306GF-50-31,5	DN 50	31.5 m³/h	14 mm
V-BR306GF-50-40	DN 50	40.0 m³/h	14 mm
V-BR306GF-65-50	DN 65	50.0 m³/h	20 mm
V-BR306GF-65-63	DN 65	63.0 m³/h	20 mm
V-BR306GF-80-80	DN 80	80.0 m³/h	30 mm
V-BR306GF-80-100	DN 80	100.0 m³/h	30 mm
V-BR306GF-100-125	DN 100	125.0 m³/h	30 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR306GF-100-160	DN 100	160.0 m³/h	30 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC55	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**	**ΔPMAX S-MC250**	**ΔPMAX S-MC500**	**ΔPMAX S-MC1000**
V-BR306GF-15-0,63	600 kPa	600 kPa	-	-	-	-
V-BR306GF-15-1,25	600 kPa	600 kPa	-	-	-	-
V-BR306GF-15-1,6	600 kPa	600 kPa	-	-	-	-
V-BR306GF-15-2,5	600 kPa	600 kPa	-	-	-	-
V-BR306GF-15-4	600 kPa	600 kPa	-	-	-	-
V-BR306GF-20-5	600 kPa	600 kPa	-	-	-	-
V-BR306GF-20-6,3	600 kPa	600 kPa	-	-	-	-
V-BR306GF-25-8	600 kPa	600 kPa	-	-	-	-
V-BR306GF-25-10	600 kPa	600 kPa	-	-	-	-
V-BR306GF-32-12,5	450 kPa	600 kPa	600 kPa	-	-	-
V-BR306GF-32-16	450 kPa	600 kPa	600 kPa	-	-	-
V-BR306GF-40-20	250 kPa	550 kPa	600 kPa	-	-	-
V-BR306GF-40-25	250 kPa	550 kPa	600 kPa	-	-	-
V-BR306GF-50-31,5	150 kPa	350 kPa	600 kPa	-	-	-
V-BR306GF-50-40	150 kPa	350 kPa	600 kPa	-	-	-
V-BR306GF-65-50	-	150 kPa	350 kPa	600 kPa	600 kPa	-
V-BR306GF-65-63	-	150 kPa	350 kPa	600 kPa	600 kPa	-
V-BR306GF-80-80	-	-	230 kPa	350 kPa	600 kPa	-
V-BR306GF-80-100	-	-	230 kPa	350 kPa	600 kPa	-
V-BR306GF-100-125	-	-	140 kPa	250 kPa	500 kPa	-
V-BR306GF-100-160	-	-	140 kPa	250 kPa	500 kPa	-

Two-way valves of cast iron with flanged connection | PN16 | up to 150 °C

DIGICONTROL V-BR216GF-...

Data sheet number 85153

For use in heating, ventilation and air conditioning systems to control the flow of hot and cold water from 0...+150 °C. Actuator position from 130 °C only horizontal permissible. With stem heater suitable for water with anti-freeze compounds down to -10 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	■ DN 15: 50:1 ■ DN 20-150: 100:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	A -> AB equal %
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR216GF-15-0,63	DN 15	0.63 m³/h	14 mm
V-BR216GF-15-1,25	DN 15	1.25 m³/h	14 mm
V-BR216GF-15-1,6	DN 15	1.6 m³/h	14 mm
V-BR216GF-15-2,5	DN 15	2.5 m³/h	14 mm
V-BR216GF-15-4	DN 15	4.0 m³/h	14 mm
V-BR216GF-20-5	DN 20	5.0 m³/h	14 mm
V-BR216GF-20-6,3	DN 20	6.3 m³/h	14 mm
V-BR216GF-25-8	DN 25	8.0 m³/h	14 mm
V-BR216GF-25-10	DN 25	10.0 m³/h	14 mm
V-BR216GF-32-12,5	DN 32	12.5 m³/h	14 mm
V-BR216GF-32-16	DN 32	16.0 m³/h	14 mm
V-BR216GF-40-20	DN 40	20.0 m³/h	14 mm
V-BR216GF-40-25	DN 40	25.0 m³/h	14 mm
V-BR216GF-50-31,5	DN 50	31.5 m³/h	14 mm
V-BR216GF-50-40	DN 50	40.0 m³/h	14 mm
V-BR216GF-65-50	DN 65	50.0 m³/h	20 mm
V-BR216GF-65-63	DN 65	63.0 m³/h	20 mm
V-BR216GF-80-80	DN 80	80.0 m³/h	30 mm
V-BR216GF-80-100	DN 80	100.0 m³/h	30 mm
V-BR216GF-100-125	DN 100	125.0 m³/h	30 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR216GF-100-160	DN 100	160.0 m³/h	30 mm
V-BR216GF-125-250	DN 125	250.0 m³/h	50 mm
V-BR216GF-150-315	DN 150	315.0 m³/h	50 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC55	**ΔPMAX S-MC100**	**ΔPMAX S-MC160**	**ΔPMAX S-MC250**	**ΔPMAX S-MC500**	**ΔPMAX S-MC1000**
V-BR216GF-15-0,63	1500 kPa	1600 kPa	-	-	-	-
V-BR216GF-15-1,25	1500 kPa	1600 kPa	-	-	-	-
V-BR216GF-15-1,6	1500 kPa	1600 kPa	-	-	-	-
V-BR216GF-15-2,5	1500 kPa	1600 kPa	-	-	-	-
V-BR216GF-15-4	1500 kPa	1600 kPa	-	-	-	-
V-BR216GF-20-5	1250 kPa	1600 kPa	-	-	-	-
V-BR216GF-20-6,3	1250 kPa	1600 kPa	-	-	-	-
V-BR216GF-25-8	750 kPa	1500 kPa	-	-	-	-
V-BR216GF-25-10	750 kPa	1500 kPa	-	-	-	-
V-BR216GF-32-12,5	450 kPa	900 kPa	1500 kPa	-	-	-
V-BR216GF-32-16	450 kPa	900 kPa	1500 kPa	-	-	-
V-BR216GF-40-20	250 kPa	550 kPa	950 kPa	-	-	-
V-BR216GF-40-25	250 kPa	550 kPa	950 kPa	-	-	-
V-BR216GF-50-31,5	150 kPa	350 kPa	600 kPa	-	-	-
V-BR216GF-50-40	150 kPa	350 kPa	600 kPa	-	-	-
V-BR216GF-65-50	-	150 kPa	350 kPa	600 kPa	1250 kPa	-
V-BR216GF-65-63	-	150 kPa	350 kPa	600 kPa	1250 kPa	-
V-BR216GF-80-80	-	-	230 kPa	350 kPa	850 kPa	-
V-BR216GF-80-100	-	-	230 kPa	350 kPa	850 kPa	-
V-BR216GF-100-125	-	-	140 kPa	250 kPa	500 kPa	-
V-BR216GF-100-160	-	-	140 kPa	250 kPa	500 kPa	-
V-BR216GF-125-250	-	-	-	160 kPa	370 kPa	800 kPa
V-BR216GF-150-315	-	-	-	120 kPa	270 kPa	550 kPa

Three-way valves of cast iron with flanged connection | PN16 | up to 150 °C

DIGICONTROL V-BR316GF-...

Data sheet number 85153

For use in heating, ventilation and air conditioning systems to control the flow of hot and cold water from 0...+150 °C. Actuator position from 130 °C only horizontal permissible. With stem heater suitable for water with anti-freeze compounds down to -10 °C. The valves are tightly closed in the end positions.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	■ DN 15: 50:1 ■ DN 20-150: 100:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (tight sealing)
Characteristic line	A -> AB equal % / B -> AB linear
Cone	Brass CW614N
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR316GF-15-0,63	DN 15	0.63 m³/h	14 mm
V-BR316GF-15-1,25	DN 15	1.25 m³/h	14 mm
V-BR316GF-15-1,6	DN 15	1.6 m³/h	14 mm
V-BR316GF-15-2,5	DN 15	2.5 m³/h	14 mm
V-BR316GF-15-4	DN 15	4.0 m³/h	14 mm
V-BR316GF-20-5	DN 20	5.0 m³/h	14 mm
V-BR316GF-20-6,3	DN 20	6.3 m³/h	14 mm
V-BR316GF-25-8	DN 25	8.0 m³/h	14 mm
V-BR316GF-25-10	DN 25	10.0 m³/h	14 mm
V-BR316GF-32-12,5	DN 32	12.5 m³/h	14 mm
V-BR316GF-32-16	DN 32	16.0 m³/h	14 mm
V-BR316GF-40-20	DN 40	20.0 m³/h	14 mm
V-BR316GF-40-25	DN 40	25.0 m³/h	14 mm
V-BR316GF-50-31,5	DN 50	31.5 m³/h	14 mm
V-BR316GF-50-40	DN 50	40.0 m³/h	14 mm
V-BR316GF-65-50	DN 65	50.0 m³/h	20 mm
V-BR316GF-65-63	DN 65	63.0 m³/h	20 mm
V-BR316GF-80-80	DN 80	80.0 m³/h	30 mm
V-BR316GF-80-100	DN 80	100.0 m³/h	30 mm
V-BR316GF-100-125	DN 100	125.0 m³/h	30 mm

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◀ CONTINUED FROM PAGE 290

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	STROKE
V-BR316GF-100-160	DN 100	160.0 m³/h	30 mm
V-BR316GF-125-250	DN 125	250.0 m³/h	50 mm
V-BR316GF-150-315	DN 150	315.0 m³/h	50 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC55	ΔPMAX S-MC100	ΔPMAX S-MC160	ΔPMAX S-MC250	ΔPMAX S-MC500	ΔPMAX S-MC1000
V-BR316GF-15-0,63	1500 kPa	1600 kPa	-	-	-	-
V-BR316GF-15-1,25	1500 kPa	1600 kPa	-	-	-	-
V-BR316GF-15-1,6	1250 kPa	1600 kPa	-	-	-	-
V-BR316GF-15-2,5	1500 kPa	1600 kPa	-	-	-	-
V-BR316GF-15-4	1500 kPa	1600 kPa	-	-	-	-
V-BR316GF-20-5	1250 kPa	1600 kPa	-	-	-	-
V-BR316GF-20-6,3	1250 kPa	1600 kPa	-	-	-	-
V-BR316GF-25-8	750 kPa	1500 kPa	-	-	-	-
V-BR316GF-25-10	750 kPa	1500 kPa	-	-	-	-
V-BR316GF-32-12,5	450 kPa	900 kPa	1500 kPa	-	-	-
V-BR316GF-32-16	450 kPa	900 kPa	1500 kPa	-	-	-
V-BR316GF-40-20	250 kPa	550 kPa	950 kPa	-	-	-
V-BR316GF-40-25	250 kPa	550 kPa	950 kPa	-	-	-
V-BR316GF-50-31,5	150 kPa	350 kPa	600 kPa	-	-	-
V-BR316GF-50-40	150 kPa	350 kPa	600 kPa	-	-	-
V-BR316GF-65-50	-	150 kPa	350 kPa	600 kPa	1250 kPa	-
V-BR316GF-65-63	-	150 kPa	350 kPa	600 kPa	1250 kPa	-
V-BR316GF-80-80	-	-	230 kPa	350 kPa	850 kPa	-
V-BR316GF-80-100	-	-	230 kPa	350 kPa	850 kPa	-
V-BR316GF-100-125	-	-	140 kPa	250 kPa	500 kPa	-
V-BR316GF-100-160	-	-	140 kPa	250 kPa	500 kPa	-
V-BR316GF-125-250	-	-	-	160 kPa	370 kPa	800 kPa
V-BR316GF-150-315	-	-	-	120 kPa	270 kPa	550 kPa

Two-way valves of cast iron with flanged connection | PN16 | up to 350 °C

DIGICONTROL V-BR216-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 - seat-leakage IV L1 (≤ 0.01 % of kvs-value)
Characteristic line	Perforated plug: equal %, Option: linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR216-125-125,0	DN 125	125.0 m^3/h	•	60 mm
V-BR216-125-160,0	DN 125	160.0 m^3/h		60 mm
V-BR216-125-200,0	DN 125	200.0 m^3/h	•	60 mm
V-BR216-125-250,0	DN 125	250.0 m^3/h		60 mm
V-BR216-150-200,0	DN 150	200.0 m^3/h	•	60 mm
V-BR216-150-250,0	DN 150	250.0 m^3/h		60 mm
V-BR216-150-315,0	DN 150	315.0 m^3/h	•	60 mm
V-BR216-150-400,0	DN 150	400.0 m^3/h		60 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	**ΔPMAX S-MC163**	**ΔPMAX S-MC253**	**ΔPMAX S-MC503**	**ΔPMAX S-MC1003**	**ΔPMAX S-MC1503**
V-BR216-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR216-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR216-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	**ΔPMAX S-MC163**	**ΔPMAX S-MC253**	**ΔPMAX S-MC503**	**ΔPMAX S-MC1003**	**ΔPMAX S-MC1503**
V-BR216-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR216-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR216-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR216-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR216-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Three-way valves of cast iron with flanged connection | PN16 | up to 350 °C

DIGICONTROL V-BR316-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN16
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	≥ DN 50: A->AB equal % mod. (Option: linear), B->AB linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast iron EN-JL1040

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR316-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR316-125-160,0	DN 125	160.0 m³/h	•	60 mm
V-BR316-125-200,0	DN 125	200.0 m³/h		60 mm
V-BR316-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR316-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR316-150-250,0	DN 150	250.0 m³/h	•	60 mm
V-BR316-150-315,0	DN 150	315.0 m³/h		60 mm
V-BR316-150-400,0	DN 150	400.0 m³/h		60 mm

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	**ΔPMAX S-MC163**	**ΔPMAX S-MC253**	**ΔPMAX S-MC503**	**ΔPMAX S-MC1003**	**ΔPMAX S-MC1503**
V-BR316-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR316-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR316-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR316-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR316-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR316-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR316-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR316-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Two-way valves of spheroidal graphite with flanged connection | PN25 | up to 350 °C

DIGICONTROL V-BR225-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN25
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	≤ DN 50: equal %, Option: linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Spheroidal graphite EN-JS1024

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR225-15-0,16	DN 15	0.16 m³/h		20 mm
V-BR225-15-0,25	DN 15	0.25 m³/h		20 mm
V-BR225-15-0,40	DN 15	0.4 m³/h		20 mm
V-BR225-15-0,63	DN 15	0.63 m³/h		20 mm
V-BR225-15-1,0	DN 15	1.0 m³/h		20 mm
V-BR225-15-1,25	DN 15	1.25 m³/h		20 mm
V-BR225-15-1,60	DN 15	1.6 m³/h		20 mm
V-BR225-15-2,50	DN 15	2.5 m³/h		20 mm
V-BR225-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR225-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR225-20-4,0	DN 20	4.0 m³/h		20 mm
V-BR225-20-5,0	DN 20	5.0 m³/h	•	20 mm
V-BR225-20-6,3	DN 20	6.3 m³/h		20 mm
V-BR225-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR225-25-6,3	DN 25	6.3 m³/h		20 mm
V-BR225-25-8,0	DN 25	8.0 m³/h	•	20 mm
V-BR225-25-10,0	DN 25	10.0 m³/h		20 mm
V-BR225-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR225-32-10,0	DN 32	10.0 m³/h		20 mm

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5.2 Fittings and drives

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR225-32-12,5	DN 32	12.5 m³/h	•	20 mm
V-BR225-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR225-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR225-40-16,0	DN 40	16.0 m³/h		20 mm
V-BR225-40-20,0	DN 40	20.0 m³/h	•	20 mm
V-BR225-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR225-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR225-50-25,0	DN 50	25.0 m³/h		30 mm
V-BR225-50-31,5	DN 50	31.5 m³/h	•	30 mm
V-BR225-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR225-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR225-65-40,0	DN 65	40.0 m³/h		30 mm
V-BR225-65-50,0	DN 65	50.0 m³/h	•	30 mm
V-BR225-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR225-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR225-80-63,0	DN 80	63.0 m³/h		50 mm
V-BR225-80-80,0	DN 80	80.0 m³/h	•	50 mm
V-BR225-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR225-100-80,0	DN 100	80,0 m³/h	•	50 mm
V-BR225-100-100,0	DN 100	100.0 m³/h		50 mm
V-BR225-100-125,0	DN 100	125.0 m³/h	•	50 mm
V-BR225-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR225-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR225-125-160,0	DN 125	160.0 m³/h		60 mm
V-BR225-125-200,0	DN 125	200.0 m³/h	•	60 mm
V-BR225-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR225-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR225-150-250,0	DN 150	250.0 m³/h		60 mm
V-BR225-150-315,0	DN 150	315.0 m³/h	•	60 mm
V-BR225-150-400,0	DN 150	400.0 m³/h		60 mm

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR							
	ΔPMAX S-MC103	ΔPMAX S-MC103SE	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC253SE	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR225-15-0,16	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-0,25	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-0,40	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-0,63	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-1,0	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-1,25	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-1,60	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-2,50	3500 kPa	3500 kPa	4000 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-15-4,0	1250 kPa	1250 kPa	2400 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-20-2,5	1250 kPa	1250 kPa	2400 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-20-4,0	1250 kPa	1250 kPa	2400 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-20-5,0	1250 kPa	1250 kPa	2400 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-20-6,3	1250 kPa	1250 kPa	2400 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR225-25-5,0	1050 kPa	1050 kPa	2050 kPa	3500 kPa	3700 kPa	4000 kPa	-	-
V-BR225-25-6,3	1050 kPa	1050 kPa	2050 kPa	3500 kPa	3700 kPa	4000 kPa	-	-
V-BR225-25-8,0	1050 kPa	1050 kPa	2050 kPa	3500 kPa	3700 kPa	4000 kPa	-	-
V-BR225-25-10,0	1050 kPa	1050 kPa	2050 kPa	3500 kPa	3700 kPa	4000 kPa	-	-
V-BR225-32-8,0	600 kPa	600 kPa	1250 kPa	2200 kPa	2300 kPa	4000 kPa	-	-
V-BR225-32-10,0	600 kPa	600 kPa	1250 kPa	2200 kPa	2300 kPa	4000 kPa	-	-
V-BR225-32-12,5	600 kPa	600 kPa	1250 kPa	2200 kPa	2300 kPa	3150 kPa	-	-

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR							
	ΔPMAX S-MC103	ΔPMAX S-MC103SE	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC253SE	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR225-32-16,0	600 kPa	600 kPa	1250 kPa	2200 kPa	2300 kPa	4000 kPa	-	-
V-BR225-40-12,5	350 kPa	350 kPa	750 kPa	1400 kPa	1500 kPa	3150 kPa	-	-
V-BR225-40-16,0	350 kPa	350 kPa	750 kPa	1400 kPa	1500 kPa	3150 kPa	-	-
V-BR225-40-20,0	350 kPa	350 kPa	750 kPa	1400 kPa	1500 kPa	3150 kPa	-	-
V-BR225-40-25,0	350 kPa	350 kPa	750 kPa	1400 kPa	1500 kPa	3150 kPa	-	-
V-BR225-50-20,0	-		450 kPa	850 kPa	900 kPa	1950 kPa	-	-
V-BR225-50-25,0	-		450 kPa	850 kPa	900 kPa	1950 kPa	-	-
V-BR225-50-31,5	-		450 kPa	850 kPa	900 kPa	1950 kPa	-	-
V-BR225-50-40,0	-		450 kPa	850 kPa	900 kPa	1950 kPa	-	-
V-BR225-65-31,5	-		300 kPa	540 kPa	560 kPa	1250 kPa	2150 kPa	-
V-BR225-65-40,0	-		300 kPa	540 kPa	560 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR225-65-50,0	-		300 kPa	540 kPa	560 kPa	1250 kPa	2150 kPa	-
V-BR225-65-63,0	-		300 kPa	540 kPa	560 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR225-80-50,0	-		-	350 kPa	350 kPa	850 kPa	1500 kPa	-
V-BR225-80-63,0	-		-	350 kPa	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR225-80-80,0	-		-	350 kPa	350 kPa	850 kPa	1500 kPa	-
V-BR225-80-100,0	-		-	350 kPa	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR225-100-80,0	-		-	200 kPa	200 kPa	500 kPa	950 kPa	-
V-BR225-100-100,0	-		-	200 kPa	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR225-100-125,0	-		-	200 kPa	200 kPa	500 kPa	950 kPa	-

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR							
	ΔPMAX S-MC103	ΔPMAX S-MC103SE	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC253SE	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR225-100-160,0	-		-	200 kPa	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR225-125-125,0	-		-	-		290 kPa	500 kPa	950 kPa
V-BR225-125-160,0	-		-	-		290 kPa	500 kPa	950 kPa
V-BR225-125-200,0	-		-	-		290 kPa	500 kPa	950 kPa
V-BR225-125-250,0	-		-	-		290 kPa	500 kPa	950 kPa
V-BR225-150-200,0	-		-	-		190 kPa	350 kPa	700 kPa
V-BR225-150-250,0	-		-	-		190 kPa	350 kPa	700 kPa
V-BR225-150-315,0	-		-	-		190 kPa	350 kPa	700 kPa
V-BR225-150-400,0	-		-	-		190 kPa	350 kPa	700 kPa

Three-way valves of spheroidal graphite with flanged connection | PN25 | up to 350 °C

DIGICONTROL V-BR325-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN25
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	■ ≤ DN 40: A->AB equal % (Option: linear), B->AB linear ■ ≥ DN 50: A->AB equal % mod. (Option: linear), B->AB linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Spheroidal graphite EN-JS1024

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR325-15-2,5	DN 15	2.5 m³/h		20 mm
V-BR325-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR325-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR325-20-4,0	DN 20	4.0 m³/h	•	20 mm
V-BR325-20-5,0	DN 20	5.0 m³/h		20 mm
V-BR325-20-6,3	DN 20	6.3 m³/h		20 mm
V-BR325-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR325-25-6,3	DN 25	6.3 m³/h	•	20 mm
V-BR325-25-8,0	DN 25	8.0 m³/h		20 mm
V-BR325-25-10,0	DN 25	10.0 m³/h		20 mm
V-BR325-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR325-32-10,0	DN 32	10.0 m³/h	•	20 mm
V-BR325-32-12,5	DN 32	12.5 m³/h		20 mm
V-BR325-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR325-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR325-40-16,0	DN 40	16.0 m³/h	•	20 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR325-40-20,0	DN 40	20.0 m³/h		20 mm
V-BR325-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR325-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR325-50-25,0	DN 50	25.0 m³/h	•	30 mm
V-BR325-50-31,5	DN 50	31.5 m³/h		30 mm
V-BR325-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR325-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR325-65-40,0	DN 65	40.0 m³/h	•	30 mm
V-BR325-65-50,0	DN 65	50.0 m³/h		30 mm
V-BR325-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR325-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR325-80-63,0	DN 80	63.0 m³/h	•	50 mm
V-BR325-80-80,0	DN 80	80.0 m³/h		50 mm
V-BR325-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR325-100-80,0	DN 100	80.0 m³/h	•	50 mm
V-BR325-100-100,0	DN 100	100.0 m³/h	•	50 mm
V-BR325-100-125,0	DN 100	125.0 m³/h		50 mm
V-BR325-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR325-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR325-125-160,0	DN 125	160.0 m³/h	•	60 mm
V-BR325-125-200,0	DN 125	200.0 m³/h	•	60 mm
V-BR325-125-250,0	DN 125	250.0 m³/h	•	60 mm
V-BR325-150-200,0	DN 150	200.0 m³/h		60 mm
V-BR325-150-250,0	DN 150	250.0 m³/h		60 mm
V-BR325-150-315,0	DN 150	315.0 m³/h		60 mm
V-BR325-150-400,0	DN 150	400.0 m³/h		60 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	**ΔPMAX S-MC163**	**ΔPMAX S-MC253**	**ΔPMAX S-MC503**	**ΔPMAX S-MC1003**	**ΔPMAX S-MC1503**
V-BR325-15-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	**ΔPMAX S-MC163**	**ΔPMAX S-MC253**	**ΔPMAX S-MC503**	**ΔPMAX S-MC1003**	**ΔPMAX S-MC1503**
V-BR325-15-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR325-20-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR325-20-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR325-20-5,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR325-20-6,3	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR325-25-5,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR325-25-6,3	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR325-25-8,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR325-25-10,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR325-32-8,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR325-32-10,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR325-32-12,5	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR325-32-16,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR325-40-12,5	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR325-40-16,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR325-40-20,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR325-40-25,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR325-50-20,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR325-50-25,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR325-50-31,5	-	450 kPa	850 kPa	1950 kPa	-	-

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR325-50-40,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR325-65-31,5	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR325-65-40,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR325-65-50,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR325-65-63,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR325-80-50,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR325-80-63,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR325-80-80,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR325-80-100,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR325-100-80,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR325-100-100,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR325-100-125,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR325-100-160,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR325-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR325-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR325-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR325-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR325-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR325-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR325-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR325-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Two-way valves of cast steel with flanged connection | PN40 | up to 350 °C

DIGICONTROL V-BR240S-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN40
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	■ ≤ DN 50: equal %, Option: linear ■ ≥ DN 65: equal % mod., Option: linear ■ Perforated plug: equal %, Option: linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast steel 1.0619+N

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR240S-15-0,16	DN 15	0.16 m³/h		20 mm
V-BR240S-15-0,25	DN 15	0.25 m³/h		20 mm
V-BR240S-15-0,40	DN 15	0.4 m³/h		20 mm
V-BR240S-15-0,63	DN 15	0.63 m³/h		20 mm
V-BR240S-15-1,0	DN 15	1.0 m³/h		20 mm
V-BR240S-15-1,25	DN 15	1.25 m³/h		20 mm
V-BR240S-15-1,60	DN 15	1.6 m³/h		20 mm
V-BR240S-15-2,5	DN 15	2.5 m³/h		20 mm
V-BR240S-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR240S-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR240S-20-4,0	DN 20	4.0 m³/h		20 mm
V-BR240S-20-5,0	DN 20	5.0 m³/h	•	20 mm
V-BR240S-20-6,3	DN 20	6.3 m³/h		20 mm
V-BR240S-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR240S-25-6,3	DN 25	6.3 m³/h		20 mm
V-BR240S-25-8,0	DN 25	8.0 m³/h	•	20 mm
V-BR240S-25-10,0	DN 25	10.0 m³/h		20 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR240S-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR240S-32-10,0	DN 32	10.0 m³/h		20 mm
V-BR240S-32-12,5	DN 32	12.5 m³/h	•	20 mm
V-BR240S-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR240S-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR240S-40-16,0	DN 40	16.0 m³/h		20 mm
V-BR240S-40-20,0	DN 40	20.0 m³/h	•	20 mm
V-BR240S-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR240S-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR240S-50-25,0	DN 50	25.0 m³/h		20 mm
V-BR240S-50-31,5	DN 50	31.5 m³/h	•	30 mm
V-BR240S-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR240S-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR240S-65-40,0	DN 65	40.0 m³/h		30 mm
V-BR240S-65-50,0	DN 65	50.0 m³/h	•	30 mm
V-BR240S-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR240S-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR240S-80-63,0	DN 80	63.0 m³/h		50 mm
V-BR240S-80-80,0	DN 80	80.0 m³/h	•	50 mm
V-BR240S-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR240S-100-80,0	DN 100	80.0 m³/h	•	50 mm
V-BR240S-100-100,0	DN 100	100.0 m³/h		50 mm
V-BR240S-100-125,0	DN 100	125.0 m³/h	•	50 mm
V-BR240S-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR240S-125-125,0	DN 125	125.0 m³/h		60 mm
V-BR240S-125-160,0	DN 125	160.0 m³/h		60 mm
V-BR240S-125-200,0	DN 125	200.0 m³/h	•	60 mm
V-BR240S-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR240S-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR240S-150-250,0	DN 150	250.0 m³/h		60 mm
V-BR240S-150-315,0	DN 150	315.0 m³/h	•	60 mm
V-BR240S-150-400,0	DN 150	400.0 m³/h		60 mm

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◂ CONTINUED FROM PAGE 307

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR240S-15-0,16	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-0,25	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-0,40	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-0,63	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-1,0	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-1,25	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-1,60	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-2,5	3500 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-15-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-20-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-20-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-20-5,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-20-6,3	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240S-25-5,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240S-25-6,3	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240S-25-8,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240S-25-10,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240S-32-8,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240S-32-10,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240S-32-12,5	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240S-32-16,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240S-40-12,5	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240S-40-16,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240S-40-20,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240S-40-25,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240S-50-20,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240S-50-25,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240S-50-31,5	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240S-50-40,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240S-65-31,5	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR240S-65-40,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa

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POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR240S-65-50,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR240S-65-63,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR240S-80-50,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR240S-80-63,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR240S-80-80,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR240S-80-100,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR240S-100-80,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR240S-100-100,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR240S-100-125,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR240S-100-160,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR240S-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240S-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240S-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240S-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240S-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240S-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240S-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240S-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Three-way valves of cast steel with flanged connection | PN40 | up to 350 °C

DIGICONTROL V-BR340S-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN40
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	■ ≤ DN 40: A->AB equal % (Option: linear), B->AB linear ■ ≥ DN 50: A->AB equal % mod. (Option: linear), B->AB linear
Cone	CrNi-steel 1.4057
Spindle	CrMo-steel 1.4122
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Cast steel 1.0619+N

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR340S-15-2,5	DN 15	2.5 m³/h		20 mm
V-BR340S-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR340S-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR340S-20-4,0	DN 20	4.0 m³/h	•	20 mm
V-BR340S-20-5,0	DN 20	5.0 m³/h		20 mm
V-BR340S-20-6,3	DN 20	6.3 m³/h		20 mm
V-BR340S-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR340S-25-6,3	DN 25	6.3 m³/h	•	20 mm
V-BR340S-25-8,0	DN 25	8.0 m³/h		20 mm
V-BR340S-25-10,0	DN 25	10.0 m³/h		20 mm
V-BR340S-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR340S-32-10,0	DN 32	10.0 m³/h	•	20 mm
V-BR340S-32-12,5	DN 32	12.5 m³/h		20 mm
V-BR340S-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR340S-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR340S-40-16,0	DN 40	16.0 m³/h	•	20 mm
V-BR340S-40-20,0	DN 40	20.0 m³/h		20 mm

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TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR340S-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR340S-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR340S-50-25,0	DN 50	25.0 m³/h	•	30 mm
V-BR340S-50-31,5	DN 50	31.5 m³/h		30 mm
V-BR340S-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR340S-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR340S-65-40,0	DN 65	40.0 m³/h	•	30 mm
V-BR340S-65-50,0	DN 65	50.0 m³/h		30 mm
V-BR340S-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR340S-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR340S-80-63,0	DN 80	63.0 m³/h	•	50 mm
V-BR340S-80-80,0	DN 80	80.0 m³/h		50 mm
V-BR340S-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR340S-100-80,0	DN 100	80.0 m³/h	•	50 mm
V-BR340S-100-100,0	DN 100	100.0 m³/h	•	50 mm
V-BR340S-100-125,0	DN 100	125.0 m³/h		50 mm
V-BR340S-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR340S-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR340S-125-160,0	DN 125	160.0 m³/h	•	60 mm
V-BR340S-125-200,0	DN 125	200.0 m³/h		60 mm
V-BR340S-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR340S-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR340S-150-250,0	DN 150	250.0 m³/h	•	60 mm
V-BR340S-150-315,0	DN 150	315.0 m³/h		60 mm
V-BR340S-150-400,0	DN 150	400.0 m³/h		60 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340S-15-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340S-15-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340S-20-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340S-20-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-

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◂ CONTINUED FROM PAGE 311

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340S-20-5,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340S-20-6,3	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340S-25-5,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340S-25-6,3	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340S-25-8,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340S-25-10,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340S-32-8,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340S-32-10,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340S-32-12,5	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340S-32-16,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340S-40-12,5	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340S-40-16,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340S-40-20,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340S-40-25,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340S-50-20,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340S-50-25,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340S-50-31,5	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340S-50-40,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340S-65-31,5	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR340S-65-40,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR340S-65-50,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR340S-65-63,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR340S-80-50,0	-	-	350 kPa	880 kPa	1500 kPa	-
V-BR340S-80-63,0	-	-	350 kPa	880 kPa	1500 kPa	-
V-BR340S-80-80,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR340S-80-100,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR340S-100-80,0	-	-	200 kPa	540 kPa	950 kPa	-
V-BR340S-100-100,0	-	-	200 kPa	540 kPa	950 kPa	-
V-BR340S-100-125,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR340S-100-160,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR340S-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa

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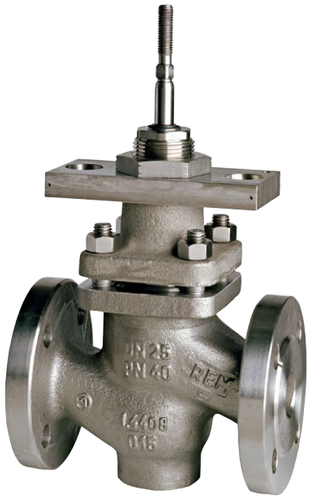
POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340S-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340S-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340S-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340S-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR340S-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR340S-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR340S-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Two-way valves of stainless steel with flanged connection | PN40 | up to 350 °C

DIGICONTROL V-BR240E-...

Data sheet number 85162



Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN40
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	■ ≤ DN 50: equal %, Option: linear ■ ≥ DN 65: equal % mod., Option: linear ■ Perforated plug: equal %, Option: linear
Cone	CrNi-steel 1.4571
Spindle	CrNi-steel 1.4571
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Austen. Stainless steel 1.4408

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR240E-15-0,16	DN 15	0.16 m³/h		20 mm
V-BR240E-15-0,25	DN 15	0.25 m³/h		20 mm
V-BR240E-15-0,40	DN 15	0.4 m³/h		20 mm
V-BR240E-15-0,63	DN 15	0.63 m³/h		20 mm
V-BR240E-15-1,0	DN 15	1.0 m³/h		20 mm
V-BR240E-15-1,25	DN 15	1.25 m³/h		20 mm
V-BR240E-15-1,60	DN 15	1.6 m³/h		20 mm
V-BR240E-15-2,5	DN 15	2.5 m³/h		20 mm
V-BR240E-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR240E-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR240E-20-4,0	DN 20	4.0 m³/h		20 mm
V-BR240E-20-5,0	DN 20	5.0 m³/h	•	20 mm
V-BR240E-20-6,3	DN 20	6.3 m³/h		20 mm
V-BR240E-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR240E-25-6,3	DN 25	6.3 m³/h		20 mm
V-BR240E-25-8,0	DN 25	8.0 m³/h	•	20 mm
V-BR240E-25-10,0	DN 25	10.0 m³/h		20 mm

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◀ CONTINUED FROM PAGE 314

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR240E-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR240E-32-10	DN 32	10.0 m³/h		20 mm
V-BR240E-32-12,5	DN 32	12.5 m³/h	•	20 mm
V-BR240E-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR240E-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR240E-40-16,0	DN 40	16.0 m³/h		20 mm
V-BR240E-40-20,0	DN 40	20.0 m³/h	•	20 mm
V-BR240E-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR240E-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR240E-50-25,0	DN 50	25.0 m³/h		30 mm
V-BR240E-50-31,5	DN 50	31.5 m³/h	•	30 mm
V-BR240E-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR240E-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR240E-65-40,0	DN 65	40.0 m³/h		30 mm
V-BR240E-65-50,0	DN 65	50.0 m³/h	•	30 mm
V-BR240E-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR240E-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR240E-80-63,0	DN 80	63.0 m³/h		50 mm
V-BR240E-80-80,0	DN 80	80.0 m³/h	•	50 mm
V-BR240E-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR240E-100-80,0	DN 100	80.0 m³/h	•	50 mm
V-BR240E-100-100,0	DN 100	100.0 m³/h		50 mm
V-BR240E-100-125,0	DN 100	125.0 m³/h	•	50 mm
V-BR240E-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR240E-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR240E-125-160,0	DN 125	160.0 m³/h		60 mm
V-BR240E-125-200,0	DN 125	200.0 m³/h	•	60 mm
V-BR240E-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR240E-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR240E-150-250,0	DN 150	250.0 m³/h		60 mm
V-BR240E-150-315,0	DN 150	315.0 m³/h	•	60 mm
V-BR240E-150-400,0	DN 150	400.0 m³/h		60 mm

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◂ CONTINUED FROM PAGE 315

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR240E-15-0,16	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-0,25	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-0,40	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-0,63	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-1,0	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-1,25	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-1,60	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-2,5	3500 kPa	4000 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-15-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-20-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-20-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-20-5,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-20-6,3	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR240E-25-5,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240E-25-6,3	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240E-25-8,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240E-25-10,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR240E-32-8,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240E-32-10	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240E-32-12,5	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240E-32-16,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR240E-40-12,5	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240E-40-16,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240E-40-20,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240E-40-25,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR240E-50-20,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240E-50-25,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240E-50-31,5	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240E-50-40,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR240E-65-31,5	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR240E-65-40,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa

CONTINUED ON PAGE 317 ▸

◂ CONTINUED FROM PAGE 316

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR240E-65-50,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR240E-65-63,0	-	300 kPa	540 kPa	850 kPa	2150 kPa	4000 kPa
V-BR240E-80-50,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR240E-80-63,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR240E-80-80,0	-	-	350 kPa	850 kPa	1500 kPa	-
V-BR240E-80-100,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR240E-100-80,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR240E-100-100,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR240E-100-125,0	-	-	200 kPa	500 kPa	950 kPa	-
V-BR240E-100-160,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR240E-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240E-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240E-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240E-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR240E-150-200,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240E-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240E-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR240E-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Three-way valves of stainless steel with flanged connection | PN40 | up to 350 °C

DIGICONTROL V-BR340E-...

Data sheet number 85162

Suitable in building and process engineering for various media 0...+200 °C. Suitable with stuffing box extension or stem seal with stainless steel bellow from -10...+350 °C and for austenitic cast steel from -30...+350 °C. Suitable with stem heater for water with antifreeze compounds down to -10 °C and for austenitic cast steel down to -30 °C.

TECHNICAL DATA

Pressure stage	PN40
Rangeability	≥ 50:1
Overall length	EN 558-1 basic series 1
Leakage rate	EN 1349 – seat-leakage VI G 1 (≤ 0,01 % of kvs-value)
Characteristic line	■ ≤ DN 40: A->AB equal % (Option: linear), B->AB linear ■ ≥ DN 50: A->AB equal % mod. (Option: linear), B->AB linear
Cone	CrNi-Stahl 1.4571
Spindle	CrNi-Stahl 1.4571
Stem sealing	O-rings EPDM, FKM, Fluoraz or PTFE lip seals or pure graphite packing depending on medium and operating temperature
Mounting	Flanges acc. EN 1092-2 type 21
Housing	Austen. Stainless steel 1.4408

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR340E-15-2,5	DN 15	2.5 m³/h		20 mm
V-BR340E-15-4,0	DN 15	4.0 m³/h		20 mm
V-BR340E-20-2,5	DN 20	2.5 m³/h	•	20 mm
V-BR340E-20-4,0	DN 20	4.0 m³/h	•	20 mm
V-BR340E-20-5,0	DN 20	5.0 m³/h		20 mm
V-BR340E-20-6,3	DN 20	6.3 m³/h	•	20 mm
V-BR340E-25-5,0	DN 25	5.0 m³/h	•	20 mm
V-BR340E-25-6,3	DN 25	6.3 m³/h		20 mm
V-BR340E-25-8,0	DN 25	8.0 m³/h		20 mm
V-BR340E-25-10,0	DN 25	10.0 m³/h		20 mm
V-BR340E-32-8,0	DN 32	8.0 m³/h	•	20 mm
V-BR340E-32-10,0	DN 32	10.0 m³/h	•	20 mm
V-BR340E-32-12,5	DN 32	12.5 m³/h		20 mm
V-BR340E-32-16,0	DN 32	16.0 m³/h		20 mm
V-BR340E-40-12,5	DN 40	12.5 m³/h	•	20 mm
V-BR340E-40-16,0	DN 40	16.0 m³/h	•	20 mm
V-BR340E-40-20,0	DN 40	20.0 m³/h		20 mm

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◂ CONTINUED FROM PAGE 318

TYPE LIST

TYPE	DIAMETER NOMINAL	KVS	SPECIAL KVS VALUE	STROKE
V-BR340E-40-25,0	DN 40	25.0 m³/h		20 mm
V-BR340E-50-20,0	DN 50	20.0 m³/h	•	30 mm
V-BR340E-50-25,0	DN 50	25.0 m³/h	•	30 mm
V-BR340E-50-31,5	DN 50	31.5 m³/h		30 mm
V-BR340E-50-40,0	DN 50	40.0 m³/h		30 mm
V-BR340E-65-31,5	DN 65	31.5 m³/h	•	30 mm
V-BR340E-65-40,0	DN 65	40.0 m³/h	•	30 mm
V-BR340E-65-50,0	DN 65	50.0 m³/h		30 mm
V-BR340E-65-63,0	DN 65	63.0 m³/h		30 mm
V-BR340E-80-50,0	DN 80	50.0 m³/h	•	50 mm
V-BR340E-80-63,0	DN 80	63.0 m³/h	•	50 mm
V-BR340E-80-80,0	DN 80	80.0 m³/h		50 mm
V-BR340E-80-100,0	DN 80	100.0 m³/h		50 mm
V-BR340E-100-80,0	DN 100	80.0 m³/h	•	50 mm
V-BR340E-100-100,0	DN 100	100.0 m³/h	•	50 mm
V-BR340E-100-125,0	DN 100	125.0 m³/h		50 mm
V-BR340E-100-160,0	DN 100	160.0 m³/h		50 mm
V-BR340E-125-125,0	DN 125	125.0 m³/h	•	60 mm
V-BR340E-125-160,0	DN 125	160.0 m³/h	•	60 mm
V-BR340E-125-200,0	DN 125	200.0 m³/h		60 mm
V-BR340E-125-250,0	DN 125	250.0 m³/h		60 mm
V-BR340E-150-200,0	DN 150	200.0 m³/h	•	60 mm
V-BR340E-150-250,0	DN 150	250.0 m³/h	•	60 mm
V-BR340E-150-315,0	DN 150	315.0 m³/h		60 mm
V-BR340E-150-400,0	DN 150	400.0 m³/h		60 mm

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340E-15-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340E-15-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340E-20-2,5	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340E-20-4,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-

CONTINUED ON PAGE 320 ▸

◂ CONTINUED FROM PAGE 319

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340E-20-5,0	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340E-20-6,3	1250 kPa	2400 kPa	4000 kPa	4000 kPa	-	-
V-BR340E-25-5,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340E-25-6,3	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340E-25-8,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340E-25-10,0	1050 kPa	2050 kPa	3500 kPa	4000 kPa	-	-
V-BR340E-32-8,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340E-32-10,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340E-32-12,5	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340E-32-16,0	600 kPa	1250 kPa	2200 kPa	4000 kPa	-	-
V-BR340E-40-12,5	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340E-40-16,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340E-40-20,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340E-40-25,0	350 kPa	750 kPa	1400 kPa	3150 kPa	-	-
V-BR340E-50-20,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340E-50-25,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340E-50-31,5	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340E-50-40,0	-	450 kPa	850 kPa	1950 kPa	-	-
V-BR340E-65-31,5	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR340E-65-40,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	-
V-BR340E-65-50,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR340E-65-63,0	-	300 kPa	540 kPa	1250 kPa	2150 kPa	4000 kPa
V-BR340E-80-50,0	-	-	350 kPa	880 kPa	1500 kPa	-
V-BR340E-80-63,0	-	-	350 kPa	880 kPa	1500 kPa	-
V-BR340E-80-80,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR340E-80-100,0	-	-	350 kPa	850 kPa	1500 kPa	2800 kPa
V-BR340E-100-80,0	-	-	200 kPa	540 kPa	950 kPa	-
V-BR340E-100-100,0	-	-	200 kPa	540 kPa	950 kPa	-
V-BR340E-100-125,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR340E-100-160,0	-	-	200 kPa	500 kPa	950 kPa	1700 kPa
V-BR340E-125-125,0	-	-	-	290 kPa	500 kPa	950 kPa

CONTINUED ON PAGE 321 ▸

◂ CONTINUED FROM PAGE 320

POSSIBLE COMBINATIONS

VALVE TYPE	VALVE ACTUATOR					
	ΔPMAX S-MC103	ΔPMAX S-MC163	ΔPMAX S-MC253	ΔPMAX S-MC503	ΔPMAX S-MC1003	ΔPMAX S-MC1503
V-BR340E-125-160,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340E-125-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340E-125-250,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340E-150-200,0	-	-	-	290 kPa	500 kPa	950 kPa
V-BR340E-150-250,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR340E-150-315,0	-	-	-	190 kPa	350 kPa	700 kPa
V-BR340E-150-400,0	-	-	-	190 kPa	350 kPa	700 kPa

Electric actuators with microcontroller

DIGICONTROL S-MC15-...

for two-way and three-way valves
V-BR216MZ-... | V-BR316MZ-...

Data sheet number 84707

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled
- Automatic self-calibration on start up
- Signal processing by a wear-free distance measuring system
- Wire break recognition in 2...10 V DC operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary
- Manual override by means of hexagonal key
- Mechanical position indication
- Operating voltage interrupted in manual operation

TECHNICAL DATA

Frequency	50/60 ± 5 % Hz
Actuating thrust	0.15 kN
End position switch-off	Load-dependent
Weight	0.18 kg
Protection class	IP40
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	INPUTS	STROKE	POWER CONSUMPTION
S-MC15-24	24 V AC/DC +/- 10 %	3-point, 0(2)...10 V DC	9 mm	2.5 VA
S-MC15-230	230 V AC +6 % / -10 %	3-point	9 mm	2.5 VA

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC55...

for two-way and three-way valves
V-BR216RA-... | V-BR316RA-...
V-BR206GF-... | V-BR306GF-...
V-BR216GF-... | V-BR316GF-...

Data sheet number 84710

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled
- Automatic self-calibration on start up
- Signal processing by a wear-free distance measuring system
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Safety position for switching a binary signal (frost protection)
- Input signal Y and output signal X simultaneously reversible
- Hysteresis 0.3 V in continuous operation (fixed value)
- Shockproof at 230 V AC, no protective conductor (PE) necessary
- Manual override by hand wheel
- Mechanical position indication
- Operating voltage interrupted in manual operation

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Frequency	50/60 ± 5 % Hz
Actuating thrust	0.6 kN
Actuating time	9 | 5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.3 V
End position switch-off	Load-dependent
Weight	1.5 kg
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	INPUTS	STROKE	POWER CONSUMPTION
S-MC55-24	24 V AC/DC +/- 10 %	3-point	Max. 14 mm	3.5 VA
S-MC55-230	230 V AC +6 % / -10 %	3-point	Max. 14 mm	7 VA
S-MC55Y	24 V AC/DC +/- 10 %	0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm	Max. 14 mm	3.5 VA

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC100-...

for two-way and three-way valves
V-BR216RA-... | V-BR316RA-...
V-BR216RA-TW-... | V-BR316RA-TW-...
V-BR206GF-... | V-BR306GF-...
V-BR216GF-... | V-BR316GF-...

Data sheet number 84720

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or continuous operation
- Hysteresis adjustable on site 0.15 V or 0.5 V in continuous mode
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point; 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	1.0 kN
Actuating time	12 | 9* | 4 | 1.9 [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.15 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC100-24	24 V AC/DC +/- 10 %	Max. 20 mm	6 VA	2.5 kg
S-MC100-230	230 V AC +6 % / -10 %	Max. 20 mm	12 VA	2.5 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators for with microcontroller

DIGICONTROL S-MC103-...

for two-way and three-way valves
V-BR216-... | V-BR316-...
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84730

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measutring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with Feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis adjustable on site 0.15 V or 0.5 V in continuous mode
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point; 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	1.0 kN
Actuating time	12 | 9* | 4 | 1.9 [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.15 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC103-24	24 V AC/DC +/- 10 %	Max. 20 mm	6 VA	2.5 kg
S-MC103-230	230 V AC +6 % / -10 %	Max. 20 mm	12 VA	2.5 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with fail-safe function

DIGICONTROL S-MC103SE-24

for two-way valves
V-BR225
V-BR240E

Data sheet number 84772

Electric lift drive with micro controller for straight-way valves

Characteristics:
- Electric lift drive with defined end position in case of power failure (drive spindle completely extended)
- Electromechanical safety function (spring), hydraulically suspended
- Controlled by microcontroller with automatic calibration during commissioning
- Drive status visible via LED display
- Wire break detection in 2...10 V DC- and 4...20 mA-operation
- Safety position when switching a binary signal (frost protection)
- Disengagable manual adjustment with feedback signal
- Fault detection in continuous operation (in case of blockage by external impact)
- Input signal Y and output signal X can be inverted independently from each other
- On-site adjustable control: three-point or continuous operation

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Actuating thrust	1.0 kN
Actuating time	9 s/mm
Emergency Actuating time	0.1 s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C
Type examination	■ 97/23/EC ■ EN14597 Abs DX17 ■ EN60730

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC103SE-24	24 V AC +/- 10 %	Max. 20 mm	Max. 25 VA	5.0 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC160-...

for two-way and three-way valves
V-BR216RA-... | V-BR316RA-...
V-BR216RA-TW-... | V-BR316RA-TW-...
V-BR206GF-... | V-BR306GF-...
V-BR216GF-... | V-BR316GF-...

Data sheet number 84740

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or continuous operation
- Hysteresis adjustable on-site 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	1.6 kN
Actuating time	6 | 4* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC160-24	24 V AC/DC +/- 10 %	Max. 30 mm	6 VA	3.2 kg
S-MC160-230	230 V AC +6 % / -10 %	Max. 30 mm	12 VA	3.2 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC163-...

for two-way and three-way valves
V-BR216-... | V-BR316-....
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84750

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or continuous operation
- Hysteresis adjustable on-site 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	1.6 kN
Actuating time	6 | 4* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC163-24	24 V AC/DC +/- 10 %	Max. 30 mm	6 VA	4.0 kg
S-MC163-230	230 V AC +6 % / -10 %	Max. 30 mm	12 VA	4.0 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC250-...

for two-way and three-way valves
V-BR206GF-... | V-BR306GF-...
V-BR216GF-... | V-BR316GF-...

Data sheet number 84760

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or continuous operation
- Hysteresis adjustable on-site 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	2.5 kN
Actuating time	5 | 2.5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC250-24	24 V AC/DC +/- 10 %	Max. 60 mm	Max. 18 VA	7.0 kg
S-MC250-230	230 V AC +6 % / -10 %	Max. 60 mm	Max. 25 VA	8.2 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC253-...

for two-way and three-way valves
V-BR216-... | V-BR316-...
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84770

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or continuous operation
- Hysteresis adjustable on-site 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	2.5 kN
Actuating time	5 | 2.5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC253-24	24 V AC/DC +/- 10 %	Max. 60 mm	Max. 18 VA	7.4 kg
S-MC253-230	230 V AC +6 % / -10 %	Max. 60 mm	Max. 25 VA	8.6 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with fail-safe function

DIGICONTROL S-MC253-...

for two-way valves
V-BR225
V-BR240E
V-BR240S

Data sheet number 84771

Electric lift drive with micro controller for straight-way valves

Characteristics:
- Electric lift drive with defined end position in case of power failure (drive spindle completely extended)
- Electromechanical safety function (spring), hydraulically suspended
- Controlled by microcontroller with automatic calibration during commissioning
- Drive status visible via LED display
- Line break detection in 2...10 V DC- and 4...20 mA-operation
- Safety position when switching a binary signal (frost protection)
- Disengagable manual adjustment with feedback signal
- Fault detection in continuous operation (in case of blockage due to external influence)
- Input signal Y and output signal X can be inverted independently from each other
- On-site adjustable control: three-point or continuous operation

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating time	5 | 2.5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C
Type examination	■ 97/23/EG ■ EN14597 Abs DX17 ■ EN60730

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC253SE-24	24 V AC +/- 10 %	9 mm	Max. 50 VA	13.0 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC500-...

for two-way and three-way valves
V-BR206GF-... | V-BR306GF-...
V-BR216GF-... | V-BR316GF-...

Data sheet number 84780

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	5.0 kN
Actuating time	5 | 2.5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC500-24	24 V AC/DC +/- 10 %	Max. 60 mm	Max. 18 VA	7.0 kg
S-MC500-230	230 V AC +6 % / -10 %	Max. 60 mm	Max. 25 VA	8.2 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC503-...

for two-way and three-way valves
V-BR216-... | V-BR316-...
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84790

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	5.0 kN
Actuating time	5 | 2.5* [1] s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC503-24	24 V AC/DC +/- 10 %	Max. 60 mm	Max. 18 VA	7.4 kg
S-MC503-230	230 V AC +6 % / -10 %	Max. 60 mm	Max. 25 VA	8.6 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC1000-...

for two-way and three-way valves
V-BR216GF-... | V-BR316GF-...

Data sheet number 84800

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring System by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	10 kN
Actuating time	1 s/mm
Operating mode	S3-30 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC1000-24	24 V AC/DC +/- 10 %	Max. 60 mm	Max. 50 VA	11.0 kg
S-MC1000-230	230 V AC +6 % / -10 %	Max. 60 mm	Max. 63 VA	11.0 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC1003-...

for two-way and three-way valves
V-BR216-... | V-BR316-...
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84810

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	10 kN
Actuating time	1 s/mm
Operating mode	S3-30 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC1003-24	24 V AC/DC +/- 10 %	Max. 80 mm	Max. 50 VA	11.5 kg
S-MC1003-230	230 V AC +6 % / -10 %	Max. 80 mm	Max. 63 VA	11.5 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Electric actuators with microcontroller

DIGICONTROL S-MC1503-...

for two-way and three-way valves
V-BR216-... | V-BR316-...
V-BR225-... | V-BR325-...
V-BR240S-... | V-BR340S-...
V-BR240E-... | V-BR340E-...

Data sheet number 84820

Electric actuators with microcontroller for two-way and three-way valves

Features
- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Signal processing by a wear-free distance measuring system by means of a Hall sensor
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 V DC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost protection)
- Pull-out manual adjustment with feedback signal
- Fault recognition in continuous operation (in case of blockage due to external influence)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable 0.05 V / 0.15 V / 0.3 V or 0.5 V in continuous operation
- Shockproof at 230 V AC, no protective conductor (PE) necessary

TECHNICAL DATA

Outputs	0...10 V DC / max. 8 mA / min. 1200 Ohm
Inputs	3-point, 0(2)...10 V DC / 77 kOhm; 0(4)...20 mA / 0,51 kOhm
Frequency	50/60 ± 5 % Hz
Actuating thrust	15 kN
Actuating time	2 s/mm
Operating mode	S3-30 % ED c/h 1200 acc. EN 60034-1
Hysteresis	0.05 | 0.15 | 0.3 | 0.5 V V
End position switch-off	Load-dependent
Protection class	IP54
Operating temperature	0...+60 °C

TYPE LIST

TYPE	VOLTAGE	STROKE	POWER CONSUMPTION	WEIGHT
S-MC1503-24	24 V AC/DC +/- 10 %	Max. 80 mm	Max. 50 VA	11.5 kg
S-MC1503-230	230 V AC +6 % / -10 %	Max. 80 mm	Max. 63 VA	11.5 kg

1) Actuating time freely adjustable, presetting is marked with *
2) Only retified alternating voltage
3) Invertible input and output signal
4) Freely adjustable

Control and shutoff valves

DIGICONTROL V-BR12

for actuators S-M130/140/180

Data sheet number 85210

Intermediate flange butterfly valve for use in HVAC, sanitary, service water and industrial plants for different media from -10 to +110 °C.

Features
- Tight-closing damper
- Control and shutt-off butterfly valves for open and closed circuits
- Centrically mounted valve disk
- Rotary actuator with disengageable actuator
- Direction of rotation indicator

TECHNICAL DATA

Incident flow	From both sides if required
Seat ring	EPDM
Valve disk	DN25 – DN40: austenitic cast steel 1.4408 DN50 – DN400: spheroidal cast iron GGG40 EN-JS1030 with Nylon11 coating
Shaft sealing	EPDM
Medium	Cold-, hot- and industrial water, water with max. 50 % antifreeze fluid and anti corrosion fluid: glycol, glycerin, ethylene-glycol, propylene-glycol, ethanol, methanol, Antifrogen® N+L
Pressure stage	PN 6 - 16
Overall length	According to EN 558-1 basic series 20
Leakage rate	EN 1349 - seat leakage VI G1 (closes tightly)
Spindle	CrNi-steel 1.4405
Mounting	Intermediate flange design with centring lugs PN 6-16
Housing	Grey cast iron GG25 EN-JL1040 with polyester power coating

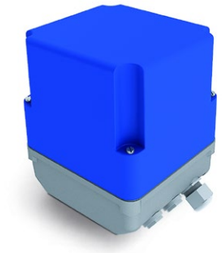
TYPE LIST

TYPE	DIAMETER NOMINAL	KVS
V-BR12-25	DN 25	52 m^3/h
V-BR12-32	DN 32	72 m^3/h
V-BR12-40	DN 40	126 m^3/h
V-BR12-50	DN 50	124 m^3/h
V-BR12-65	DN 65	243 m^3/h
V-BR12-80	DN 80	397 m^3/h
V-BR12-100	DN 100	723 m^3/h
V-BR12-125	DN 125	1083 m^3/h
V-BR12-150	DN 150	1591 m^3/h
V-BR12-200	DN 200	2852 m^3/h

Rotary drive for control and shutoff valves

DIGICONTROL S-M130

for control and shutoff valves V-BR12



Rotary drive for the operation of control and shutoff valves in water-side systems.

TECHNICAL DATA

Inputs	3-point
Frequency	50/60 ± 5 % Hz
Actuating time	130 s/mm
Operating mode	S1-100 % ED c/h 1200 EN 60034-1
End position switch-off	Is set to travel-dependent
Protection class	IP54
Ambient temperature	0...50 °C

TYPE LIST

TYPE	VOLTAGE	POWER CONSUMPTION	TORQUE	WEIGHT
S-M130N	230 V AC +6 % / -10 %	6.5 VA	35 Nm	1.2 kg
S-M130K	24 V AC +/- 10 %	8 VA	35 Nm	1.2 kg

ACCESSORY

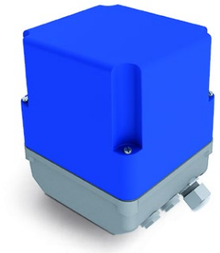
TYPE	DESCRIPTION
S-AE01.1	2 switches (WE3/WE4), potential free, infinitely adjustable, rated load: max. 10 A / 250 V AC
S-AE07	Potentiometer with attachment0.2 / 1 / 10 kOhm 1.5 VA

Rotary drive for control and shutoff valves

DIGICONTROL S-M140

for control and shutoff valves V-BR12

Rotary drive for the operation of control and shutoff valves in water-side systems.



TECHNICAL DATA

Inputs	3-point
Frequency	50/60 ± 5 % Hz
Actuating time	10 s/mm
Operating mode	S3-50 % ED c/h 1200 acc. EN 60034-1
End position switch-off	Is set to travel-dependent
Protection class	IP54
Ambient temperature	0...50 °C

TYPE LIST

TYPE	VOLTAGE	POWER CONSUMPTION	TORQUE	WEIGHT
S-M140N	230 V AC +6 % / -10 %	55 VA	50 Nm	3 kg
S-M140K	24 V AC +/- 10 %	57 VA	50 Nm	3 kg

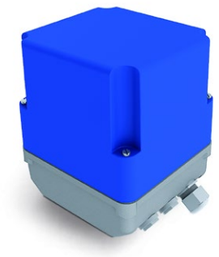
ACCESSORY

TYPE	DESCRIPTION
S-AE05.1	Actuator heating 24 V 25 VA
S-AH-230	Actuator heating 230 V 25 VA
S-AE01.1	2 switches (WE3/WE4), potential free, infinitely adjustable, rated load: max. 10 A / 250 V AC
S-AE07	Potentiometer with attachment0.2 / 1 / 10 kOhm 1.5 VA

Rotary drive for control and shutoff valves

DIGICONTROL S-M180

for control and shutoff valves V-BR12



Rotary drive for the opeartion of control and shutoff valves in water-side systems.

TECHNICAL DATA

Inputs	3-point
Frequency	50/60 ± 5 % Hz
Actuating time	130 s/mm
Operating mode	S3-60 % ED c/h 1200 EN 60034-1
End position switch-off	Is set to travel-dependent
Protection class	IP54
Ambient temperature	0...50 °C

TYPE LIST

TYPE	VOLTAGE	POWER CONSUMPTION	TORQUE	WEIGHT
S-M180N	230 V AC +6 % / -10 %	26 VA	80 Nm	3 kg
S-M180K	24 V AC +/- 10 %	26 VA	80 Nm	3 kg

ACCESSORY

TYPE	DESCRIPTION
S-AE05.1	Actuator heating 24 V 25 VA
S-AH-230	Actuator heating 230 V 25 VA
S-AE07	Potentiometer with attachment0.2 / 1 / 10 kOhm 1.5 VA
S-AE01.1	2 switches (WE3/WE4), potential free, infinitely adjustable, rated load: max. 10 A / 250 V AC

Butterfly valves with actuator

DIGICONTROL V-BR12-xxM

TYPE LIST

TYPE	CLOSING PRESSURE/KPA
V-BR12-25M130K	1000
V-BR12-32M130K	1000
V-BR12-40M130K	1000
V-BR12-50M130K	1200
V-BR12-65M130K	1200
V-BR12-80M130K	1200
V-BR12-25M130N	1000
V-BR12-32M130N	1000
V-BR12-40M130N	1000
V-BR12-50M130N	1200
V-BR12-65M130N	1200
V-BR12-80M130N	1200
V-BR12-25M140K	1000
V-BR12-32M140K	1000
V-BR12-40M140K	1000
V-BR12-50M140K	1200
V-BR12-65M140K	1200
V-BR12-80M140K	1200
V-BR12-100M140K	350
V-BR12-25M140N	1000
V-BR12-32M140N	1000
V-BR12-40M140N	1000
V-BR12-50M140N	1200
V-BR12-65M140N	1200
V-BR12-80M140N	1200
V-BR12-100M140N	350
V-BR12-125M180K	350
V-BR12-150M180K	350
V-BR12-200M180K	350
V-BR12-125M180N	350
V-BR12-150M180N	350
V-BR12-200M180N	350

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Damper actuators for air damper sizes up to approx 1 m²

DIGICONTROL S-LM...

Valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 1 m²
Damper spindle	6...20 mm
Manual override	Gear disengagement with push button, can be locked
Connection	1 m connecting cable
Direction of rotation	Selectable with switch
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	5 Nm
Position indication	Mechanical, pluggable
Sound power level	≤35 dB(A) in case of 150 s
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	OPERATING RANGE	RUN. TIME
S-LM24A	84430.6	24 V AC/DC	Open-close or 3-point		150 s / 90°
S-LM230A	84430.8	230 V AC	Open-close or 3-point		150 s / 90°
S-LM24A-SR	84430.7	24 V AC/DC	0...10 V DC, 100 kΩ	0...10 V DC for 0...100 %	150 s / 90°
S-LM24A-MP	84430.5	24 V AC/DC	param.		150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-S1A	Plug-in add-on limit switch (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %
S-AV6-20	Axle extension, approx. 170 mm for valves axles Ø 6...20 mm, Ø extension 10 mm
S-P1000A	Plug-in feedback potentiometer 1000 Ω
S-S2A	2 plug-in add-on limit switches (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %

Damper actuators for air damper sizes up to approx 2 m²

DIGICONTROL S-NM...

Valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 2 m²
Damper spindle	8...26 mm
Manual override	Gear disengagement with push button, can be locked
Connection	1 m connecting cable
Direction of rotation	Selectable with switch
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	10 Nm
Position indication	Mechanical, pluggable
Sound power level	≤35 dB(A) in case of 150 s
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	OPERATING RANGE	RUN. TIME
S-NM24A	84430.1	24 V AC/DC	Open-close or 3-point		150 s / 90°
S-NM230A	84430.4	230 V AC	Open-close or 3-point		150 s / 90°
S-NM24A-SR	84430.3	24 V AC/DC	0...10 V DC, 100 kΩ	0...10 V DC for 0...100 %	150 s / 90°
S-NM24A-MP	84430.2	24 V AC/DC	param.		150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-S1A	Plug-in add-on limit switch (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %
S-ZG-NMA	Mounting set for linkage actuation for flat and side mounting
S-AV8-25	Axle extension, approx. 250 mm for valves axles Ø 8 ... 25 mm, Ø extension 20 mm
S-P1000A	Plug-in feedback potentiometer 1000 Ω
S-S2A	2 plug-in add-on limit switches (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %

Damper actuators for air damper sizes up to approx 4 m²

DIGICONTROL S-SM...

Valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 4 m²
Damper spindle	10...20 mm
Manual override	Gear disengagement with push button, can be locked
Connection	1 m connecting cable
Direction of rotation	Selectable with switch
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	20 Nm
Position indication	Mechanical, pluggable
Sound power level	≤45 dB(A) in case of 150 s
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	OPERATING RANGE	RUN. TIME
S-SM24A	84400.1	24 V AC/DC	Open-close or 3-point		150 s / 90°
S-SM230A	84400.5	230 V AC	Open-close or 3-point		150 s / 90°
S-SM24A-SR	84400.3	24 V AC/DC	0...10 V DC, 100 kΩ	0...10 V DC for 0...100 %	150 s / 90°
S-SM24A-MP	84400.2	24 V AC/DC	param.		150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-S1A	Plug-in add-on limit switch (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %
S-AV8-25	Axle extension, approx. 250 mm for valves axles Ø 8 ... 25 mm, Ø extension 20 mm
S-ZG-SMA	Mounting set for linkage actuation for flat and side mounting
S-P1000A	Plug-in feedback potentiometer 1000 Ω
S-S2A	2 plug-in add-on limit switches (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %

Damper actuators for air damper sizes up to approx 8 m²

DIGICONTROL S-GM...

Valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 8 m²
Damper spindle	10...20 mm
Manual override	Gear disengagement with push button, can be locked
Connection	1 m connecting cable
Direction of rotation	Selectable with switch
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	40 Nm
Position indication	Mechanical, pluggable
Sound power level	≤45 dB(A) in case of 150 s
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	OPERATING RANGE	RUN. TIME
S-GM24A	84410.1	24 V AC/DC	Open-close or 3-point		150 s / 90°
S-GM230A	84410.4	230 V AC	Open-close or 3-point		150 s / 90°
S-GM24A-SR	84410.2	24 V AC/DC	0...10 V DC, 100 kΩ	0...10 V DC for 0...100 %	150 s / 90°
S-GM24A-MP	84410.5	24 V AC/DC	param.		150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-S1A	Plug-in add-on limit switch (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %
S-ZG-GMA	Mounting set for linkage actuation for flat and side mounting
S-P1000A	Plug-in feedback potentiometer 1000 Ω
S-S2A	2 plug-in add-on limit switches (EPU), 1 mA ... 3 (0.5) A, 250 V AC, adjustable switching point 0...100 %

Spring return actuators for air damper sizes up to approx 0,8 m²

DIGICONTROL S-LF...

Spring return valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 0,8 m²
Damper spindle	8...16 mm
Running time emergency control function	Approx. 20 s / 90°
Manual override	No manual override
Connection	1 m connecting cable
Direction of rotation	Can be selected by mounting L / R
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	4 Nm
Position indication	Mechanical, pluggable
Sound power level	Motor: ≤50 dB(A) in case of 75 s / Emergency control function: 62 dB(A)
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2004/108/EC

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	OPERATING RANGE	POS FEEDB.	RUN. TIME
S-LF24-S	84325.1	24 V AC/DC	Open-close		Auxiliary switch, 1 x SPDT	40...75 s / 90°
S-LF230-S	84325.3	230 V AC	Open-close		Auxiliary switch, 1 x SPDT	40...75 s / 90°
S-LF24-SR	84325.2	24 V AC/DC	0...10 V DC, 100 kΩ	2...10 V DC for 0...100 %	2...10 V DC, max. 1 mA	40...75 s / 90°
S-LF24-MFT2	84325.5	24 V AC/DC	param.			150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-AV6-20	Axle extension, approx. 170 mm for valves axles Ø 6...20 mm, Ø extension 10 mm

Spring return actuators for air damper sizes up to approx 4 m²

DIGICONTROL S-SF...

Spring return valve drives for adjusting air valves in the building infrastructure ventilation and air conditioning systems.

TECHNICAL DATA

Air damper sizes	Up to approx. 4 m²
Damper spindle	10...25,4 mm
Running time emergency control function	Approx. 20 s / 90°
Manual override	Hand crank
Connection	1 m connecting cable
Direction of rotation	Can be selected by mounting L / R
Angle of rotation	Max. 95°, can be limited at both ends with adjustable mechanical end stops
Torque	20 Nm
Position indication	Mechanical, pluggable
Sound power level	Motor: ≤45 dB(A) in case of 75 s / Emergency control function: 62 dB(A)
Protection class	IP54
Storage temperature	-40...+80 °C
Operating temperature	-30...+50 °C
Ambient humidity	95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE according to 2014/30/EU

TYPE LIST

TYPE	DATA SHEET	VOLTAGE	CONTROL. SIGN.	POS FEEDB.	OPERATING RANGE	RUN. TIME
S-SFA-S2	84340.3	AC 24...240 V DC 24...125 V	Open-close	Auxiliary switch, 2 x SPDT		75 s / 90°
S-SF24A	84340.1	24 V AC/DC	Open-close			75 s / 90°
S-SF24A-S2	84340.2	24 V AC/DC	Open-close	Auxiliary switch, 2 x SPDT		75 s / 90°
S-SF24A-SR	84340.4	24 V AC/DC	0...10 V DC, 100 kΩ	2...10 V DC, max. 1 mA	2...10 V DC for 0...100 %	75 s / 90°
S-SF24A-MP	84340.6	24 V AC/DC	param.			150 s / 90°

ACCESSORY

TYPE	DESCRIPTION
S-ZG-AFB	Mounting set for linkage actuation for flat and side mounting
S-AV8-25	Axle extension, approx. 250 mm for valves axles Ø 8 ... 25 mm, Ø extension 20 mm

Heating and cooling energy meter (compact) with volume transmitter as ultrasonic flow meter

DIGICONTROL W-MC603...

Data sheet number 83310

Ultrasonic meter for measuring and registering heating and cooling energy consumption. MULTICAL® 603 calculator with M-Bus module pursuant to EN 13757 with two additional pulse inputs in Pt 500 design with connection bracket and optical interface. Mains operation with enhanced logging and data logger. Ultrasonic flow sensor including 2.5 m connection cable up to DN100 and 5m from DN150. Two temperature sensors Pt 500 as DS/10 direct sensors with 1.5 m cable and connecting nipple 1/2 or temperature sensor with Niro immersion sleeves.

TECHNICAL DATA

Voltage	■ 230 V AC +15 / -30 %, 50/60 Hz ■ 24 V AC +/-50 %, 50/60 Hz ■ Battery supply
Media temperature	■ Cold: +2...+50 °C ■ Warmth: +15...+130 °C
Interfaces	M-bus
Installation position	Horizontal/vertical
Lifespan	Battery: up to 16 years
Protection class	IP65
Ambient temperature	-5...+55 °C
Storage temperature	-25...+60 °C
Environmental class	EN 1434 designation: A and C
Standards/rules/guidelines/ approvals	Approval: Standard: prEN 1434:2014 and OIML R75:2002 DK-0200-MI004-020 EU-directives: MID, LVD, EMC MID designation: Mechanical environment Class M1 and M2 Electromagnetic environment Class E1 and E2
Other remarks	Niro immersion sleeves: Length 65/90/140 mm (Standard: 65 mm up to DN25, 90 mm up to DN80, 140 mm from DN100) Standard sensor cable length: Length 1.5/3/5/10 m (Standard: 1.5 m up to DN25, 3 m from DN40, 5 m from DN150) Threaded version: incl. threaded connecting parts

TYPE LIST

TYPE	QP	MEDIUM	DIAMETER NOMINAL	PRESSURE STAGE	CONNEC-TION	OVERALL LENGTH
W-MC603W-0,6G15	0.6 m³/h	Heat	DN 15	PN16	G 3/4 B	110 mm
W-MC603W-0,6G20	0.6 m³/h	Heat	DN 20	PN25/16	G 1 B	130 mm
W-MC603W-1,5G15	1.5 m³/h	Heat	DN 15	PN16	G 3/4 B	110 mm
W-MC603K-1,5G15	1.5 m³/h	Cooling	DN 15	PN16	G 3/4 B	110 mm
W-MC603W-1,5G20	1.5 m³/h	Heat	DN 20	PN25/16	G 1 B	130 mm
W-MC603K-1,5G20	1.5 m³/h	Cooling	DN 20	PN25/16	G 1 B	130 mm

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TYPE LIST

TYPE	QP	MEDIUM	DIAMETER NOMINAL	PRESSURE STAGE	CONNEC-TION	OVERALL LENGTH
W-MC603W-2,5G20	2.5 m³/h	Heat	DN 20	PN25/16	G 1 B	190 mm
W-MC603K-2,5G20	2.5 m³/h	Cooling	DN 20	PN25/16	G 1 B	190 mm
W-MC603W-3,5G25	3.5 m³/h	Heat	DN 25	PN25/16	G 5/4 B	260 mm
W-MC603K-3,5G25	3.5 m³/h	Cooling	DN 25	PN25/16	G 5/4 B	260 mm
W-MC603W-6F25	6 m³/h	Heat	DN 25	PN25	Flange	260 mm
W-MC603K-6F25	6 m³/h	Cooling	DN 25	PN25	Flange	260 mm
W-MC603W-6G25	6 m³/h	Heat	DN 25	PN25/16	G 5/4 B	260 mm
W-MC603K-6G25	6 m³/h	Cooling	DN 25	PN25/16	Flange	260 mm
W-MC603W-10F40	10 m³/h	Heat	DN 40	PN25	Flange	300 mm
W-MC603K-10F40	10 m³/h	Cooling	DN 40	PN25	Flange	300 mm
W-MC603W-10G40	10 m³/h	Heat	DN 40	PN25/16	G 2 B	300 mm
W-MC603K-10G40	10 m³/h	Cooling	DN 40	PN25/16	G 2 B	300 mm
W-MC603W-15F50	15 m³/h	Heat	DN 50	PN25	Flange	270 mm
W-MC603K-15F50	15 m³/h	Cooling	DN 50	PN25	Flange	270 mm
W-MC603W-25F65	25 m³/h	Heat	DN 65	PN25	Flange	300 mm
W-MC603K-25F65	25 m³/h	Cooling	DN 65	PN25	Flange	300 mm
W-MC603W-40F80	40 m³/h	Heat	DN 80	PN25	Flange	300 mm
W-MC603K-40F80	40 m³/h	Cooling	DN 80	PN25	Flange	300 mm
W-MC603W-60F100	60 m³/h	Heat	DN 100	PN25	Flange	360 mm
W-MC603K-60F100	60 m³/h	Cooling	DN 100	PN25	Flange	360 mm
W-MC603W-100F100	100 m³/h	Heat	DN 100	PN25	Flange	360 mm
W-MC603K-100F100	100 m³/h	Cooling	DN 100	PN25	Flange	360 mm
W-MC603W-150F150	150 m³/h	Heat	DN 150	PN25	Flange	500 mm
W-MC603K-150F150	150 m³/h	Cooling	DN 150	PN25	Flange	500 mm
W-MC603W-250F150	250 m³/h	Heat	DN 150	PN25	Flange	500 mm
W-MC603K-250F150	250 m³/h	Cooling	DN 150	PN25	Flange	500 mm
W-MC603W-400F150	400 m³/h	Heat	DN 150	PN25	Flange	500 mm
W-MC603K-100F125	100 m³/h	Cooling	DN 125	PN25	Flange	350 mm
W-MC603W-100F125	100 m³/h	Heat	DN 125	PN25	Flange	350 mm
W-MC603K-400F150	400 m³/h	Cooling	DN 150	PN25	Flange	500 mm
W-MC603W-600F200	600 m³/h	Heat	DN 200	PN25	Flange	500 mm
W-MC603K-600F200	600 m³/h	Cooling	DN 200	PN25	Flange	500 mm
W-MC603W-1000F250	1000 m³/h	Heat	DN 250	PN25	Flange	600 mm
W-MC603K-1000F250	1000 m³/h	Cooling	DN 250	PN25	Flange	600 mm

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ACCESSORY

TYPE	DESCRIPTION
W-MC-Modbus RTU	Modbus RTU interface
W-MC-LON	LON-Bus interface
W-MC-BACnet MS/TP	BACnet MS/TP interface
W-MC-WH	Wall bracket for calculator

Water meter (compact) with volume transmitter

DIGICONTROL W-MC62...IQ

Data sheet number 83401

Ultrasonic water meter for measuring and registering water consumption. Calculator with RTC and M-Bus module according to EN 13757 with two additional pulse inputs, connection console andoptical interface. Mains operation 230 V AC with extended logging and data logger. Ultrasonic flow sensor incl. 2.5 m connection cable and threaded connection parts.

TECHNICAL DATA

Voltage	■ Battery supply ■ 230 V AC +15 / -30 %, 50/60 Hz ■ 24 V AC +/-50 %, 50/60 Hz
Media temperature	0.1...70 °C
Interfaces	Wireless M-bus, linkIQ
Installation position	Horizontal/vertical
Lifespan	Battery: up to 20 years
Protection class	Calculator IP65 Flow part IP68
Ambient temperature	-10...55 °C
Storage temperature	-25...+60 °C
Environmental class	Mechanical environment Class M1; Electromagnetic environment Class E1
Standards/rules/guidelines/ approvals	Approvals: DK-0200-MI001-039 Norms: OIML R49 Class B and O EU guidelines: MID E1 and E2, KIWA
Other remarks	Threaded version: incl. threaded connecting parts and backflow protection device in some instances

TYPE LIST

TYPE	QP	MEASURING RANGE	DIAMETER NOMINAL	PRESSURE STAGE	CONNECTION	OVERALL LENGTH
W-MC62-1,6G15IQ	1.6 m^3/h	0.016-2.0 m^3/h	DN 15	PN16	Thread	110 mm
W-MC62-2,5G20IQ	2.5 m^3/h	0.025-3.1 m^3/h	DN 20	PN16	Thread	190 mm
W-MC62-4G25IQ	20 m^3/h	0.040-5.0 m^3/h	DN 25	PN16	Thread	260 mm
W-MC62-6,3G25IQ	6.3 m^3/h	0.063-7.9 m^3/h	DN 25	PN16	Thread	260 mm
W-MC62-10G40IQ	10 m^3/h	0.100-12.5 m^3/h	DN 40	PN16	Thread	300 mm
W-MC62-16F50IQ	22 m^3/h	0.160-20.0 m^3/h	DN 50	PN25	Flange	270 mm
W-MC62-25F65IQ	25 m^3/h	0,250-31,3 m^3/h	DN 65	PN25	Flange	300 mm
W-MC62-40F80IQ	40 m^3/h	0.400-50.0 m^3/h	DN 80	PN25	Flange	300 mm

ACCESSORY

TYPE	DESCRIPTION
W-MC-Modbus RTU	Modbus RTU interface
W-MC-WH	Wall bracket for calculator
W-MC-LON	LON-Bus interface
W-MC-BACnet MS/TP	BACnet MS/TP interface

Components for explosion protection

Explosion protection is no matter of statistics and the readiness to take risks but a matter of absolute security and safety to 100 % which requires cooperation with a trusted partner!

ExSens passive modulating sensors connectable to ExCos-A and EXL-IMU-1 transducer

DIGICONTROL ...

ExSens sensors for temperature, humidity or pressure measurement in hazardous areas with manufacturer certification in acc. with ATEX 94/9/EC. The sensors are passive and potential free.

TECHNICAL DATA

Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 22 Gas + dust Manufacturer certificate ATEX 94/9/EC
Installation place module	Safe area
Basic data ExSens sensors	Sensors for installation in hazardous areas, connected to a relevant transducer, e.g. ExCos-A or EXL-IMU-1. The transducer changes the passive resistance signal into an active 0...10 V DC / 4...20 mA signal.

TYPE LIST

TYPE	DATA SHEET	MEASURING RANGE	SENSOR	FUNCTION	INSTALLATION PLACE SENSOR
TFR-2G	90001	-30...+60 °C	W1	Room temperature sensor	Zone 1, 2
TFR-2G3D	90002	-40...+60 °C	W1	Room temperature sensor (IP65)	Zone 1, 2, 22
TFR-AN-2G3D	90003	-30...+60 °C	Pt 100 DIN	Temperature direct contact sensor	Zone 1, 2, 22
TFK-2G3D	90004	-30...+150 °C	Pt 100 DIN	Duct temperature sensor (IP65), 200mm	Zone 1, 2, 22
TFK-2G3D-400	90004	-30...+150 °C	Pt 100 DIN	Duct temperature sensor, length 400mm	Zone 1, 2, 22
TFT-2G3D	90005	-30...+150 °C	Pt 100 DIN	Immersion temperature sensor (IP65), 100mm	Zone 1, 2, 22
TFT-V4A-2G3D	90005	-30...+150 °C	Pt 100 DIN	Immersion temperature sensor (IP65), 100mm	Zone 1, 2, 22
FFR-2G	90006	30...100 % rh.	0...1 kΩ	Room humidity sensor	Zone 1, 2
FFK-2G	90007	30...100 % rh.	0...1 kΩ	Duct humidity sensor	Zone 1, 2
TFFR-2G	90008	30...100 % rh., -10...+60 °C	0...1 kΩ, Pt 100	Room combination temp./humidity sensor	Zone 1, 2
TFFK-2G	90009	30...100 % rh., -20...+60 °C	0...1 kΩ, Pt 100	Duct combination temp./humidity sensor	Zone 1, 2
DFK-07-2G-FP	90010	ΔP < 700 Pa	x...yΩ	Differential pressure sensor (IP65)	Zone 1, 2
DFK-17-2G-FP	90010	ΔP < 1700 Pa	x...yΩ	Differential pressure sensor (IP65)	Zone 1, 2
VFK-07-2G-FP	90011	0...15 m/s	x...yΩ	Volume control sensor (IP65)	Zone 1, 2
SGR-2G	90012	Resistance	0...1 kΩ	Potentiometer	Zone 1, 2

ExLine Ex-transducer with Ex-i circuit for zone 0, 1, 2, 20, 21, 22

DIGICONTROL EXL-IMU-1

Data sheet number 90035

EXL-IMU-1 module with intrinsically safe circuit to change a passive sensor signal (e.g. Pt 100) into an active mA/VDC signal.

Delivery: 1 Ex-i module for DIN rail mounting
Accessory (optional): modulating sensors type ExSens

TECHNICAL DATA

Output	0...10 V DC, 4...20 mA
Input	Pt 100/500/1000, Ni 100/200/500/1000, LS-Ni 1000 Siemens, KP 250, LF 20, DFK-..., VFK-... passive sensors with resistance Output 0...1.000 Ohm, 0...10.000 Ohm
Standards/rules/guidelines/ approvals	Explosion proof Zone 0, 1, 2, 20, 21, 22 Gas + dust PTB-certified II(1)GD [EEx ia] IIC ATEX 94/9/EC
Installation place module	Safe area
Installation place sensor	Zone 0, 1, 2, 20, 21, 22
Technical data	One module (rail mounting) for One passive sensor series ExSens
Basic data EXL-IMU-1	Transducer for passive, potential free, modulating sensors series ExSens, 2,- 3-, 4- wire Connection. 24 V AC/DC supply Display for adjustment and actual value indication. Module must be installed in the safe area, sensor in the hazardous area.

TYPE

EXL-IMU-1

ACCESSORY

TYPE	DESCRIPTION
N1	Power supply unit for EXL-IRU-1/EXL-IMU-1

ExSens passive binary sensors connectable to ExBin-A and EXL-IRU-1 switching module

DIGICONTROL ...

Passive, potential free, binary ExSens sensors for the hazardous area with manufacturer certification in acc. with ATEX 94/9/EC.

TECHNICAL DATA

Standards/rules/guidelines/ approvals	Explosion proof zone 1, 2, 22 Gas + dust Manufacturer certification ATEX 94/9/EC
Installation place module	Safe area
Connectable to switching modules	EXL-IRU-1, ExBin-A,
Basic data binary ExSens sensors	Sensors for installation in hazardous areas, connected to a switching module type ExBin-A or EXL-IRU-1. The module changes to passive binary signal into a contact. Sensor must be installed in the hazardous area, module in the safe area.

TYPE LIST

TYPE	DATA SHEET	MEASURING RANGE/ SWITCHING DIFFERENCE	INSTALLATION PLACE SENSOR	FUNCTION	SENSOR
TBR-2G	90013	0...+40 °C, 1 K	Zone 1, 2	Room thermostat	W5
TBR-2G3D	90014	-35...+30 °C, 2-20 K	Zone 1, 2, 22	Room thermostat (IP65)	W5
TBR-AN-2G	90015	0...+60 °C, 5 ± 1 K (fix)	Zone 1, 2	Temperature direct contact thermostat	W5
TBK-FR-2G	90016	-10...+12 °C	Zone 1, 2	Frost protection thermostat (IP65)	W5
TBT-V4A-2G	90017	0...+90 °C, 3 K	Zone 1, 2	Probe thermostat with VA sleeve	W5
DBK-2G-20/300	90018	20-300 Pa	Zone 1, 2	Differential pressure switch	W5
DBK-2G-50/500	90018	50-500 Pa	Zone 1, 2	Differential pressure switch	W5
DBK-2G-100/1000	90018	100-1000 Pa	Zone 1, 2	Differential pressure switch	W5
DBK-2G3D-40/125	90019	40-125 Pa	Zone 1, 2, 22	Differential pressure switch (IP65)	W5
DBK-2G3D-100/400	90019	100-400 Pa	Zone 1, 2, 22	Differential pressure switch (IP65)	W5
DBK-2G3D-350/1400	90019	350-1400 Pa	Zone 1, 2, 22	Differential pressure switch (IP65)	W5
WFBK-2G	90020	2...8 m/s	Zone 1, 2	Air paddle	W5
SWBT-2G	90021	-20...+60 °C	Zone 1, 2	liquid flow switch	W5
NBW-K-2G	90022	Contactless, up to < 20.000 m^3/h	Zone 1, 2	Fan belt protection (IP65)	W6

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TYPE LIST

TYPE	DATA SHEET	MEASURING RANGE/ SWITCHING DIFFERENCE	INSTALLATION PLACE SENSOR	FUNCTION	SENSOR
NBW-G-2G	90023	Contactless, up to > 20.000 m^3/h	Zone 1, 2	Fan belt protection (IP65)	W6
FBR-2G	90024	35...100 % rh., ~ 4 % rh.	Zone 1, 2	Room hygrostat	W5
FBK-2G	90025	35...100 % rh., ~ 4 % rh.	Zone 1, 2	Duct hygrostat	W5

ACCESSORY

TYPE	DESCRIPTION
INSTALLKIT1	Installation kit 1 for frost protection sensor type TBK-FR-2G, PG entries for capillary, 6 brackets, support bracket

ExBin-A.. Switching modules for 1 up to 5 passive binary sensors for zone 1, 2, 21, 22

DIGICONTROL ExBin-A.

Data sheet number 90040

ExBin-A modules are switching modules for direct mounting in Ex areas with 1, 2 or 5 channels, for connection of 1, 2 or 5 passive potential-free binary sensors, for use in HVAC systems.

Scope of delivery: One module with socket for 1 up to 5 ExSens sensors (dependent on type)
Accessory (optional): Binary sensors series ExSens

TECHNICAL DATA

Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex emb [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80 °C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Installation place sensor	Zone 0, 1, 2, 20, 21, 22
Basic data ExBin-A... modules	No additional module in the control cabinet required! No intrinsically safe wiring required! Mounting on module directly in Ex area. 24 V AC/DC supply One to Five passive, potential-free, binary sensors. Sockets for One up to Five ExSens sensors. One up to Five contacts with common supply unit. One or Two contacts with additional clmap for time switch relais, e.g. for Two fan belt monitoring applications (time 120 sec.). Switching status display with LED.

TYPE LIST

TYPE	TECHNICAL DATA
ExBin-A1	Module (One channel) to connect One binary ExSens sensor in Ex area
ExBin-A2	Module (Two channel) to connect Two binary ExSens sensors in Ex area

ACCESSORY

TYPE	DESCRIPTION
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExLine Ex-switching module for potential free, binary signals in zone 0, 1, 2, 20, 21, 22

DIGICONTROL EXL-IRU-1

Data sheet number 90036

Switching module with intrinsically safe circuit to change a passive potential free binary signal (e.g. contact) into a contact in the safe area.

Scope of delivery: One Ex-i module for DIN rail mounting
Accessory (optional): binary sensors type ExSens

TECHNICAL DATA

Supply voltage	■ 24 V AC/DC ■ 24V AC/DC
Output	potential-free changeover contact
Input	1 passive potential-free binary sensor
Standards/rules/guidelines/ approvals	Explosion proof Zone 0, 1, 2, 20, 21, 22 Gas + dust PTB-certified II(1)GD [EEx ia] IIC ATEX 94/9/EC
Installation place module	Safe area
Installation place sensor	Zone 0, 1, 2, 20, 21, 22
Technical data	One module (rail mounting) for One passive binary sensor series ExSens
Basic data EXL-IRU-1	Integrated timer for start-up bypass of fans, adjustable in the range 30...120 seconds. Two LEDs for status indication DIN rail mounting Module must be installed in the safe area, sensor in the hazardous area.

TYPE

EXL-IRU-1

ACCESSORY

TYPE	DESCRIPTION
N1	Power supply unit for EXL-IRU-1/EXL-IMU-1

ExPro-B... Digital thermostat/hygrostat sensor probes for ExBin-D modules

DIGICONTROL ExPro-B...

Data sheet number 90050

ExPro-B... sensors are used for measurements of temperature and/or humidity in hazardous areas, for exclusive use with ExBin-D... modules!

Scope of delivery: One sensor with connector
Attention: Only in combination with 1 x ExBin-D modules

TECHNICAL DATA

Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified in acc. with ExBin-D... transducer ATEX 94/9/EC
Installation place sensor	Zone 1, 2, 21, 22
Connectable to transducers	ExBin-D
Basic data ExPro-B... sensors	Sensors for connection to ExBin-D... modules. Adaptation via connector. ExPro-B... sensors can be optionally screwed to the housing at the back (duct measurement) or bottom (room measurement). When using humidity-sensors, the contamination and aggressiveness of the medium has to be regarded.

TYPE LIST

TYPE	MEASURING RANGE	FUNCTION	SENSOR LENGTH
ExPro-BT-50	-40...+80 °C	Thermostat (Room/Duct)	50 mm
ExPro-BT-100	-40...+125 °C	Thermostat (Duct)	100 mm
ExPro-BT-150	-40...+125 °C	Thermostat (Duct)	150 mm
ExPro-BT-200	-40...+125 °C	Thermostat (Duct)	200 mm
ExPro-BF-50	0...100 % rh.	Hygrostat (Room/Duct)	50 mm
ExPro-BF-100	0...100 % rh.	Hygrostat (Duct)	100 mm
ExPro-BF-150	0...100 % rh.	Hygrostat (Duct)	150 mm
ExPro-BF-200	0...100 % rh.	Hygrostat (Duct)	200 mm
ExPro-BTF-50	-40...+80 °C, 0...100 % rh.	Combination Thermostat/Hygrostat (Room/Duct)	50 mm
ExPro-BTF-100	-40...+125 °C, 0...100 % rh.	Combination Thermostat/Hygrostat (Duct)	100 mm
ExPro-BTF-150	-40...+125 °C, 0...100 % rh.	Combination Thermostat/Hygrostat (Duct)	150 mm
ExPro-BTF-200	-40...+125 °C, 0...100 % rh.	Combination Thermostat/Hygrostat (Duct)	200 mm

ExBin-D thermostat/hygrostat for sensor type ExPro-B... for zone 1, 2, 21, 22

DIGICONTROL ExBin-D

Data sheet number 90050

ExBin-D modules are used together with ExPro-B... sensor probes as thermostats or hygrostats in HVAC systems.

Scope of delivery: One ExBin.. module with socket for One ExPro-B... sensor
Required accessory (additional price): ExPro-B... sensor

TECHNICAL DATA

Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex emb [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80°C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Installation place sensor	Zone 1, 2, 21, 22
Basic data ExBin-D... sensors	No additional module in the control cabinet required! No intrinsically safe wiring from control cabinet to module required! 24 V AC/DC supply Socket for ExPro-B... sensor. Selectable on site if used for room or duct application. Switch-Point for °C and % rh. separately adjustable (dependend on sensor probe type). 1-channel: Two potential-free contacts (1x°C, 1x%rh.) 2-channel: Four potential-free contacts (2x°C, 2x%rh.) Display with indication of actual value.

TYPE LIST

TYPE	TECHNICAL DATA
ExBin-D	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 1-stage
ExBin-D-2	Module for connection of one ExPro-B... sensor as thermostat and/or hygrostat, 2-stage

ACCESSORY

TYPE	DESCRIPTION
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExPro-C... digital temperature/humidity sensors for ExCos-D transducer

DIGICONTROL ExPro-C...

Data sheet number 90045

ExPro-C... sensors are used for measurements of temperature and/or humidity in hazardous areas, for exclusive use with ExCos-D... transducers!

Scope of delivery: One sensor with connector
Attention: only in combination with 1 x ExCos-D

TECHNICAL DATA

Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified in acc. with ExCos-D transducer ATEX 94/9/EC
Installation place sensor	Zone 1, 2, 21, 22
Connectable to transducers	ExCos-D
Basic data ExPro-C... sensors	Sensors for connection to ExCos-D... transducers. Mechanical and electrical adaptationvia connector. ExPro-C... sensors can be optionally screwed to the housing at the back (duct measurement) or bottom (room measurement). When using humidity-sensors, the contamination and aggressiveness of the medium has to be regarded.

TYPE LIST

TYPE	MEASUR-ING RANGE	FUNCTION	SENSOR LENGTH
ExPro-CF-50	0...100 % rh.	Humidity sensor (Room/Duct)	50 mm
ExPro-CF-100	0...100 % rh.	Humidity sensor (Duct)	100 mm
ExPro-CF-150	0...100 % rh.	Humidity sensor (Duct)	150 mm
ExPro-CF-200	0...100 % rh.	Humidity sensor (Duct)	200 mm
ExPro-CT-50	-40...+80 °C	Temperature sensor (Room/Duct)	50 mm
ExPro-CT-100	-40...+125 °C	Temperature sensor (Duct)	100 mm
ExPro-CT-150	-40...+125 °C	Temperature sensor (Duct)	150 mm
ExPro-CT-200	-40...+125 °C	Temperature sensor (Duct)	200 mm
ExPro-CTF-50	-40...+80 °C, 0...100 % rh.	Combination temperature/humidity sensor (Room/Duct)	50 mm
ExPro-CTF-100	-40...+125 °C, 0...100 % rh.	Combination temperature/humidity sensor (Duct)	100 mm
ExPro-CTF-150	-40...+125 °C, 0...100 % rh.	Combination temperature/humidity sensor (Duct)	150 mm
ExPro-CTF-200	-40...+125 °C, 0...100 % rh.	Combination temperature/humidity sensor (Duct)	200 mm

ExCos-D Temperature-/humidity module for sensor typ ExPro-C... for zone 1, 2, 21, 22

DIGICONTROL ExCos-D

Data sheet number 90045

ExCos-D transducer together with ExPro-C... digital sensors are for temperature and/or humidity measurement in HVAC systems.

Scope of delivery: One transducer with connection for One ExPro-C... sensor
Required accessory (additional price): One ExPro-C...

TECHNICAL DATA

Output	0...10 V DC, (0)4...20 mA selectable
Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex ema [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80°C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Installation place sensor	Zone 1, 2, 21, 22
Technical data	Module to connect One ExPro-C... sensor for temperture and/or humidity for use in hazardous areas
Basic data ExCos-D transducers	No additional module in the Control cabinet required. No intrinsically safe wiring required. Installation directly in Ex area 24 V AC/DC power supply unit ExPro-C... sensors for room or duct mounting. Measurement range adjustable Actual value indication (which can be switched off) All parameters can be adjusted on site without additional tools and measurement devices. Integrated terminal box

TYPE

ExCos-D

ACCESSORY

TYPE	DESCRIPTION
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExCos-P... Differential pressure sensors zone 1, 2, 21, 22

DIGICONTROL ExCos-P...

Data sheet number 90055

ExCos-P... are pressure sensors for HVAC systems, e.g. for differential pressure control. VAV control must be tested by the manufacturerer of VAV dampers in acc. with diameter, design and characteristics of the air damper.

Scope of delivery: One sensor with integrated terminal box

TECHNICAL DATA

Output	0...10 V DC, (0)4...20 mA selectable
Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex ema [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80 °C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Basic data ExCos-P... sensors	No additional module in the control cabinet required. No intrinsically safe wiring required. 24 V AC/DC supply Measurement range adjustable Actual value indication (which can be switched off) All parameters can be adjusted on site without additional tools and measurement devices. Integrated terminal box

TYPE LIST

TYPE	MEASURING RANGE	OVERLOAD PROTECTED	MEASUREMENT RANGE, MIN. 20% OF MAX. RANGE
ExCos-P100	± 100 Pa	up to 25000 Pa	± Measurement range freely adjustable, min. range 20 Pa
ExCos-P250	± 250 Pa	up to 25000 Pa	± Measurement range freely adjustable, min. range 50 Pa
ExCos-P500	0...500 Pa	up to 25000 Pa	± Measurement range freely adjustable, min. range 100 Pa
ExCos-P1250	± 1250 Pa	up to 25000 Pa	± Measurement range freely adjustable, min. range 250 Pa
ExCos-P2500	± 2500 Pa	up to 25000 Pa	± Measurement range freely adjustable, min. range 500 Pa
ExCos-P5000	0...5000 Pa	up to 75000 Pa	± Measurement range freely adjustable, min. range 1000 Pa
ExCos-P7500	± 7500 Pa	up to 120000 Pa	± Measurement range freely adjustable, min. range 1500 Pa

ACCESSORY

TYPE	DESCRIPTION
INSTALLKIT2	Installation kit 2, includes 2 meter pressure hose (inner diameter Ø 6 mm), 2 plastic fittings
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExBin-P... Differential pressure switch binary for zone 1, 2, 21, 22

DIGICONTROL ExBin-P...

Data sheet number 90060

ExBin-P... are pressure switches for HVAC systems, e.g. for differential pressure control for filter- or fan belt monitoring.

Scope of delivery: One Pressure switch with integrated terminal box
Recommended accessory: Installation kit 2

TECHNICAL DATA

Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex emb [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80 °C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Basic data ExBin-P switches	No additional module in the control cabinet required. No intrinsically safe wiring required. 24 V AC/DC supply 1-channel: 1 potential-free contact 2-channel (optional): 2 potential-free contacts Switch-point is digitally adjustable. Indication of actual value (can be switched off) Switching status display LED All parameters can be adjusted on site without additional tools and measurement devices.

TYPE LIST

TYPE	MEASURING RANGE	OVERLOAD PROTECTED	MEASUREMENT RANGE
ExBin-P500	0...500 Pa	up to 5000 Pa	1-stage adjustable switch-point in measurement range
ExBin-P500-2	0...500 Pa	up to 5000 Pa	2-stage adjustable switch-point in measurement range
ExBin-P5000	0...5000 Pa	up to 25000 Pa	1-stage adjustable switch-point in measurement range
ExBin-P5000-2	0...5000 Pa	up to 25000 Pa	2-stage adjustable switch-point in measurement range

ACCESSORY

TYPE	DESCRIPTION
INSTALLKIT2	Installation kit 2, includes 2 meter pressure hose (inner diameter Ø 6 mm), 2 plastic fittings
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExBin-FR... frost protection thermostats for zone 1, 2, 21, 22

DIGICONTROL ExBin-FR...

Data sheet number 90070

ExBin-FR are frost protection thermostats for HVAC systems, e.g. for frost protection monitoring of heating registers/heat exchangers.

Scope of delivery: One Frost protection thermostat with integrated terminal box, with 3 m or 6 m capillary (depending on type)
Recommended accessory: for ExBin-FR3: Installation kit 1.3, for ExBin-FR6: Installation kit 1.6

TECHNICAL DATA

Housing	Aluminium
Dimensions	107 x 180 x 66 mm
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II2(1)G Ex emb [ia] IIC T6 II2(1)D Ex tD A21 [iaD] IP66 T80 °C ATEX 94/9/EC
Installation place module	Zone 1, 2, 21, 22
Measurement range	1-stage adjustable switch-point in temperature range
Basic data ExBin-FR sensors	No additional module in the control cabinet required! No intrinsically safe wiring required! 24 V AC/DC supply Temperature sensoring by capillary with 3 m or 6 m length (depending on type). Min. response length of capillary - 40 cm 1 potential-free contact Switch-point is mechanically adjustable Switching status diplay with LED With integrated terminal box

TYPE LIST

TYPE	MEASURING RANGE	MEASUREMENT RANGE	CAPILLARY
ExBin-FR3	-10...+15 °C	1-stage adjustable switch-point in temperature range	3 m
ExBin-FR6	-10...+15 °C	1-stage adjustable switch-point in temperature range	6 m

ACCESSORY

TYPE	DESCRIPTION
INSTALLKIT1.3	Installation kit 1.3 with capillary duct, assembly clamp and 4 assembly brackets for frost protection thermostat ExBin-FR3
INSTALLKIT1.6	Installation kit 1.3 with capillary duct, assembly clamp and 8 assembly brackets for frost protection thermostat ExBin-FR6
MKR	Mounting bracket for installation on round air-ducts (diameter up to 600 mm)

ExRun Ex-d valve actuators without spring return

DIGICONTROL ExRun...

ExRun valve actuators are used for automation of 2- and 3-way valves with 3-pos. on-off or modulating mode.

Scope of delivery: One actuator with integrated terminal box, key for emergency manual override
Necessary accessories: Valve adaptation in accordance with valve manufacturer, type and nominal size (diameter)

TECHNICAL DATA

HxWxD	260 x 208 x 115 mm
Spring return	- s
Size	S
Housing	Aluminium
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II 2(1) G Ex d [ia] IIC T6 II 2(1) D Ex tD [iaD] A21 IP66 T80 °C ATEX 94/9/EC
Basic data ExRun... actuators	24...240 V AC/DC self adaptable power supply up to 5 different running times adjustable on site. 5 to 60 mm stroke, mechanical limitation on each Position. automatic adaptation of modulating signal at Ex-...-Y. Integrated terminal box -20...+40 °C / +50 °C, integrated heater Emergency manual override

TYPE LIST

TYPE	DATA SHEET	ACTUATING THRUST	RUNNING TIME	CONTROL MODE	FEEDBACK	FEATURES
ExRun-5.10	90080	0.5/1.0 kN	2/3/6/9/12 s/mm	On-Off, 3-point	-	-
ExRun-25.50	90080	2.5/5.0 kN	2/3/6/9/12 s/mm	On-Off, 3-point	-	-
ExRun-75.100	90080	7.5/10.0(8.0) kN	4/6/9/12/15 s/mm	On-Off, 3-point	-	-
ExRun-5.10-U	90080	0.5/1.0 kN	2/3/6/9/12 s/mm	On-Off, 3-point	0...10 V DC, 4...20 mA	-
ExRun-25.50-U	90080	2.5/5.0 kN	2/3/6/9/12 s/mm	On-Off, 3-point	0...10 V DC, 4...20 mA	-
ExRun-75.100-U	90080	7.5/10.0(8.0) kN	4/6/9/12/15 s/mm	On-Off, 3-point	0...10 V DC, 4...20 mA	-
ExRun-5.10-Y	90081	0.5/1.0 kN	2/3/6/9/12 s/mm	0...10 V DC, 4...20 mA	0...10 V DC, 4...20 mA	-
ExRun-25.50-Y	90081	2.5/5.0 kN	2/3/6/9/12 s/mm	0...10 V DC, 4...20 mA	0...10 V DC, 4...20 mA	-
ExRun-75.100-Y	90081	7.5/10.0(8.0) kN	4/6/9/12/15 s/mm	0...10 V DC, 4...20 mA	0...10 V DC, 4...20 mA	-

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ACCESSORY

TYPE	DESCRIPTION
MKK-S	Mounting-bracket suitable for ..Box-terminal boxes for direct mounting on ..Run valve-actuators size „S”
ExBox-SW	Ex-e terminal box suitable for ExRun.. valve-actuators with external switches ExSwitch
ExSwitch-R-L	Externally adaptable, on site adjustable Ex-d auxilliary switch linear for ExRun-.. with 2 potential free contacts, additionally Ex-e terminal box + mounting bracket necessary
Adaption-ExRun	Different adaptations for different valve types and sizes available. Please don’t hesitate to ask for technical solution.

ExMax 90° Ex quarter turn actuators without spring return

DIGICONTROL ExMax...

ExMax are used in acc. with type for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Scope of delivery: One actuator, ~ 1m cable, allen key for manual override, Four screws

TECHNICAL DATA

Feedback	ExMax-...-Y: 0...10 V DC, 4...20 mA
Housing	Aluminium
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II 2(1) G Ex d [ia] IIC T6 II 2(1) D Ex tD [iaD] A21 IP66 T80 °C ATEX 94/9/EC IECEx
Basic data ExMax... actuators size “S” and “M”	24...240 V AC/DC self adaptable power supply Up to 5 different running times adjustable on site. 95° angle of rotation (5° for pretension), 100 % non blocking Cable 1 m -40...+40 °C / +50 °C, integrated heater Emergency manual override Squared shaft connection 12x12 mm (size S) or 16x16 mm (size M).

TYPE LIST

TYPE	DATA SHEET	DIM. (LX-WXD)	RUNNING TIME 90°	CONTROL MODE	FEATURES	TORQUE
ExMax-5.10	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	-	5/10 Nm
ExMax-15.30	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	-	15/30 Nm
ExMax-50.75	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	-	50/75 Nm
ExMax-100	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	-	100 Nm
ExMax-150	90091	287 x 149 x 116 mm	40/60/90/120 s	On-Off, 3-point	-	150 Nm
ExMax-5.10-S	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	5/10 Nm
ExMax-15.30-S	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	15/30 Nm
ExMax-50.75-S	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	50/75 Nm
ExMax-100-S	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	100 Nm

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TYPE LIST

TYPE	DATA SHEET	DIM. (LX-WXD)	RUNNING TIME 90°	CONTROL MODE	FEATURES	TORQUE
ExMax-150-S	90091	287 x 149 x 116 mm	40/60/90/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	150 Nm
ExMax-5.10-Y	90094	210 x 95 x 80 mm	7.5/15/30/60/120 s	3-point, 0...10 V DC, 4...20 mA	-	5/10 Nm
ExMax-15.30-Y	90094	210 x 95 x 80 mm	7.5/15/30/60/120 s	3-point, 0...10 V DC, 4...20 mA	-	15/30 Nm
ExMax-50.75-Y	90095	287 x 149 x 116 mm	40/60/90/120/150 s	3-point, 0...10 V DC, 4...20 mA	-	50/75 Nm
ExMax-100-Y	90095	287 x 149 x 116 mm	40/60/90/120/150 s	3-point, 0...10 V DC, 4...20 mA	-	100 Nm

ACCESSORY

TYPE	DESCRIPTION
AR-12-08	Squared reduction part from 12 × 12 mm to shafts with 8 mm
AR-12-10	Squared reduction part from 12 × 12 mm to shafts with 10 mm
AR-12-11	Squared reduction part from 12 × 12 mm to shafts with 11 mm
AR-16-12	Squared reduction part from 16 × 16 mm to shafts with 12 mm
AR-16-14	Squared reduction part from 16 × 16 mm to shafts with 14 mm
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integr. switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
ExBox-BF	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF
ExMax-MKK-S	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size „S”
ExMax-MKK-M	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size „M”
ExMax-KB-S	Mounting clamp for round damper shaft Ø 10 to 20 mm and squared shafts 10 to 16 mm, incl. bracket, connectable to all ExMax-... size „S”
ExSwitch	External, adaptable, on site adjustable Ex-d auxilliary switch with 2 potential free contacts, adaptable to ExMax-... actuators

ExMax 90° Ex quarter turn actuators with spring return

DIGICONTROL ExMax...

ExMax are used in acc. with type for automation of air dampers, fire and smoke dampers, volume control, as well as for ball valves, throttle valves and other quarter turn armatures.

Scope of delivery: One actuator, ~ 1m cable, allen key for manual override, Four screws

TECHNICAL DATA

Spring return	ExMax-5.10..., ExMax-15...: ~3/10 ExMax-15..., ExMax-30..., ExMax-60...: ~20 s
Feedback	ExMax-...-YF: 0...10 V DC, 4...20 mA
Housing	Aluminium
Protection class	IP66
Standards/rules/guidelines/ approvals	Explosion proof Zone 1, 2, 21, 22 Gas + dust PTB-certified II 2(1) G Ex d [ia] IIC T6 II 2(1) D Ex tD [iaD] A21 IP66 T80 °C ATEX 94/9/EC IECEx
Basic data ExMax... actuators size “S” and “M”	24...240 V AC/DC self adaptable power supply. up to 5 different running times adjustable on site 95° angle of rotation (5° pretension), 100 % non blocking Cable 1 m -40...+40 °C / +50 °C, integrated heater Emergency manual override Squared shaft connection 12x12 mm (size S) or 16x16 mm (size M).

TYPE LIST

TYPE	DATA SHEET	DIM. (LX-WXD)	RUNNING TIME 90°	CONTROL MODE	FEATURES	TORQUE
ExMax-5.10-F	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	-	5/10 Nm
ExMax-15-F	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	-	15 Nm
ExMax-30-F	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	-	30 Nm
ExMax-50-F	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	-	50 Nm
ExMax-60-F	90091	287 x 149 x 116 mm	40/60/90/120 s	On-Off, 3-point	-	60 Nm
ExMax-5.10-BF	90092	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	ExPro-TT-.. connector + 2 × EPU	5/10 Nm
ExMax-15-BF	90092	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	ExPro-TT-.. connector + 2 × EPU	15 Nm
ExMax-30-BF	90093	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	ExPro-TT-.. connector + 2 × EPU	30 Nm

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◂ CONTINUED FROM PAGE 371

TYPE LIST

TYPE	DATA SHEET	DIM. (LX-WXD)	RUNNING TIME 90°	CONTROL MODE	FEATURES	TORQUE
ExMax-50-BF	90093	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	ExPro-TT-.. connector + 2 × EPU	50 Nm
ExMax-60-BF	90093	287 x 149 x 116 mm	40/60/90/120 s	On-Off, 3-point	ExPro-TT-.. connector + 2 × EPU	60 Nm
ExMax-5.10-SF	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	5/10 Nm
ExMax-15-SF	90090	210 x 95 x 80 mm	3/15/30/60/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	15 Nm
ExMax-30-SF	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	30 Nm
ExMax-50-SF	90091	287 x 149 x 116 mm	40/60/90/120/150 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	50 Nm
ExMax-60-SF	90091	287 x 149 x 116 mm	40/60/90/120 s	On-Off, 3-point	2 × EPU (= 2 aux. switches @ 5° at 85°)	60 Nm
ExMax-5.10-YF	90094	210 x 95 x 80 mm	7.5/15/30/60/120 s	3-point, 0...10 V DC, 4...20 mA	-	5/10 Nm
ExMax-15-YF	90094	210 x 95 x 80 mm	7.5/15/30/60/120 s	3-point, 0...10 V DC, 4...20 mA	-	15 Nm
ExMax-30-YF	90095	287 x 149 x 116 mm	40/60/90/120/150 s	3-point, 0...10 V DC, 4...20 mA	-	30 Nm
ExMax-50-YF	90095	287 x 149 x 116 mm	40/60/90/120/150 s	3-point, 0...10 V DC, 4...20 mA	-	50 Nm

ACCESSORY

TYPE	DESCRIPTION
AR-12-08	Squared reduction part from 12 × 12 mm to shafts with 8 mm
AR-12-10	Squared reduction part from 12 × 12 mm to shafts with 10 mm
AR-12-11	Squared reduction part from 12 × 12 mm to shafts with 11 mm
AR-16-12	Squared reduction part from 16 × 16 mm to shafts with 12 mm
AR-16-14	Squared reduction part from 16 × 16 mm to shafts with 14 mm
ExBox-3P	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation
ExBox-3P/SW	Ex-e terminal box connectable to ExMax-... actuators with 1 cable for On-off or 3-pos operation + 2 cable for external aux. switches type ExSwitch
ExBox-Y/S	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating operation or 3-pos + integr. switches (HS)
ExBox-Y/S/SW	Ex-e terminal box connectable to ExMax-... actuators with 2 cable, for modulating or 3-pos operation with feedback signal + 2 cable for external aux. switches
ExBox-BF	Ex-e terminal box connectable to ExMax-... actuators with 1 cable, for all ExMax-...-BF

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◂ CONTINUED FROM PAGE 372

ACCESSORY

TYPE	DESCRIPTION
ExMax-MKK-S	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size „S”
ExMax-MKK-M	Mounting bracket for ...Box-terminal boxes for direct coupling to ...Max... actuators size „M”
ExMax-KB-S	Mounting clamp for round damper shaft Ø 10 to 20 mm and squared shafts 10 to 16 mm, incl. bracket, connectable to all ExMax-... size „S”
ExSwitch	External, adaptable, on site adjustable Ex-d auxilliary switch with 2 potential free contacts, adaptable to ExMax-... actuators

DIGICONTROL Trainings 7

TRAINING

Welcome to the DIGICONTROL training portfolio

Training is a very important factor and learning by doing is very cost- und time intensive. Look at our comprehensive and attractive range of training courses. We are confident that we can inspire you with our sophisticated seminars.

We can guarantee successful learning because of a cutting-edge infrastructure, high-quality equipment, qualified trainers and an entertaining atmosphere. All workplaces are equipped with the latest technology and our seminars are a good mix of theory and best practice. This is the basis for a permanent learning result.

Our seminars entail the following topics, among others: control strategies, project creation with WEBPROJECT, programming emsX controllers with webCADpro, operating and configuring the BACS management software WEBVISION 5 or setting up the energy data management WEBENCON.

Contact us if you consider the training contents or dates as not completely satisfactory. We will find a solution and offer tailored seminars on your desired date on site or as webinar.

If you have further questions, contact us at:
schulung.ba@bosch.com

We look forward to welcoming you to one of our seminars.

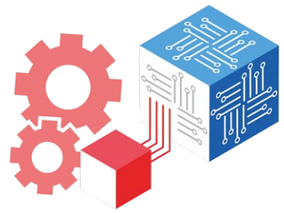
www.digicontrol.info/schulung

Please consult our homepage for more information about our comprehensive training portfolio.

TYPE	DESCRIPTION
SCHUL_EMS2_4_B	Automation equipment ems2 / ems4 basic course
SCHUL_EMS2_4_E	Automation equipment ems2 / ems4 advanced course
SCHUL_EMS2_4_P	Automation Equipment ems2 / ems4 project solutions
SCHUL_EMS5_B	Automation equipment ems5 basic course
SCHUL_EMS5_E	Automation equipment ems5 advanced course
SCHUL_EMS5_P	Automation equipment ems5 project solutions
SCHUL_EMS_KOM	Communication connections for automation Equipment ems2 / ems4 /ems5
SCHUL_EMS_VIS	Visualisation for the automation Equipment ems2 / ems4 / ems5
SCHUL_BACNET_EMS5	BACnet basic course and BACnet in the automation system ems5
SCHUL_WV5_A	Technical Building management with WEBVISION 5 user course
SCHUL_WV5_S	Technical Building management with WEBVISION 5 course for system integrators
SCHUL_WV5_ADM	Technical Building management with WEBVISION 5 course for administrators
SCHUL_WE4_B	Enery data management with WEBENCON 4 basic course
SCHUL_WE4_ADM	Energy data management with WEBENCON 4 course for administrators
SCHUL_WP_B	Project engineering and planning of building automation with WEBPROJECT basic course
SCHUL_WP_A	Project engineering and planning of building automation with WEBPROJECT course of administrators
SCHUL_REG_HYD	Control strategies and hydraulics in buildings
SCHUL_HBGA_B	Training on operation of buildings in accordance with HB GA 3.0
SCHUL_HBGA_I	Training on maintenance in accordance with HB GA 3.0

Automation equipment ems2 / ems4 basic course

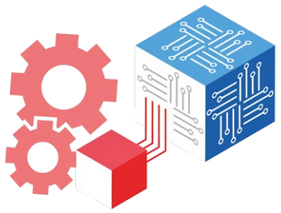
Introduction to the hardware of the Economic Modular System with a detailed technical description and its application possibilities as well as introduction, operation and configuration in automation software webCACpro and the integration of the automation stations of the Economic Modular System (ems).



Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Two days
Course contents	■ The hardware of the Economic Modular System ■ Introduction of DIGICONTROL AS modules ■ Overview and function of webCADpro ■ Menu view / chart view / block view ■ Creating a new project ■ Function blocks ■ Display configuration ■ Trend configuration ■ Alarm configuration
Learning Targets / benefits	The seminar participants get to know the most important DIGICONTROL automation stations and extension modules. The students learn about the technical basics, special funtions and range of applications of the individual modules. The participants will be able to operate the automation software webCADpro, can position and configure function blocks and load the program into the automation station.
Target group	Only for licensees and service technicians
Prerequisites for attendance	Basic knowledge on how to operate the current interface of Windows or Windows Server
Group size	Three to six participants

TYPE
SCHUL_EMS2_4_B

Automation equipment ems2 / ems4 advanced course



Professional and efficient application of automation software webCACpro and how to use plant macros.

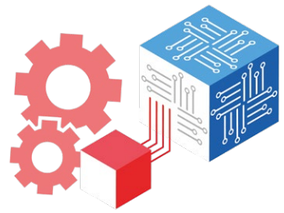
Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Project-related configuration in webCADpro ■ Function blocks ■ Macro configuration
Learning Targets / benefits	The participant understands the additional options of webCADpro, which enable him to implement the automation station program effectively and systematically. The focus of the seminar is the effective use of webCADpro by means of plant macros.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Basic knwoledge on how to operate the current interface of Windows or Windows Server ■ Thorough knowledge of heating, ventilation and air-conditioning plants e.g. participationin course Control strategies and hydraulics in buildings ■ Participation in training Automation systems ems2 / ems4 basic course
Group size	Three to six participants

TYPE

SCHUL_EMS2_4_E

Automation equipment ems2 / ems4 project solutions

Solution approaches of best practice plants

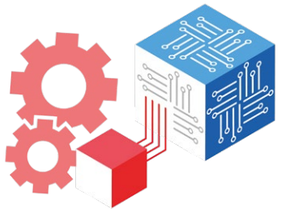


Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Implementation of several plant configurations ■ Project-related configuration in webCADpro ■ Problem resolution with respect to complex tasks
Learning Targets / benefits	The participant recognises the additional possibilities of webCADpro. This enables him to realise the programming of the automation stations in an efficient and target-oriented way. The focus of the seminar is knowledge transfer of problem solutions in complex plant structures. Best practice plants will serve as examples.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Participation in seminar Automation equipment ems2 / ems4 basic course ■ Participation in training Automation equipment ems2 / ems4 advanced course ■ Basic knowledge on how to operate the current interface of Windows or Windows server ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. participation in course Control strategies and hydraulics in buildings
Group size	Two to four participants

TYPE

SCHUL_EMS2_4_P

Automation equipment ems5 basic course



Introduction to the hardware of the Economic Modular System with a detailed technical description possibilities. Introduction, operation and configuration of automation software iBASuite.Builder and the integration of the automation stations of the Economic Modular System (ems).

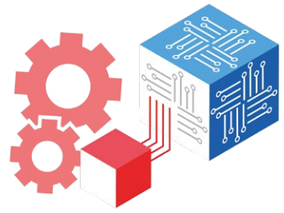
Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Two days
Course contents	■ The hardware of the Economic Modular System ■ Introduction of DIGICONTROL AS modules ■ Overview and function of iBASuite.Builder ■ Menu view / chart view / block view ■ Creating a new project ■ Function blocks ■ Display configuration ■ Trend configuration ■ Alarm configuration
Learning Targets / benefits	The seminar participants get to know the most important DIGICONTROL controllers and extension modules. The students learn about the technical basics, special functions and range of applications of the individual modules. The participants will be able to operate the automation software iBASuite. Builder, can position and configure function blocks and load the program into the automation station.
Target group	Only for licensees and service technicians
Prerequisites for attendance	Basic knowledge on how to operate the current interface of Windows or Windows Server
Group size	Three to six participants

TYPE

SCHUL_EMS5_B

Automation equipment ems5 advanced course

Professional and efficient application of automation software iBASuite. Builder and how to use plant macros.

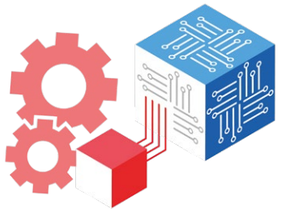


Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Project-related configuration in iBASuite.Builder ■ Function blocks ■ Macro configuration
Learning Targets / benefits	The participant understands the additional options of iBASuite.Builder which enable him to implement the automation station program effectively and systematically. The focus of the seminar is the effective use of iBASuite.Builder by means of plant macros.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows Server ■ Thorough knowledge of heating, ventilation and air-conditioning plant e.g. participation in course Control strategies and hydraulics in buildings ■ Participation in seminar Automation equipment ems5 basic course
Group size	Three to six participants

TYPE

SCHUL_EMS5_E

Automation equipment ems5 project solutions



Solution approaches of best practice plants

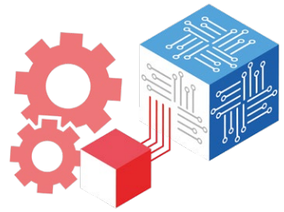
Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Implementation of serveral plant configurations ■ Project-related configuration in iBASuite.Builder ■ Problem resolution with respect to complex tasks
Learning Targets / benefits	The participant recognises the additional possibilities of iBASuite.Builder which enable him to realise the programming of the automation stations in an efficient and target-oriented way. The focus of the seminar is knowledge transfer of problem solutions in complex plant structures. Best practice plants will serve as examples.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Participation in seminar Automation equipment ems5 basic course ■ Participation in training Automation equipment ems5 advanced course ■ Basic knowledge on how to operate the current interface of Windows or Windows Server ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. participationin course Control strategies und hydraulics in buildings
Group size	Two to four participants

TYPE

SCHUL_EMS5_P

Communication connections for automation equipment ems2 / ems4 / ems5

This introduction to bus systems and networks comprises the general basic of the systems that are particularly used in the field of building automation. The seminar entails an introduction to the hardware and configuration of various networks by means of e.g. webCADpro.

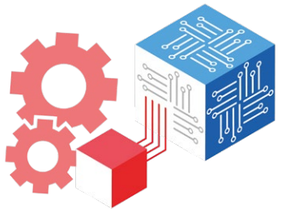


Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Structure and configuration of S bus, T bus ■ Structure and configuration of CAN bus ■ Structure and configuration of Modbus, EnOcean, KNX ■ Structure and configuration of M-bus, DALI ■ Overview and function of network components and their configuration in Windows ■ Configuration in the automation stations
Learning Targets / benefits	The participants are knowledgeable as it relates to the structure of the individual bus systems. They are able to connect and configure the bus systems.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows Server ■ Participation in seminar Automation equipment ems2 / ems4 basic course or Automation equipment ems5 basic course
Group size	Three to six participants

TYPE

SCHUL_EMS_KOM

Visualisation for the automation equipment ems2 / ems4 / ems5



Introduction to the hardware of the automation systems ems2 / ems4 / ems5, the DIGICONTROL web touch panels and the R4D.RT7 room control unit. Configuration of graphic operation by means of HMI configurator.

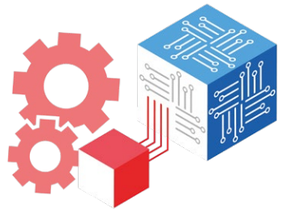
Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Half a day
Course contents	■ Overview and function of HMI configurator ■ Project creation in HMI configurator ■ Overview WEBPROJECT HMI ■ Import from WEBPROJECT plant engineering ■ Configuration of symbols ■ Library, HMI export ■ EMI configuration ■ Configuration and operation of the R4D.RT7 ■ Configuration and operation of the ems graphical webserver
Learning Targets / benefits	The participants of the training can configure the ems graphical webserver and the R4D.RT7 with the help of the HMI configurator and the WEBPROJECT HMI function and design the user interface. You can transfer the data points to be displayed from webCADpro.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windwos server ■ Participation in training Automation equipment ems2 / ems4 basic course or Automation equipment ems5 basic course ■ Participation in seminar Building automation planning and project engineering with WEBPROJECT DIGICONTROL
Group size	Three to six participants

TYPE

SCHUL_EMS_VIS

BACnet basic course and BACnet in the automation system ems5

The first part of the training comprises the introdruction to the BACnet basics and the most important BACnet objects. The seconds par focuses on the practical application of the knowledge which is required for configuring the automation equipment ems5 and the automation software iBASuite.Builder.



Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ BACnet basics ■ BACnet objects ■ BACnet service ■ Schedule, Calendar ■ BACnet basics for the automation equipment ems5 ■ iBASuite.Builder BACnet object editor ■ iBASuite.Builder BACnet project options ■ BACnet communication in iBASuite.Builder
Learning Targets / benefits	The participants of this training understand the requirements and special features of BACnet as well as the basic funtionalities of the most important BACnet objects.
Target group	Licensees and service technicians who operate the system and interested customers.
Prerequisites for attendance	■ Basic knowledge in the operation of the current user interface of Windows or Windows Server ■ Participation in the basic course for automation equipment ems2 / ems4 or in the basic course for automation equipment ems5
Group size	Three to six participants

TYPE

SCHUL_BACNET_EMS5

Technical Building management with WEBVISION 5 user course

Introduction to configuration of the BACnet building management software WEBVISION 5.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Design of WEBVISION 5 ■ Essential BACnet basics ■ Monitoring ■ Representation of trends and trend profiles ■ Alarms and events
Learning Targets / benefits	The seminar shows the complete range of functions of the certified BACnet Advanced Workstation (AWS) WEBVISION 5 by means of an existing project. The participants gain practical experience with the tenant-capable user management.
Target group	Licensees, operators and service technicians who run and operate the system.
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows Server ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. Control strategies and hydraulics in buildings
Group size	Three to six participants

TYPE

SCHUL_WV5_A

Technical Building management with WEBVISION 5 course of system integrators

Project configuration of BACnet building management software WEBVISION 5.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Contents building management with WEBVISION 5 user course ■ Administration of Windows server: paths, SQL data base ■ Usage of services and log files and possible backup strategies ■ Creating a project on basis of a new installation ■ User and tenant management ■ Integration of new devices ■ Creation of a project structure and creation and modification of graphics ■ Animation of data points
Learning Targets / benefits	The participants of the seminar can effectively configure the building management software WEBVISION 5 and the user and tenant management. They can integrate automation stations, create and edit graphics.
Target group	Only for licensees and service technicians
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows server ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. participation in course Control strategies and hydraulics in buildings ■ Participation in seminar BACnet basic course
Group size	Three to six participants

TYPE

SCHUL_WV5_S

Technical Building management with WEBVISION 5 course of administrators

Installation and maintenance of BACnet-AWS WEBVISION 5 on server level.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ System requirements ■ Installation of software ■ Performing software updates ■ Maintenance of SQL data base server ■ Backup & restore
Learning Targets / benefits	Installation and system maintenance of management systems on Windows server operating systems.
Target group	IT specialists of licensees with regular WV5 installation or independent software maintenance.
Prerequisites for attendance	■ Thorough knowledge on how to operate current Windows server operating systems ■ Participation in seminar Technical Building management with WEBVISION 5 course of system integrators
Group size	Three to six participants

TYPE

SCHUL_WV5_ADM

Energy data management with WEBENCON 4 basic course

Configuration and operation of the energy data management software WEBENCON 4.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Two days
Course contents	■ Overview and basics of energy data management software WEBENCON ■ Hardware ■ Menu structure ■ Introduction of the modules Monitoring, Administration and Controlling ■ Safe operation of additional WEBENCON modules: Controlling, Limiting, Cost and Reporting
Learning Targets / benefits	The seminar enables the operating staff to create energy management structures like facilities, buildings and consumption points on their own. The participants can independently create and manage simple evaluations and standard templates. They are also aware of different evaluation methods and are able to edit templates.
Target group	Licensees, operators and service technicians who run and operate the system.
Prerequisites for attendance	■ Basic knowledge on operating the current interface of Windows or Windows Server ■ Basic knowledge in MS Word and Excel ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. participation in seminar Control strategies and hydraulics in buildings
Group size	Three to six participants

TYPE

SCHUL_WE4_B

Energy data management with WEBENCON 4 course for administrators

Administration, maintenance and extension of the energy data management with WEBENCON 4.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Setting up interfaces like Modbus, M-Bus or automatic CSV import ■ Configuring the user management including roles and rights, setup of notification management ■ System requirements ■ Maintenance of SQL data base server ■ Backup & restore
Learning Targets / benefits	Management systems are only as good as they are maintained. The target of the training is to teach the participants the administration, maintenance and expansion of operational energy data management with WEBENCON.
Target group	Licensees and service technicians who run the system
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows server ■ Good knowledge in MS Excel ■ Participation in seminar Energy data management with WEBENCON 4 basic course ■ Participation in seminar Technical Building management with WEBVISION 4 basic course or Building management with WEBVISION 5 course for system integrators
Group size	Three to six participants

TYPE

SCHUL_WE4_ADM

Project engineering and planning of building automation with WEBPROJECT basic course

Planning building automation plants with WEBPROJECT.

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Two days
Course contents	■ Adding own graphics ■ Scope of performance “Planning on the WEB” ■ Overview, basics and program structure of WEBPROJECT ■ Project and worksheet administration ■ Editing device properties ■ List generation ■ User data, support commands and options ■ Copying plants across projects ■ Establishment and usage of projects standards in companies ■ Editing advanced device properties
Learning Targets / benefits	The participants of this seminar can create a complete building automation project by means of the planning and project engineering software WEBPROJECT. They are aware of the extended funtions and can apply them effectively.
Target group	All people who plan projects and are involved in project engineering.
Prerequisites for attendance	■ Basic knowledge on operating the current interface of Windows or Windows Server ■ Basic knowledge of Word and Excel ■ Thorough knowledge of heating, ventilation and air-conditioning plants, e.g. participation in seminar Control strategies and hydraulics in buildings
Group size	Three to six participants

TYPE

SCHUL_WP_B

Project engineering and planning of building automation with WEBPROJECT course of administrators

Tailoring WEBPROJECT to the individual requirements of the company.

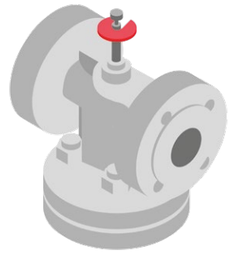
Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Introduction to WEBPROJECT ■ The directory structure ■ Project and user administration ■ Managing and editing device data ■ Administration and adaptation of macros ■ The support commands
Learning Targets / benefits	The participants of this seminar can edit, administrate and expand the WEBPROJECT libraries.
Target group	All people that plan and engineer building automation projects and are in charge of maintenance and administration.
Prerequisites for attendance	■ Basic knowledge on operating the current interface of Windows or Windows Server ■ Good knowledge in Word and Excel ■ Thorough knowledge of heating, ventilation and air-conditioning plants e.g. participation in seminar Control strategies and hydraulics in buildings ■ Participation in seminar Project engineering and planning of building automation with WEBPROJECT basic course
Group size	Three to six participants

TYPE

SCHUL_WP_A

Control strategies and hydraulics in buildings

Sound knowledge of hydraulic and control engineering interrelationships is the prerequisite for the design, commissioning and efficient operation of supply systems.



Enquiries and registration	Mail to training.ba@bosch.com
Course duration	One day
Course contents	■ Basic knowledge of hydraulics in buildings like conversions, pressure, Bernoulli, characteristic curves, discharge heads and pressure control ■ Hydraulic basic circuits ■ Valve sizing ■ Control strategies heating with hot water preparation ■ Control strategies ventilation with different components ■ Humidity sensors and humidity control ■ Pressure sensors and pressure control
Learning Targets / benefits	The participants of this seminar get on overview of the most important tasks in supply technology for ensuring the optimum operation at the lowest energy consumption. This allows an optimum coordination of energy consumption and comfort requirements.
Target group	Licensees, operators and service technicians who plan, operate and run the system
Prerequisites for attendance	■ Basic knowledge on operating the current interface of Windows or Windows Server ■ Basic knowledge in Excel and Word ■ Knowledge of heating, ventilation and air-conditioning plants
Group size	Three to six participants

TYPE

SCHUL_REG_HYD

Training on operation of buildings in accordance with HB GA 3.0

Introduction to the operation of building automation in accordance with HB GA 3.0

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Five days
Course contents	■ Overview and basics of building management software PROFIVISION ■ System characteristics ■ Operation of system components ■ Command language and console operation ■ Program processes ■ Backup ■ Creation and evaluation of statistics ■ Processing alarm and event messages ■ Changing set point values and setting parameters
Learning Targets / benefits	The participants of this seminar can use the building management software PROFIVISION effectively. They are aware of the system components, program processes and trend function, can invoke graphics and operating screens, are able to change set point values and are familiar with the individual program functions.
Target group	Licensees, operators and service technicians who run and operate the system
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windwos server ■ Basic knowledge in Word and Excel ■ Thorough knowledge of heating, ventilation and air-conditioning plants e.g. paritcipation in course Control strategies and hydraulics in buildings
Group size	Two to four participants

TYPE

SCHUL_HBGA_B

Training on maintenance in accordance with HB GA 3.0

Introduction to maintenance in accordance with HB GA 3.0

Enquiries and registration	Mail to training.ba@bosch.com
Course duration	Five days including one day of on-site examination
Course contents	■ Changing system parameters ■ Modification and correction on files ■ Loading und starting of basic and application programs ■ Interventions into the routine procedure ■ Maintaining and servicing system components ■ Programming the automation stations ■ Connecting an automation station on the building control system ■ Creation and animation of plant graphics in accordance with trade specifications
Learning Targets / benefits	The participants of this seminar can create automation station programs, commission them and connect them with the building control system. They can create plant schemes and operating screens in the building control system. They are aware of the system components and can service them.
Target group	Licensees, operators and service technicians who run and operate the system.
Prerequisites for attendance	■ Basic knowledge on how to operate the current interface of Windows or Windows server ■ Basic knowledge of Word and Excel ■ Thorough knowledge of heating, ventilation and air-conditioning plants e.g. participation in course Control strategies and hydraulics in buildings ■ Participation in course Training on operation of buildings in accordance with HB GA 3.0
Group size	Two to four participants

TYPE

SCHUL_HBGA_I

DIGICONTROL

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