

Automation Product Overview  
2006/2007

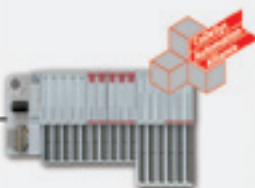
## Future-Proof Automation with **xSystem**

With  
**xSystem**  
Micro Innovation AG  
offers you a perfectly  
matched product  
range for control  
and visualization  
solutions.

**xSystemV**



**xSystemN**



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Switzerland






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The information provided in this brochure may not always apply in the described form in actual applications or may change slightly as a result of further developments of the products.  
An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Subject to availability and technical modifications.

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 HMI, HMI-PLC
 XI/ON, WINbloc
 Software
 Service, sales, support

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# The company – your partner

## For innovations in automation

**Thinking globally, looking ahead, shaping the future, realizing visions, supplying solutions – this is our aim.**

**Embodying the almost indefinable in our name, thus securing the lead, finding different ways.**

**Innovation in automation, in building systems engineering or in the industrial environment – this is our commitment.**



Micro Innovation, with its headquarter in St. Gallen Switzerland, is one of the leading manufacturers of innovative solutions in the field of industrial and building automation as well as machine and system building.

Our products are manufactured in Switzerland and Germany in order to ensure the highest standards in quality.

Micro Innovation was founded in 1990, inspired by the vision of making complex control systems easy to operate. At that time the company had already closed a gap in the market with its innovative devices and had thus revolutionized machine operation.

Micro Innovation started out as one of the first companies to supply rugged **infra-red touch technology**.

The company has now successfully established itself in the automation sector with the development and sale of touch-sensitive HMI equipment and is a leading supplier of infra-red touch displays.

The existing range of tried and tested flat-screen display solutions has now been extended to include powerful onboard PLC functionality in compliance with IEC 61131-3.

This enables the implementation of seamless system solutions via all network levels with integrated operator systems.

The company has enjoyed a successful collaboration with Moeller for over fifteen years.

The international sales channels of the Moeller Group have made visualization systems accessible to all important markets worldwide.

These powerful devices are thus in operation round the clock, successfully performing their tasks all over the world.

Continuous growth and the additional focus on system solutions are now leading to the next logical step:

- Expansion of our support and sales network in Germany with headquarters in Bonn
- Acquisition and further development of the recognized brand name xSystem

**xSystem**



# Micro Innovation – Moeller

## Outlooks for the future

For many years Micro Innovation has provided the expertise for Moeller visualization systems with infra-red touch technology. From the VTP and MV4 device series up to the current XV device generation, these innovative visualization solutions always came with the know-how of Moeller's Swiss subsidiary built in. Regardless of whether hardware or software, everything comes from a single source.

To achieve greater customer proximity, all essential parts of the xSystem products have now been combined in one operative unit and under the management of Micro Innovation. This now enables Micro Innovation to offer future-proof system solutions that are highly attractive and which are based on a seamless and cost-effective design using HMIs, HMI-PLCs and the XI/ON remote I/O system.

Products that go together can now grow together.

At the same time collaboration between Moeller and Micro Innovation will be further expanded both in sales and in technical aspects – to your advantage.

Micro Innovation and Moeller two specialists that form a team working hand in hand with one goal in mind: Innovative solutions for you. We believe that as a mobile unit we can meet your requirements quickly and effectively. Short decision routes and direct contact shortens the development process and form the basis for economical solutions.

We are proud to be your partners.



**mi** **micro innovation**  
A **MOELLER**  Company

**Yang-Soo Kang**  
Chief executive officer  
Micro Innovation Holding AG

**MOELLER** 

**Dr. Martin U. Scheffter**  
Chief executive officer  
Moeller Holding GmbH

# The Right Partner for Your Application.



## Micro Innovation – give your machine a face.

Since 1990 we have been operating in a rapidly changing market with continuously growing success. Since then we have integrated your requirements and experience into our products with the aim of making everything as easy as possible for you. The personal contact provided by our support and sales departments will give you the surety of having a competent advisor on your side. Regardless of whether standard products or custom developments are required, we will find the right solutions and provide optimum support.

Machine and system visualization, the business card of your system solution is the interface to the operator.

A number of communication options ensure that your system can be integrated in existing installations. Whether Profibus DP, CAN, Device Net, Modbus-IP, everything is possible.

The XI/ON modular remote I/O system with its unique ability to combine high density low-cost I/O with high granularity slice modules is the ideal partner for our powerful touch panels with brilliant infra-red technology and safety glass displays.

xSystem enables the creation of an intuitive dialog between man and machine. The machine now has a face.

We look forward to helping you with it.

## Micro Innovation two partners,

 **micro innovation**  
A MOELLER Company

**and Moeller –  
one team.**

**MOELLER** 

We keep power under control.

**Moeller – quality and efficiency.**

For over a hundred years the Moeller Group has always been concerned with creative ways of handling energy and giving it direction, form and purpose to thus make it available where it is needed. This is achieved through the use of quality products and technical innovations, with products and solutions for industry and buildings. As leading specialists in electrical engineering, Moeller is always the right address when it comes to energy distribution, switching, protecting, operating, visualization and control.

Moeller is always present where there are growing markets: as an advisor close to hand with its own branches and production sites – your strong local partner with global expertise. You benefit from short routes and a global sales network of the company's own subsidiaries and distributors in over 90 countries.

Moeller is always ready for new challenges and shapes the future of electrical engineering with new ideas, helping you in the creation of efficient and future-oriented solutions. We bring passion and focus to our core area of expertise – energy distribution and automation.



# Innovative Visualization Solution with Integrated PLC



## xSystemV

xV200

xV400

xVS400

xVH300

Whether for machine/system building or for single projects, there is hardly an application in which a HMI cannot simplify operation and support the operator.

Modern touch displays ensure clear, flexible menu guidance in any language required and enable the machine manufacturer to sell machines worldwide with only one hardware and software solution. From 5.7" to 15" HMI-PLC touch displays, the ideal solution can be found for any machine. Solutions for open-loop, closed-loop, positioning and communication tasks can now be implemented with MXpro in accordance with IEC 61131-3.

The visualization system can be created easily using Galileo.

**HMI or HMI-PLC**

The removable Compact-Flash™ determines the device function and the project design tool required. Using the devices as a HMI provides you with a user-friendly and inexpensive touch operator panel. Devices can be connected to virtually any programmable controller thanks to the open interfaces and wide range of communication options provided by the Galileo visualization software. The same level of flexibility is provided with the HMI-PLC function – the visualization combined with the MXpro PLC software. MXpro is an IEC 61131-3 compliant programming system based on CoDeSys from 3S. As well as ensuring considerable cost savings for the PLC, use of the panel as a HMI-PLC provides a flexible automation platform that allows a wide range of network options including the most advanced IT technology.

**Portrait format**

The panels can be used in portrait format (rotated 90°) if required.



**Programming device**

Both the visualization system and the PLC functionality can be developed on a standard PC and then transferred quickly and network-enabled to the panel via a LAN.

**Control level**

OPC client/servers or DXS services provide limitless opportunities for the integration of panels in the control level and the IT world.

**Teleservice/remote diagnostics**

Standard modems/routers can be used to provide you with unrestricted remote access to the entire system. Thanks to the integrated web server functions in the panel, you can view its latest service data simply via a browser.

**Alarms**

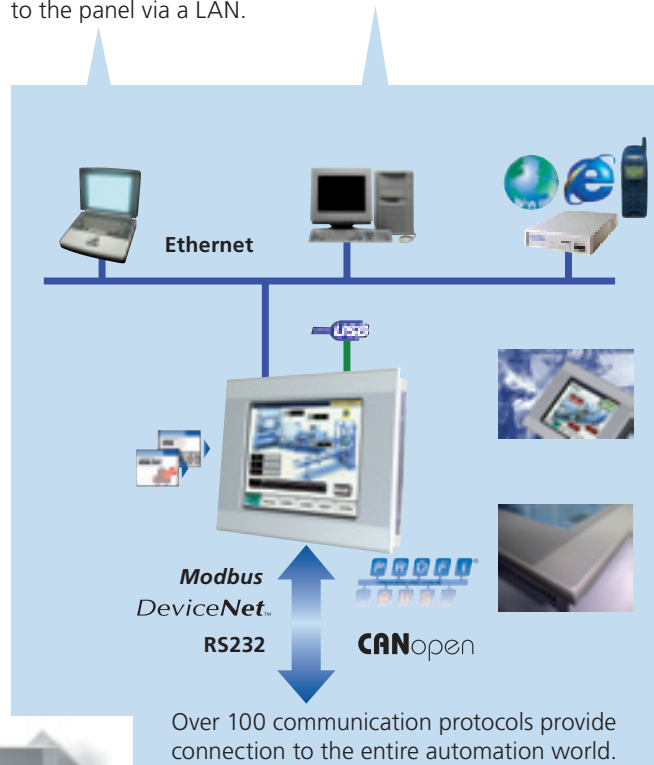
Increase production, send SMS messages or emails in the event of faults.

**Infra-red light matrix touch**

Thanks to its optical light matrix touch system and the safety glass operating surface, the panel can match the most demanding mechanical requirements.

**Resistive touch**

A front design with an absolutely flat (seamless) polyester seal on resistive touch panels meets the highest standards in terms of cleanliness, resistance to greases, oils and cracking.



Over 100 communication protocols provide connection to the entire automation world.



**XV200**

The XV200 touch display series offers a fully graphical 5.7" monochrome or color display with 256 grayscales/ colors, resistive touch technology as well as a wide range of communication and networking options



**XV400**

Micro Innovation's XV400 touch display series is a scalable future-proof device generation. Its ability to be expanded with specific communication options ensures optimum flexibility.



**XVS400**

Thanks to the wide range of interfaces available onboard, the XVS400 compact devices can be adapted precisely to the world's leading automation systems.



**XVH300**

The XVH300 HMI displays with 5.7" infra-red or resistive touch are specially developed and powerful visualization and data management systems with Ethernet and communication interfaces such as Sucom A, Suconet K or CAN onboard.

# HMI or HMI-PLC XV200 Future-Proof Machine Operation at an Excellent Price



CANopen

Ethernet

RS232



**xSystemV**

5.7"

color or mono

Ethernet

CANopen

MPI and Profibus

RS232

PLC (optional)

The new XV200 touch display device series offers either a fully graphical 5.7" FSTN monochrome display with 256 greyscales or a fully graphical 5.7" color display with 256 colors, industrial resistive touch technology as well as a wide range of communication and network options. The touch-sensitive display ensures intuitive operation and visualization. Language-neutral and self-explanatory touch switches can be created to provide clearly designed operating screens. PLC functionality can be implemented on the XV200 devices if required. All devices come with an Ethernet and USB Device interface. Depending on the device type, CAN, Profibus (MPI/PPI/DP) or RS232 can be provided as additional interfaces.



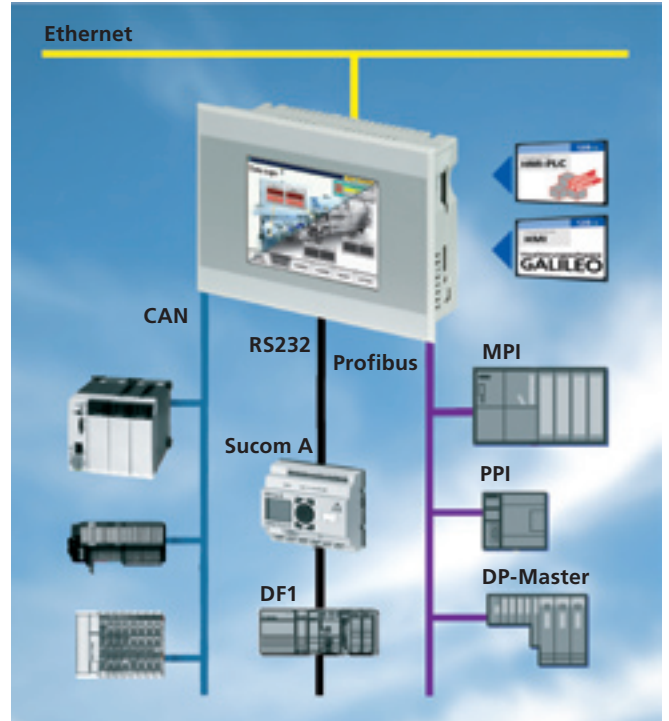
### Flexible communication

Thanks to the large selection of protocols available and the RS232 interface, visualization systems can be provided for the latest PLCs – in particular the following: Moeller easy control relays, the tried and tested Moeller PS4 programmable controllers. Others can also be connected via DF1 or Modbus RTU.

The CAN interface enables data exchange implementation between the various CANopen controller components such as: Moeller XC100/200 or the XN-PLC-CANopen programmable XI/ON gateway and many motion systems. With integrated PLC functionality the complete range of CAN-based I/O and motion systems are available.

The Profibus interface, which is connected to controllers via MPI or PPI, offers additional communication options. Alternatively it can be used as a DP master at up to 1.5 Mbaud.

The onboard Ethernet interface ensures fast program downloads as well as supporting networking with other xSystem controllers via UDP or TCP/IP and the CoDeSys-based SymARTI driver. Other industrial Ethernet protocols such as Industrial Ethernet or EtherNet/IP are available.



### HMI or HMI-PLC

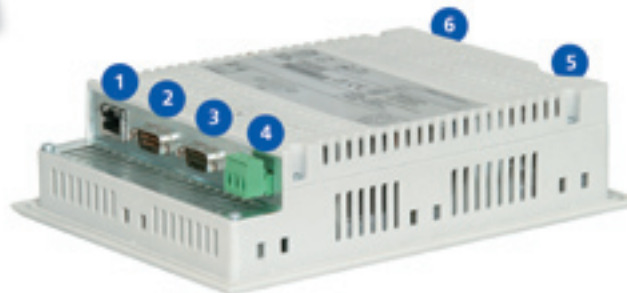
If required the XV200 can also provide the PLC functionality for small automation tasks. Programming in compliance with IEC 61131-3 is carried out in the CoDeSys-based *MXpro* software.

The Galileo visualization tool offers a number of features such as UNICODE support, password management (200 levels, 500 users), online project simulation on the PC, alarm and history functions, recipe management and printer functions.

The UL/CS approved devices are suitable for use worldwide. XV200 devices are designed for operation in dust-laden environments in accordance with the ATEX Directive 94/9/EC Group 22 Cat. 3 D.



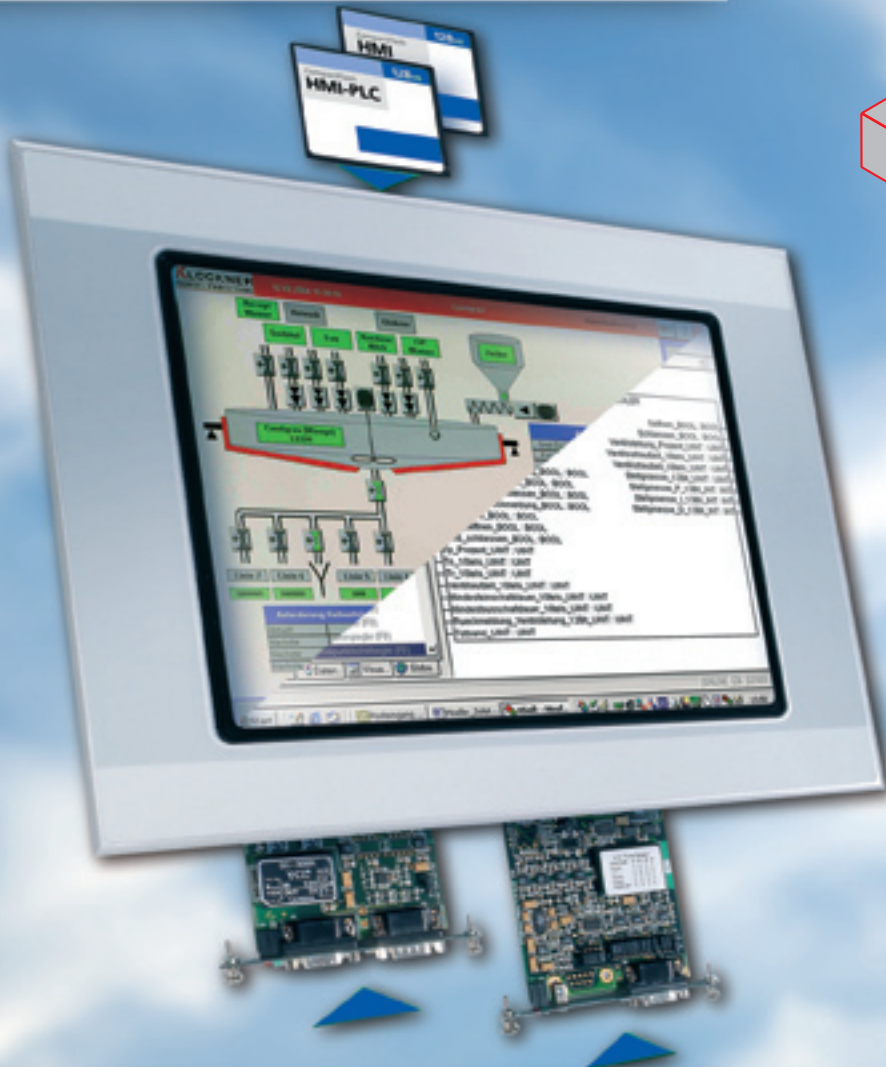
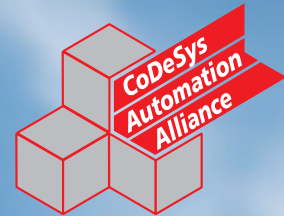
The XV200 can be used alternatively in portrait format (rotated 90°). The small mounting depth and the rugged front (IP65) of XV200 series devices means that they are ideally suited for operation close to the machine.



- 1 Ethernet
- 2 CAN or Profibus (optional)
- 3 RS232 (optional)
- 4 24 V DC
- 5 CompactFlash
- 6 USB Device

# HMI or HMI-PLC XV400

## The Right Solution for Every Task



**CANopen**

**Ethernet**

**RS232**



**xSystemv**

5.7" to 12.1"

Infra-red or resistive

Ethernet

USB

RS232

CANopen

Communication cards

PLC (optional)

Micro Innovation's XV400 touch display series is a scalable future-proof device generation. The powerful computer architecture with a processing speed of 400 MHz provides sufficient performance for complex HMI or combined HMI-PLC applications.

XV400 devices are available in different touch technologies for use in a wide range of environmental conditions.

The highly rugged infra-red light matrix touch or the industrial resistive touch with an absolutely flat laminated polyester foil are protected against cracking.

The scalable display sizes from 5.7" to 12.1", over 100 communication protocols as well as CAN and optional Profibus DP (12 Mbaud) enable the XV400 series to master any task.



**Communication onboard**

- 1 CANopen
- 2 USB
- 3 Ethernet
- 4 RS232
- 5 24 V DC

## The communication professional:

**Over 100 communication protocols to all popular PLC systems.**

The devices of the XV400 series offer a wide range of communication options. One or two communication slots, CAN, Ethernet 10/100Mbit, USB Host, USB Device, RS232 directly onboard ensure maximum flexibility, whether as HMI, HMI-PLC, panel with gateway function or as a connection via Ethernet TCP/IP to the control level. Onboard functions such as WEB browser, FTP server, remote client/ server or OPC client/server offer not only new networking options and programming options, they also provide customers and users with a considerable innovation edge for their automation solution.

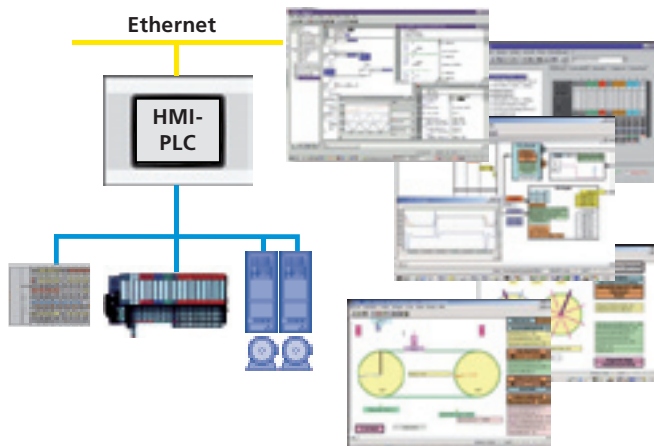
**List of some available protocols:**

A. BRADLEY	DF1 / EtherNet/IP
BECKHOFF	TwinCAT ADS
EIB	EIB-ETS2
MITSUBISHI	A Series
MOELLER	easy / Sucom A / Suconet K / CANopen / CoDeSys
OMRON	C H K Series
SAIA	S-Bus / MPI
SIEMENS	PPI / MPI / DP Slave / Industrial Ethernet
TELEMECHANIQUE	Unitelway new
Others	OPC / Modbus RTU / Modbus TCP/IP / CoDeSys (SymArti) / CANopen (SDO/PDO) / 3964R



### Developed for the harshest environment

Thanks to the optical light matrix touch system and the safety glass operating surface the infra-red touch devices can match even the most demanding mechanical requirements.

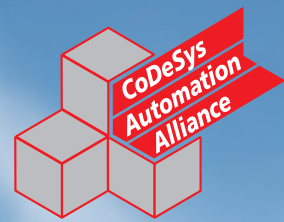


### Powerful PLC

As well as ensuring considerable cost savings for the PLC, usage of the XV400 as a HMI-PLC provides a powerful and flexible automation platform that allows a wide range of network options including the most advanced IT technology. The Galileo and MXpro project design tools, together with closed-loop control toolboxes enable you to implement inexpensive and compact solutions in one device for even complex control tasks. The MXpro PLC programming tool is based on CoDeSys from 3S and is IEC 61131-3 compliant.



# HMI or HMI-PLC XVS400 Compact System for Worldwide Use



Ethernet

RS232



**xSystemV**

5.7" to 12.1"

Infra-red or resistive

Ethernet

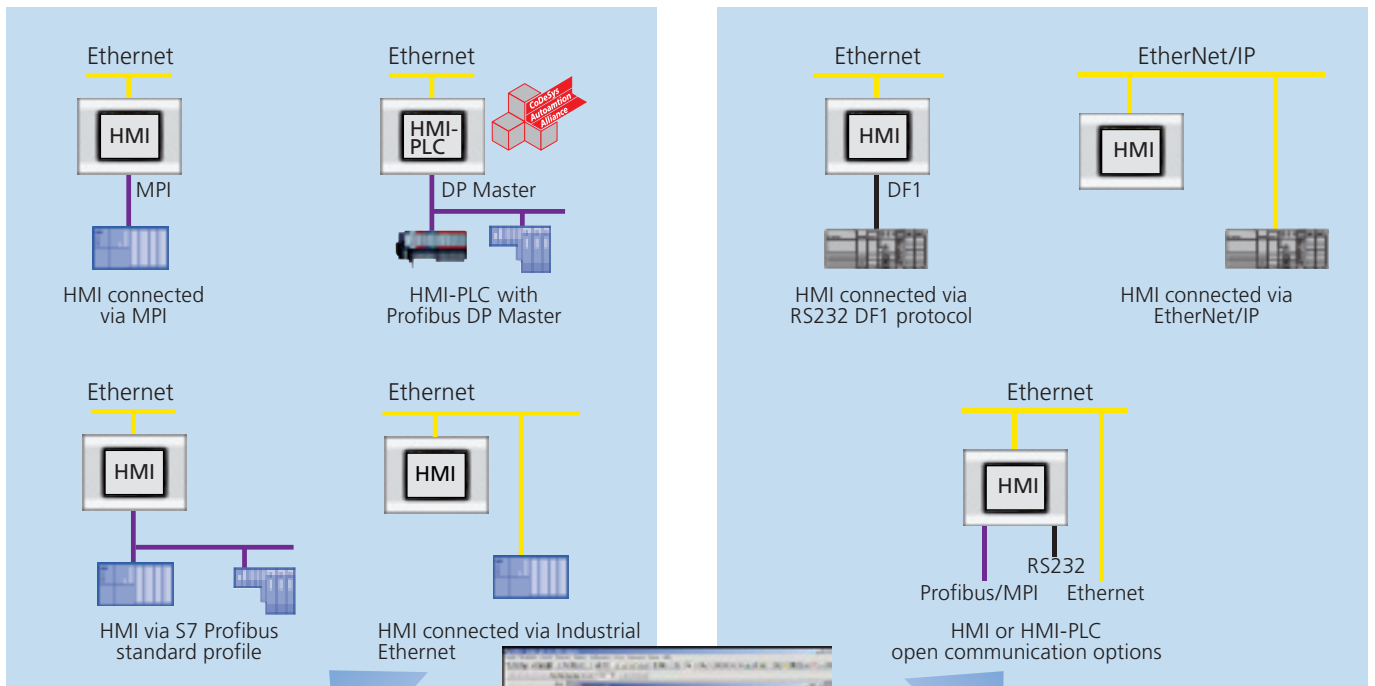
USB

RS232

MPI and Profibus

PLC (optional)

Thanks to the extensive range of interfaces available onboard, the XVS400 compact devices can be adapted to the world's leading automation systems. With versatile Ethernet and USB interfaces as well, these products offer the most advanced networking options. Devices with color screens and a screen diagonal of 5.7" to 12.1" are available. The integral IEC 61131-3 compliant PLC supports all the programming languages of the standard including structured text and sequential function chart for the optimum implementation of the control task. The Profibus Master interface provided makes the XVS devices highly flexible alternatives for the visualization and automation world.

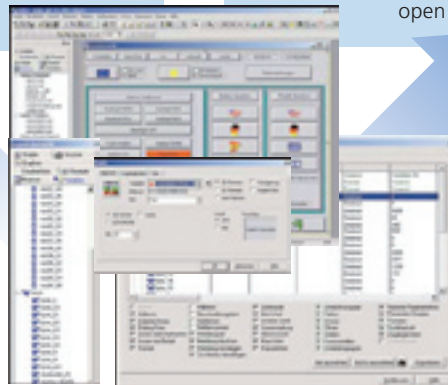


**Application examples**

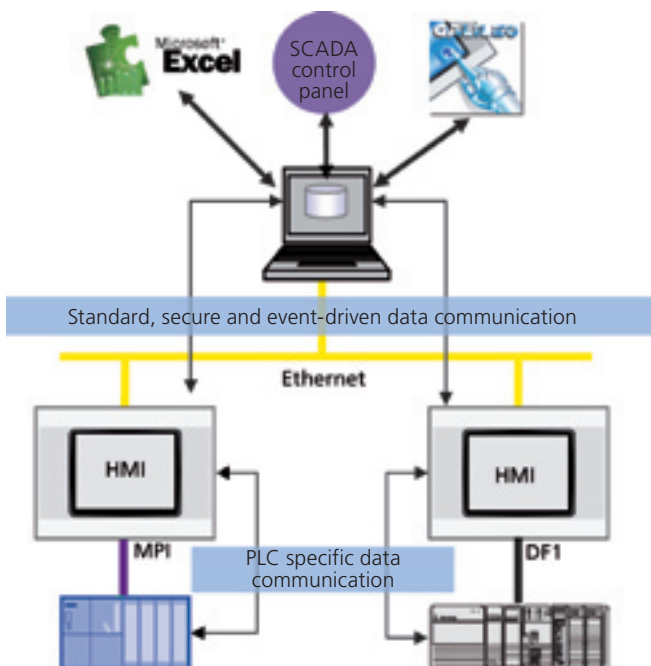
- MPI
- PPI
- Industrial Ethernet
- Profibus DP (1.5 MBaud)
- S7 Profibus standard profile

**Application examples**

- DF1
- EtherNet/IP



**A visualization project for controllers “worldwide”.**



**DXS server tool**

The universal Micro Innovation panel allows a wide range of PLC systems to be combined homogeneously and integrated in the control level via the DXS service (Data Exchange Service). Communication with the higher-level network is implemented via a rugged, event-driven and transaction-oriented protocol and via Ethernet.

This open networking facility enables data from all data sources to be processed uniformly and efficiently, both in control desks, secure data servers and in ERP systems. Process evaluations can also be created in Excel.

# HMI XVH300

## Visualization and Data Management System

**CANopen**  
**Ethernet**  
**RS232**  
**Suconet K**

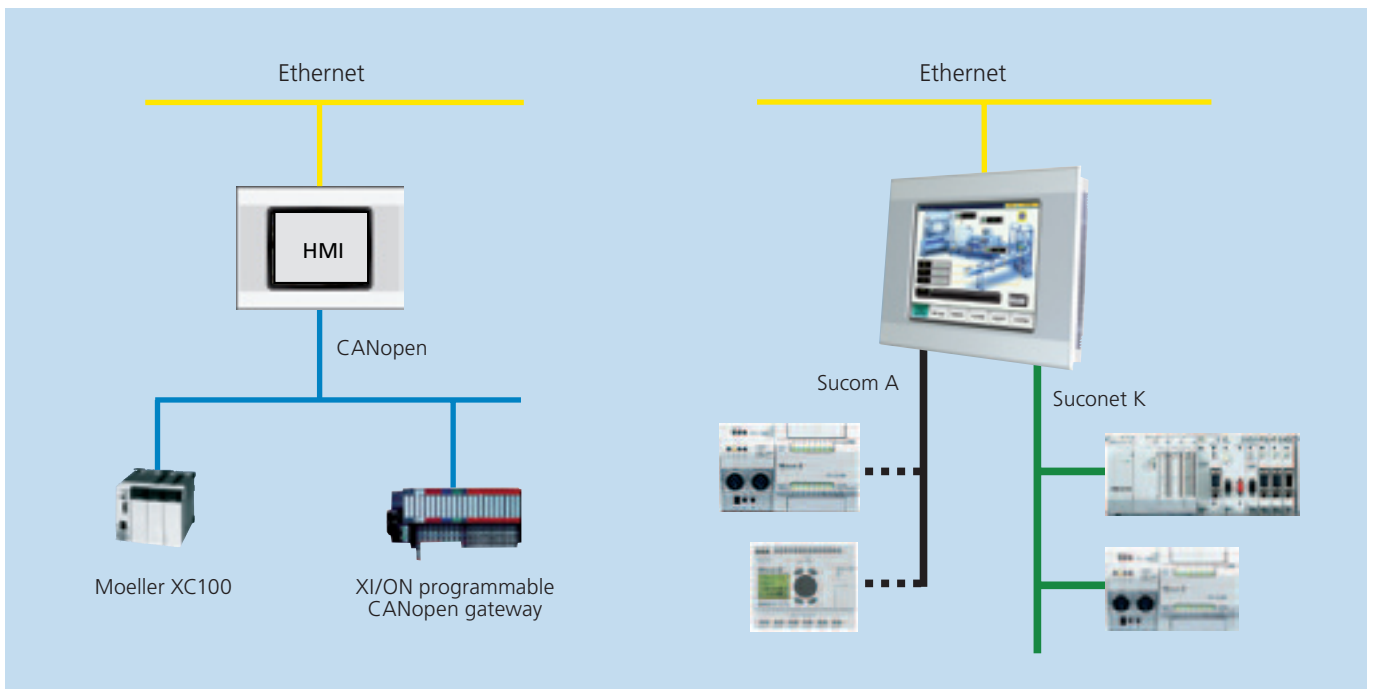


**xSystemV**

5.7"  
Infra-red or resistive  
Ethernet  
CANopen  
Suconet K  
RS232

The XVH-340 (infra-red touch) and XVH-330 (resistive touch) are specially developed, powerful visualization and data management systems. With its small mounting depth, the rugged metallized design is very compact and offers fan-free operation, i.e. no rotating parts and maintenance-free. A removable memory medium for application and operating system ensures optimum user convenience. For users of the Moeller PLC products the XVH300 devices can offer either a CAN or the combination of Sucom A and Suconet K as a fieldbus interface. Together with the Ethernet interface the device combines the tried and tested PLC technology with the latest requirements in graphically driven operation and flexible networking.

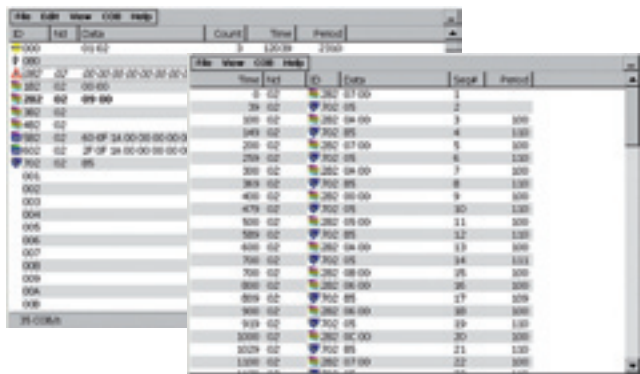




**XVH300 application examples**

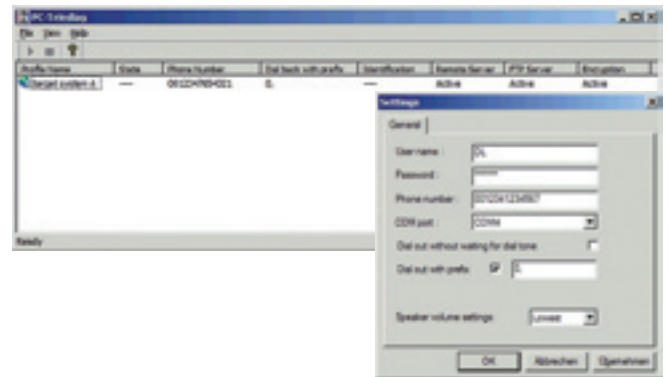
**CAN Monitor tool**

The CAN Monitor tool enables the monitoring and tracing of CAN telegrams with a related time stamp, COB-ID and data directly on the Micro Innovation panel. Error frames are not detected. XV200, XV400 and XVH300 devices with onboard CAN interface support the CAN monitor function.



**CE Telediag tool**

This tool enables user-friendly teleservice via a modem connection with a dialup assistant and device callback. XV200 / XVS400 / XV400 and XVH300 devices with onboard System Port (RS232) interface support the CE Telediag function.



**S7-PG Router tool**

This tool enables the programming of S7 programmable controllers connected to the Micro Innovation panel via its Ethernet interface. XV200 and XVS400 devices with onboard Profibus and Ethernet interface support the S7 PG Routing function.





# XV200, XV400, XVS400, XVH300

## 5.7"

### Technical Data

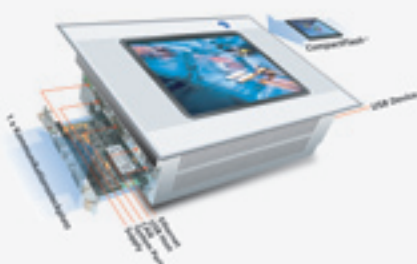
# 5.7"

	<b>XV200</b>	<b>XV200</b>
	eco mono	eco color
		
	<b>Resistive, FSTN mono</b>	<b>Resistive, CSTN Color</b>
<b>Function</b>	<b>HMI with optional PLC</b>	<b>HMI with optional PLC</b>
<b>Display / touch</b>		
Display	FSTN-LCD (monochrome display)	CSTN-LCD (color display)
Active display area	5.7" (approx. 115 x 86 mm)	5.7" (approx. 115 x 86 mm)
Resolution (pixels)	QVGA 320 x 240 (240 x 320 portrait)	QVGA 320 x 240 (240 x 320 portrait)
Number of useable colors	256 grayscales	256 colors
Backlight	1 CCFL, dimmable via software	1 CCFL, dimmable via software
Half-life of backlight	50 000 h	50 000 h
Touch	resistive	resistive
Protective panel: Safety glass, non-reflective	–	–
Protective panel: Glass, non-reflective	●	●
<b>Controller</b>		
Processor	RISC, 32-bit, 200 MHz	RISC, 32-bit, 200 MHz
Memory	32 MB	32 MB
Retain memory/ internal Flash memory	100 Byte / 1.5MB linear	100 Byte / 1.5MB linear
CompactFlash slot (number)	1	1
Real-time clock	Yes	Yes
Operating system	WinCE	WinCE
<b>Interfaces</b>		
Onboard	Ethernet, USB Device	Ethernet, USB Device, RS232
Onboard for selection	Profibus (MPI/PPI/DP) up to 1.5Mbit/s, CAN, RS232	Profibus (MPI/PPI/DP) up to 1.5Mbit/s, CAN
Slots for communication modules	–	–
<b>Power supply</b>		
Rated value	24 VDC protected against reverse polarity, 0.35 A maximum	24 VDC protected against reverse polarity, 0.35 A maximum
Permissible voltage range	20.4 .. 28.8 VDC RMS value	20.4 .. 28.8 VDC RMS value
<b>General data</b>		
Ambient conditions, operation	0...50°C, 10...95% rel. air humidity, non-condensing	0...50°C, 10...95% rel. air humidity, non-condensing
Ambient conditions, storage/transport Standard	-20...60°C, 10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22	-20...60°C, 10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22
Protection type	IP 65 front, IP 20 rear	IP 65 front, IP 20 rear
<b>Dimensions</b>		
Device (WxHxD)	212 x 156 x 55 mm	212 x 156 x 55 mm
Mounting cutout (WxH)	198 x 142 mm	198 x 142 mm
Weight	approx. 0.7 kg	approx. 0.7 kg

# 5.7"

## XV400

modular



Resistive

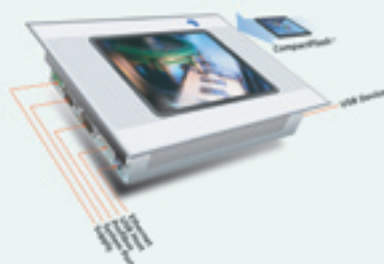
Infra-red

HMI with optional PLC

# 5.7"

## XVS400

compact



Resistive

Infra-red

HMI with optional PLC

# 5.7"

## XVH300

compact



Resistive

Infra-red

HMI

CSTN-LCD (color display) 5.7" (approx. 115 x 86 mm) QVGA 320 x 240 (240 x 320 portrait) 256 colors 1 CCFL, dimmable via software 50 000 h		CSTN-LCD (color display) 5.7" (approx. 115 x 86 mm) QVGA 320 x 240 (240 x 320 portrait) 256 colors 1 CCFL, dimmable via software 50 000 h		CSTN-LCD (color display) 5.7" (approx. 115 x 86 mm) QVGA 320 x 240 (240 x 320 portrait) 256 colors 1 CCFL, dimmable via software 50 000 h	
resistive	infra-red	resistive	infra-red	resistive	infra-red
-	●	-	●	-	●
fully laminated	-	fully laminated	-	fully laminated	-
RISC, 32-bit, 400 MHz 64 MB 32KB / 1.5MB linear 1 Yes WinCE		RISC, 32-bit, 400 MHz 64 MB 32KB / 1.5MB linear 1 Yes WinCE		RISC, 32-bit, 200 MHz 64 MB - / 1.5MB linear 1 Yes WinCE	
Ethernet, RS232, USB Host, USB Device, CAN - 1 x slot		Ethernet, RS232, USB Host, USB Device, Profibus - -		Ethernet, USB Device CAN, RS232, Suconet K -	
24 VDC protected against reverse polarity, 1.0 A maximum 20.4 .. 28.8 VDC RMS value		24 VDC protected against reverse polarity, 0.8 A maximum 20.4 .. 28.8 VDC RMS value		24 VDC protected against reverse polarity, 0.8 A maximum 20.4 .. 28.8 VDC RMS value	
0...50°C,10...95% rel. air humidity, non-condensing -20...60°C,10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear		0...50°C,10...95% rel. air humidity, non-condensing -20...60°C,10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear		0...50°C,10...95% rel. air humidity, non-condensing -20...60°C,10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear	
212 x 156 x 76 mm 198 x 142 mm approx. 1.9 kg		212 x 156 x 55 mm 198 x 142 mm approx. 1.8 kg		212 x 156 x 55 (76) mm 198 x 142 mm approx. 1.8 kg	



# XV400, XVS400

## 10.4" and 12.1"

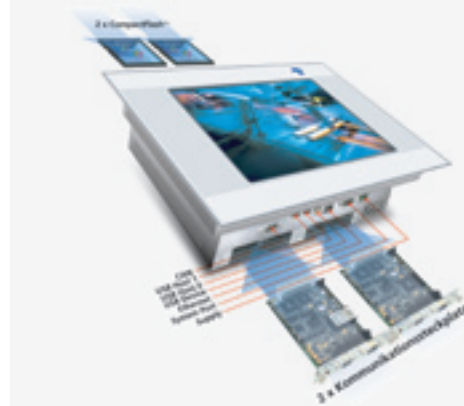
### Technical Data



# 10.4"

## XV400

modular



**Resistive**

**Infra-red**

**HMI with optional PLC**

#### Function

##### Display / touch

Display

Active display area

Resolution (pixels)

Number of useable colors

Backlight

Half-life of backlight (normal)

Touch

Protective panel: Safety glass, non-reflective

Protective panel: Glass, non-reflective

##### Controller

Processor

Memory

Retain memory/internal Flash memory

CompactFlash slot (number)

Real-time clock

Operating system

##### Interfaces

Onboard

Onboard for selection

Slot for communication modules

##### Power supply

Rated value

Permissible voltage range

##### General data

Ambient conditions, operation

Ambient conditions storage/transport

Standard

Protection type

##### Dimensions

Device (WxHxD)

Mounting cutout (WxH)

Weight

TFT-LCD (color display)

10.4" (approx. 211 x 158 mm)

VGA 640 x 480 (480 x 640 portrait)

65536 colors

2 CCFL, dimmable via software

50 000 h

resistive | infra-red

– | ●

fully laminated | –

RISC, 32-bit, 400 MHz

64 MB

32 KB / 1.5MB linear

2

Yes

WinCE

Ethernet, RS232, 2xUSB Host, USB Device, CAN

–

2 x slots

24 VDC protected against reverse polarity,  
1.3 A maximum

20.4 .. 28.8 VDC RMS value

0...50°C, 10...95% rel. air humidity, non-condensing

-20...60°C, 10...95% rel. air humidity, non-condensing

CE, UL/CSA, CCC, EX22

IP 65 front, IP 20 rear

345 x 260 x 93 mm

329 x 238 mm

approx. 4.1 kg

# 10.4"

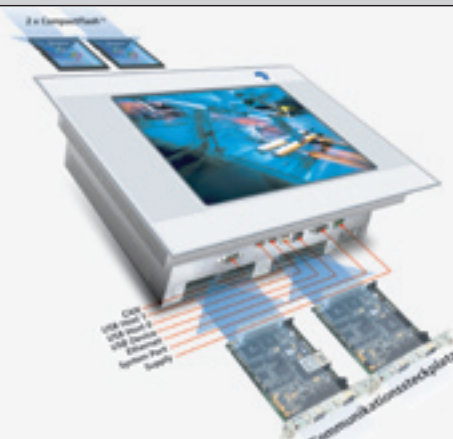
**XVS400**  
compact

# 12.1"

**XV400**  
modular

# 12.1"

**XVS400**  
compact



**Resistive** | **Infra-red**

**Resistive** | **Infra-red**

**Resistive** | **Infra-red**

**HMI with optional PLC**

**HMI with optional PLC**

**HMI with optional PLC**

TFT-LCD (color display) 10.4" (approx. 211 x 158 mm) VGA 640 x 480 (480 x 640 portrait) 65536 colors 2 CCFL, dimmable via software 50 000 h	TFT-LCD (color display) 12.1" (approx. 246 x 185 mm) SVGA 800 x 600 (600 x 800 portrait) 65536 colors 2 CCFL, dimmable via software 50 000 h	TFT-LCD (color display) 12.1" (approx. 246 x 185 mm) SVGA 800 x 600 (600 x 800 portrait) 65536 colors 2 CCFL, dimmable via software 50 000 h
resistive   infra-red -   ●	resistive   infra-red -   ●	resistive   infra-red -   ●
fully laminated   -	fully laminated   -	fully laminated   -
RISC, 32-bit, 400 MHz 64 MB 32 KB / 1.5MB linear 2 Yes WinCE	RISC, 32-bit, 400 MHz 64 MB 32 KB / 1.5MB linear 2 Yes WinCE	RISC, 32-bit, 400 MHz 64 MB 32 KB / 1.5MB linear 2 Yes WinCE
Ethernet, RS232, 2xUSB Host, USB Device, Profibus - -	Ethernet, RS232, 2xUSB Host, USB Device, CAN - 2 x slots	Ethernet, RS232, 2xUSB Host, USB Device, Profibus - -
24 VDC protected against reverse polarity, 1.0 A maximum 20.4 .. 28.8 VDC RMS value	24 VDC protected against reverse polarity, 1.3 A maximum 20.4 .. 28.8 VDC RMS value	24 VDC protected against reverse polarity, 1.0 A maximum 20.4 .. 28.8 VDC RMS value
0...50°C, 10...95% rel. air humidity, non-condensing -20...60°C, 10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear	0...50°C, 10...95% rel. air humidity, non-condensing -20...60°C, 10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear	0...50°C, 10...95% rel. air humidity, non-condensing -20...60°C, 10...95% rel. air humidity, non-condensing CE, UL/CSA, CCC, EX22 IP 65 front, IP 20 rear
345 x 260 x 67 mm 329 x 238 mm approx. 3.7 kg	361 x 279 x 93 mm 344 x 262 mm approx. 4.5 kg	361 x 279 x 67 mm 344 x 262 mm approx. 4.1 kg

# XVC100

## Text Display HMI-PLC



**xSystem**

8 x 20 characters

incl. PLC

Inputs and outputs

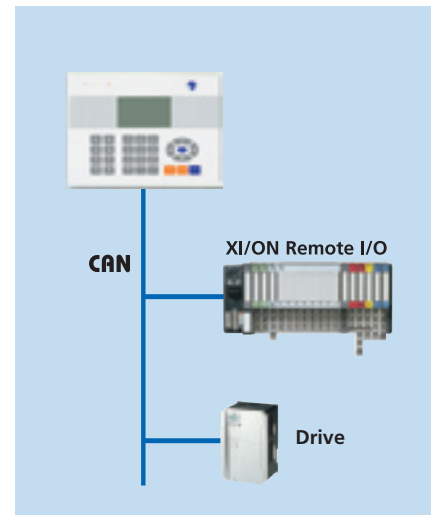
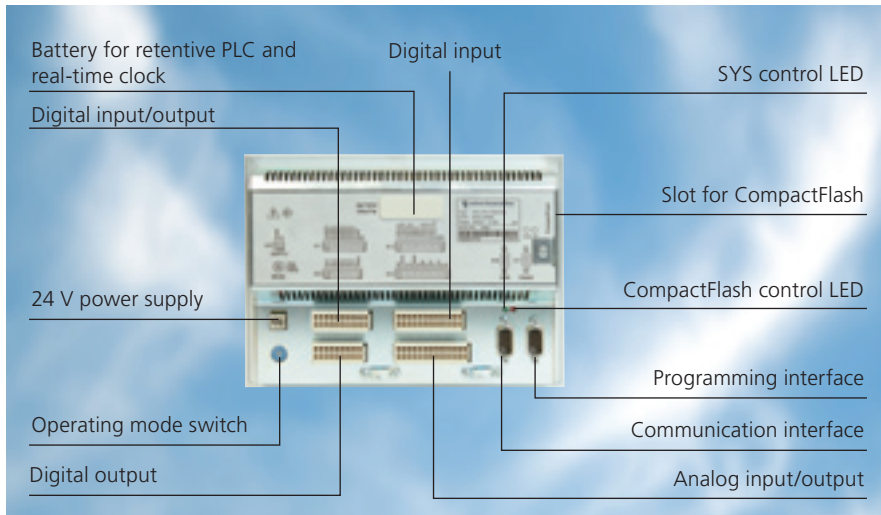
CANopen

RS232

CompactFlash

The XVC100 compact display PLC integrates an operator panel with text display and a powerful compact PLC in one device. This future-oriented device concept offers a wide range of automation and networking options. A fully-fledged compact PLC with digital and analog inputs and outputs is integrated behind the membrane keyboard with an 8 x 20 character display. The integrated CAN bus allows the connection of remote peripheral devices. All connectors can be accessed from the rear. The PLC is programmed in compliance with the IEC 61131-3 industrial standard, thus turning the XVC100 display PLC into a universal device for automation applications. A user-friendly PLC function library is available for the simple and efficient programming of visualization functions.





**Processor**

c166

**Retain memory**

8 KByte

**Data/programm memory**

56 KB/384 kB

**Compact Flash™ slot**

1

**Display**

8 x 20 characters

**Display type**

LCD, mono

**Number of usable colors**

2

**Backlight**

LED backlight

**Active display area**

65 x 33 mm

**Keyboard type**

Membrane keyboard

**Number of keys**

28 keys

**Communication onboard**

CAN, RS232

**Onboard I/O**

Inputs: digital / analog

10\* / 2

\*of which counter / interrupt / encoder

2 / 2 / 1

Outputs: digital / analog

8 / 2

Selectable digital inputs/outputs

8

**Project design**

PLC: MXpro

Visualization: Function blocks

**Power supply**

Rated value

24 VDC, 0.2 A maximum

Permissible range

18.5...30.2 VDC

**Ambient conditions, operation (°C)**

0...60, 10...90% rel. air humidity,

non-condensing

**Ambient conditions, storage (°C)**

-20...60, 10...90% rel. air humidity,

non-condensing

**Standards**

CE, CCC, EX22

**Protection type**

IP65 front, IP20 rear

**Dimensions**

212 x 156 x 50 mm

Cutout (WxH)

198 x 142 mm

Weight

approx. 0.9 kg

The XVC100 provides the machine and system builder with a low-cost device for a wide range of tasks whilst still offering the tried and tested features of the xSystem and the user-friendly project design features. The rugged and compact design enables applications that were previously impossible due to space or price restrictions.

# HMI-PLC XVC600

## The Open Platform for Your Automation



**xSystem**

10.4", 15"

Infra-red

Open platform

Ethernet, USB

CANopen, RS232

Communication cards

incl. PLC + EPAM

Machines and systems in particular are increasingly being implemented with modular designs. Every unit must be integrated into the product range which is suited to the product.

Micro Innovation's XVC600 automation system allows the system supplier to optimally adapt the automation technology to the process conditions at hand, an invaluable benefit in terms of seamless system design and flexibility for visualization, operation and control systems. The XVC600 series brings premium power to the compact class of automation. Micro Innovation has added essential features such as scalability and flexibility to the well-established features of a combination device consisting of a graphical operator panel with a touch screen and a powerful fan-free PLC without any moving parts.

## XVC-601



### Type:

Color TFT  
Number of colors: 256 K  
Backlight:  
dimnable via software

### Resolution:

640x480, 1024x768

### Touch:

Type: Infra-red touch  
(resistive touch in preparation)

### Processor:

Pentium 200MHz to 650 MHz

### Memory:

32 - 512MB DRAM  
Retain memory: 32KB

### Data/Programm memory:

Removable CompactFlash  
32 to 512MB

### Interfaces:

CAN, Ethernet  
seriell, mouse/keyboard, USB  
optional Profibus DP-Master

### Programming:

PLC: MX<sub>pro</sub> IEC61131-3  
Visualization: EPAM

### Power supply:

Nominal value 24 V DC, from 15 W  
Permissible range 18.5...30.2 V DC

### General Data:

0..50°C  
10...90% rel. air humidity

### Protection type:

IP65 front,  
EMC class:  
EN61000-6-2, EN50081-2

### Dimensions (WxHxD):

10.4": 345 x 260 x 100 mm  
15": 427 x 332 x 100 mm

The tried and tested touch display HMI-PLCs of the XVC600 series offer with their integrated fieldbus and Ethernet interfaces a wide range of communication and networking options for industrial applications. The devices can be run completely fan-free and without any moving parts.

A removable CompactFlash is used as a mass storage memory.

This memory makes the device at home even in harsh environments! The CPU performance is scalable thanks to the ETX standard used.

New technologies and powerful processors compliant with the ETX standard can be used directly.

In this way, the devices are able to meet future requirements and ensure long-term availability.

An infra-red touch system can be used as an input unit.

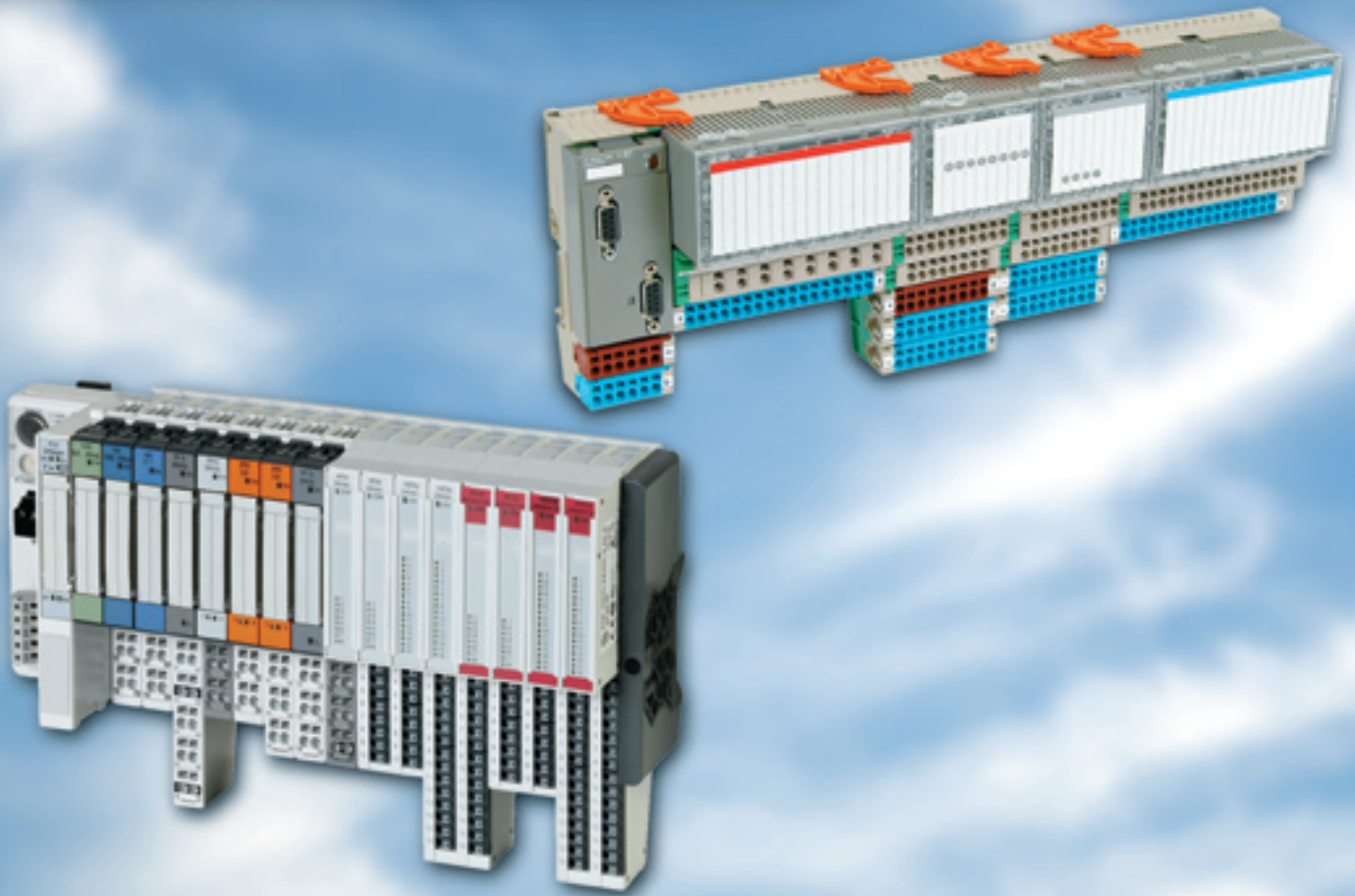
The infra-red touch technology enables absolute soft touch operation. The scratchproof safety glass for the front protects the TFT display and ensures a clear picture.

For further information on additional products such as:

- Infra-red touch DVI panel
  - Display-free compact devices
- please contact your Micro Innovation agent.



# One Step Ahead with Modular I/O Systems



**xSystemN**

XI/ON

WINbloc - compact

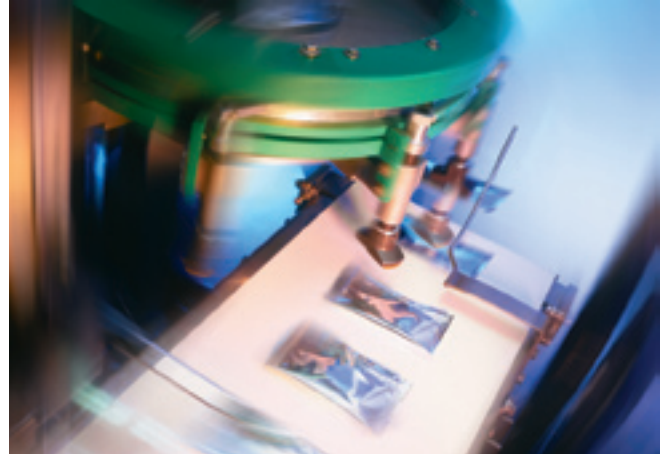
The application ranges of remote I/Os are as varied as the different applications themselves – whether in motion control, temperature or speed measurement, current and voltage data acquisition.

They are used wherever remote signal processing is an essential element of the automation concept.

Micro Innovation offers the right I/O system for every application, from the highly granular XI/ON system to the compact WINbloc system, and of course, combined operation on the same bus line. The result: an easy-to-handle modular concept – adaptable to any application, intelligent and ready for future developments.



Conventional automation solutions often cannot provide highly responsive and flexible intelligence directly in the field. In machine building, for example, where signals have to be processed directly at the machine or when system sections have to continue to be accessible even when the bus has failed. In cases like these, small autonomous units are used that are integrated via the network with maximum transparency. Remote I/O systems from Micro Innovation allow you to keep one step ahead, since decentralized structures increase the manageability of the system and reduce wiring costs.



The benefits of decentralized intelligence are obvious: Wherever extensive processes or systems can be divided into independent subprocesses, decentralized automation offers a flexible solution. Programming, commissioning and service become more manageable and are therefore subject to fewer errors and are less costly. Last but not least, the availability of the system is also increased since the subsystems function autonomously.



### **XI/ON**

As much as necessary, as little as possible. This is the principle on which the XI/ON modular I/O system is based. The highly granular modularity of the system allows you to buy only the I/Os you actually need. A comprehensive range of digital and analog I/Os and technology modules are available for this purpose. On the field level, the wiring is implemented using base modules that are also available in different versions to match the requirements at hand: 2, 3 or 4-wire terminal designs are available, with screw or spring-loaded terminals to meet the needs of the application exactly.

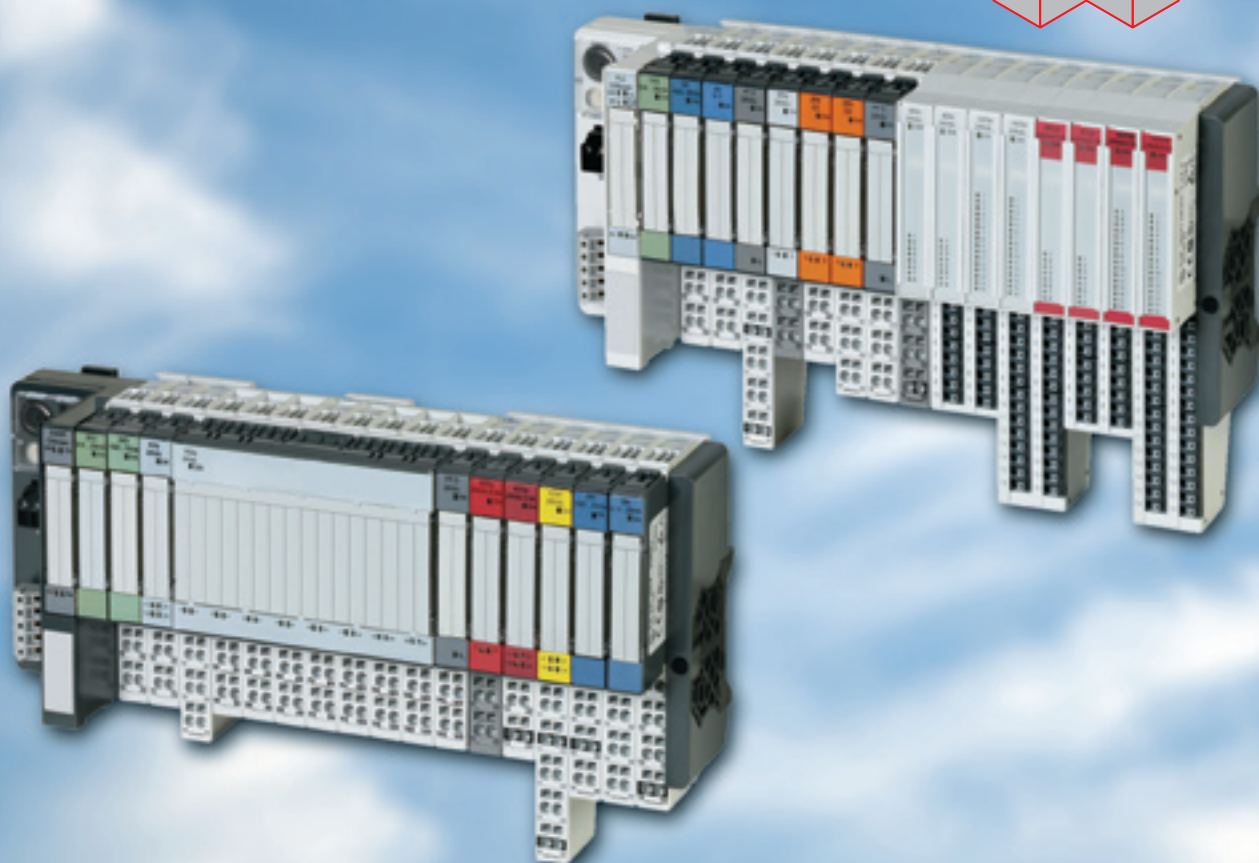


### **WINbloc**

WINbloc and WINbloc Eco offer the compact and cost-efficient solutions in block designs for Profibus-DP and CANopen. The plug-in electronics module allows implementation of flexible solutions with a high level of availability. A wide range of electronics and base modules are available. I/O combination modules are offered for the most commonly used combinations. For fast and simple installation base modules come with spring-loaded terminals for 2, 3, and 4-wire connections. In this way any application required can be easily implemented.

# XI/ON Modular I/O System

## Intelligent, Flexible, Economical



**xSystemN**

High modularity

Standard and  
ECO modules

CANopen

Profibus

DeviceNet

Ethernet

SmartWire

### The right solution for every requirement

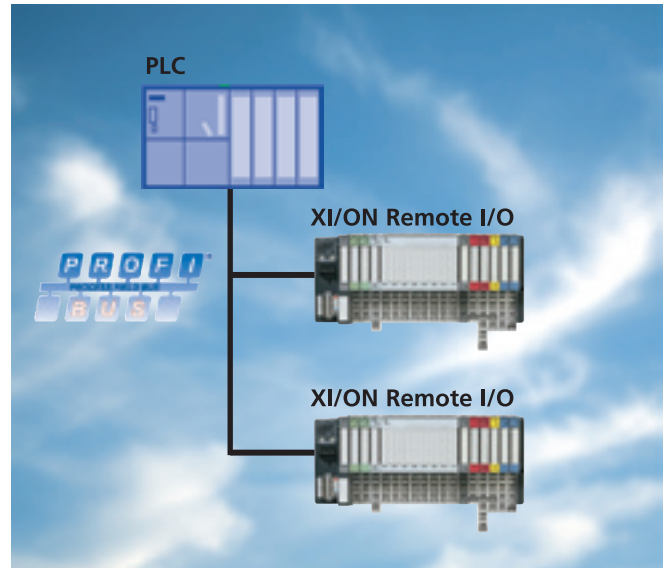
In an automation world in which technologies are growing even closer together, solutions are required that can sustainably improve productivity and thus economy.

The XI/ON remote I/O system – our open and flexible communication platform – allows you to implement economical automation solutions quickly and simply. All components offer outstandingly user-friendly handling as well as standard interfaces for Profibus DP, CANopen, DeviceNet and Ethernet and comply with all international standards. A high level of modularity, low wiring requirements, a wide range of functions and accurate diagnostics routines are the benefits of this system.



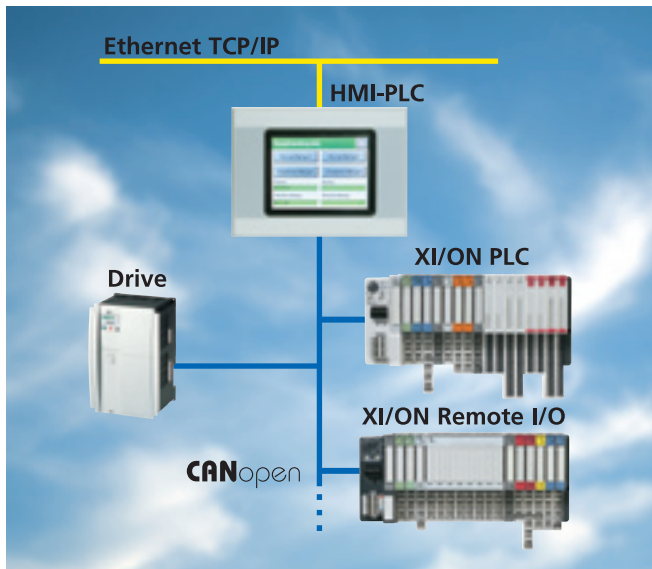
### Decentralized peripheral devices

The decentralized structure of automation systems is an essential element of state-of-the-art automation concepts. The modular design of the application is also becoming increasingly important in addition to the distribution of digital and analog I/O points. Decentralized preprocessing via intelligent gateways relieves the processing requirements of the central controller. Distributed intelligence makes automation systems faster, more reliable and more affordable.



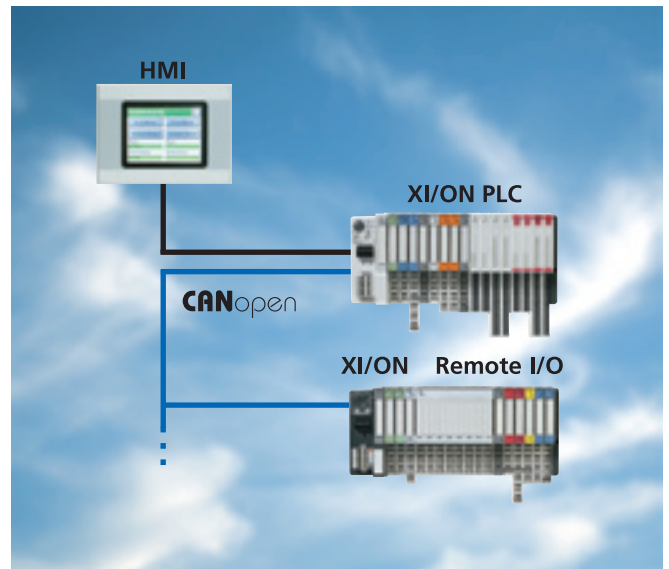
**Conventional solution with remote I/O**

XI/ON can be connected to a wide range of controllers as a highly granular decentralized I/O system.



**Distributed intelligence with XI/ON PLC**

The programmable CANopen gateway now brings PLC performance directly to the fieldbus terminal. The device is ideal for decentralized automation concepts and for relieving the processing load on the higher-level PLC.



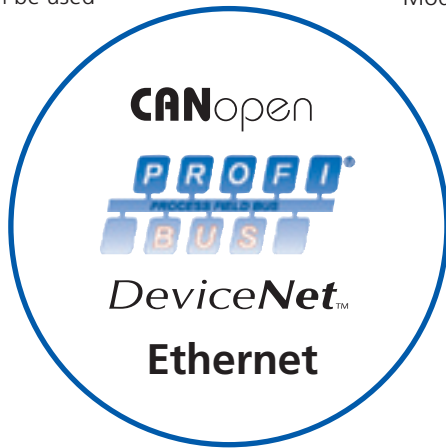
**XI/ON PLC as a flexible compact controller**

The intelligent gateway can also be used as a stand-alone space-optimized PLC and connected to remote stations.

# XI/ON Remote I/O – More Flexibility in the Application

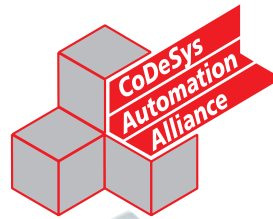
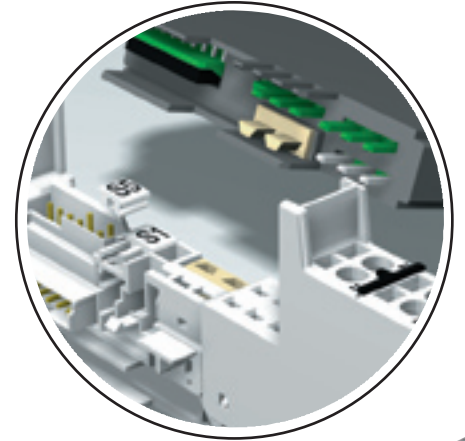
## Openness

- The gateway product range supports the CANopen, Profibus-DP, DeviceNet and Ethernet fieldbus systems
- The modules can be used for any bus



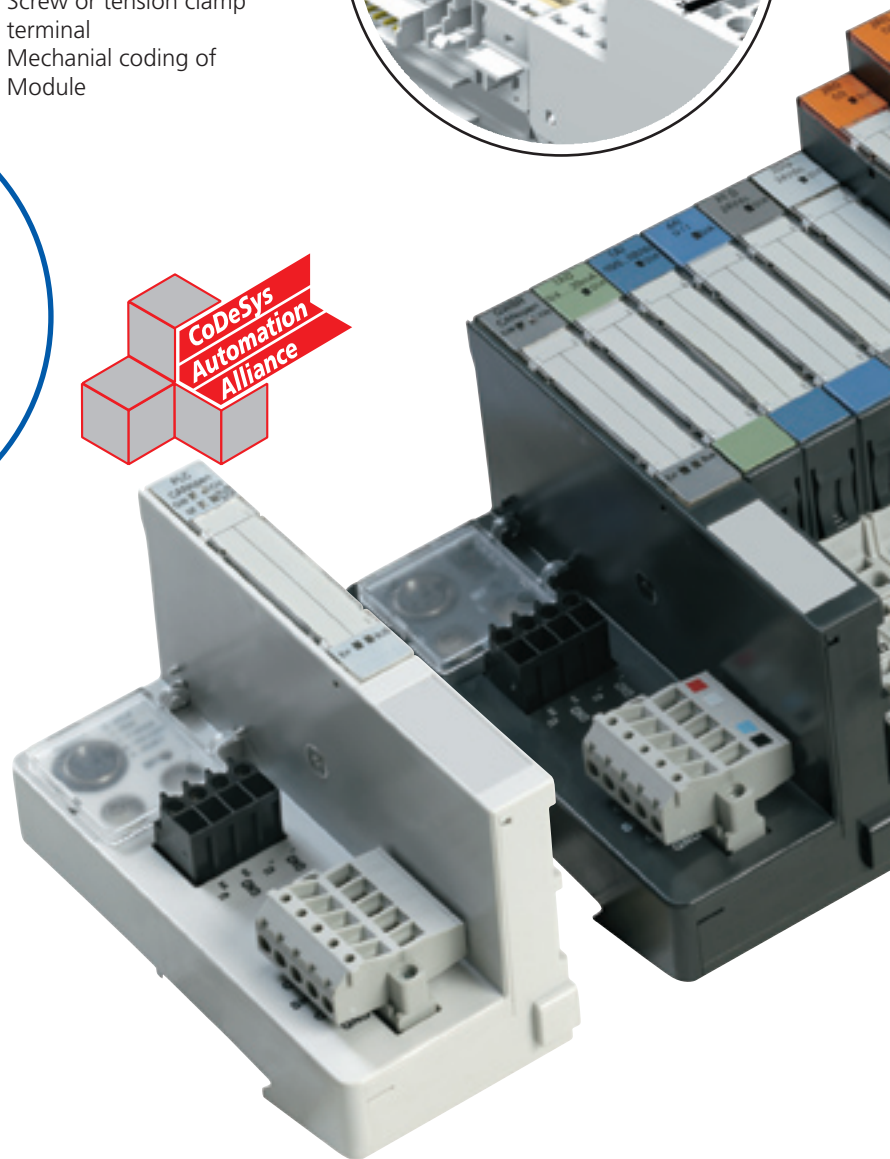
## XI/ON standard modules

- Pluggable modules
- Fast modules change (hot swappable)
- Wiring on base module
- Screw or tension clamp terminal
- Mechanical coding of Module



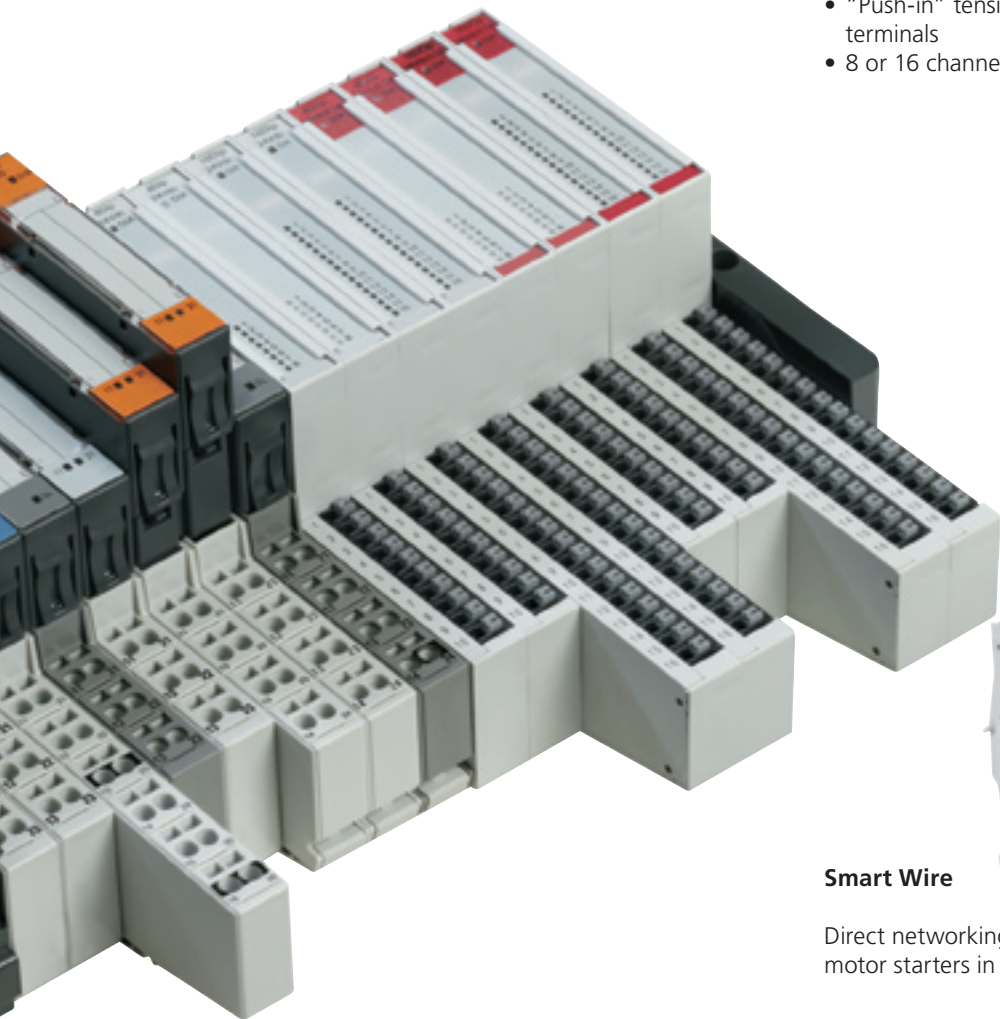
## Service interface

- Commissioning of station also without head-end controller
- Station diagnostics
- Programming interface



## Gateways

- Fieldbus gateway
- Programmable gateway



### Power feeding modules

- Field supply of XI/ON modules with 24 V DC and 120/230 V AC
- Forming of potential groups
- Diagnostics functions:  
Monitoring of the field voltage

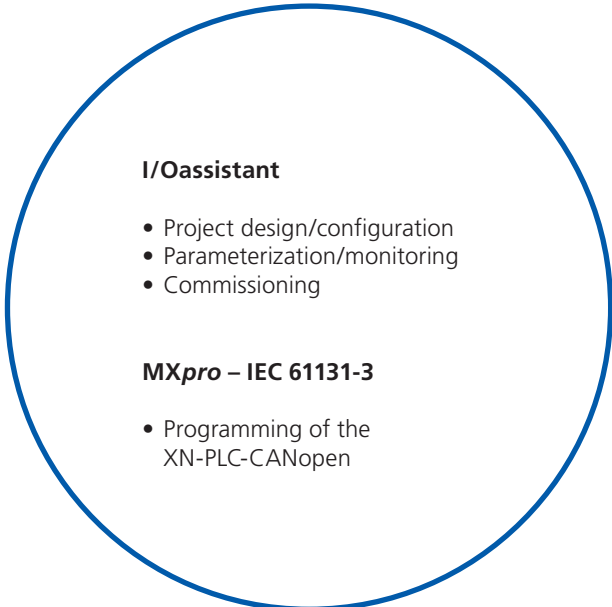
### XI/ON ECO modules

- High channel density (up to 16 DI/DO on 12.5 mm)
- "Push-in" tension clamp terminals
- 8 or 16 channels per module



### Smart Wire

Direct networking of Moeller motor starters in XI/ON



### I/Oassistant

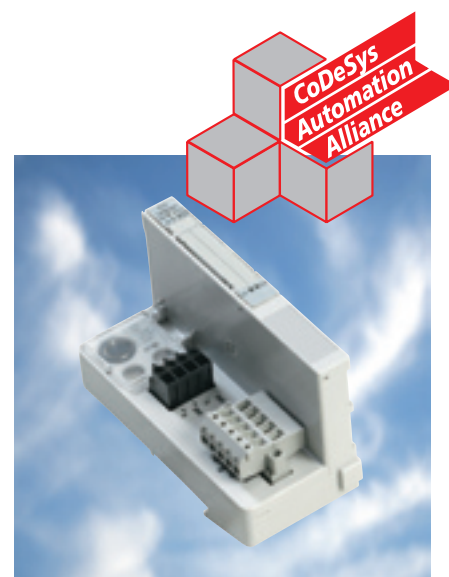
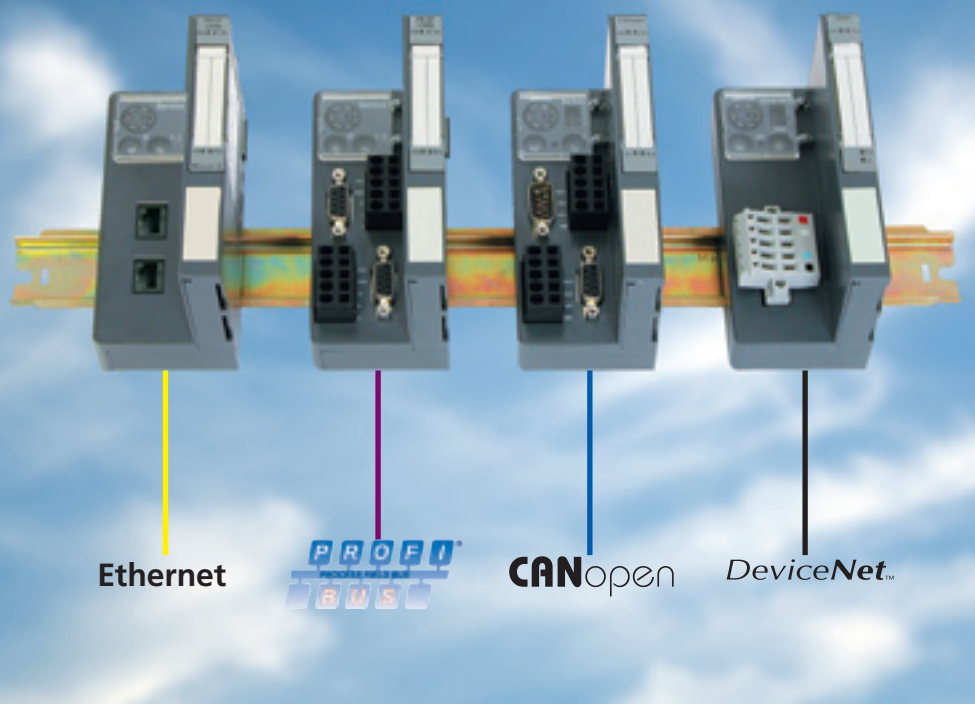
- Project design/configuration
- Parameterization/monitoring
- Commissioning

### MXpro – IEC 61131-3

- Programming of the XN-PLC-CANopen



# The Right Gateway for Every Application



The XI/ON system can be used on all standard bus systems. You can choose between Profibus DP, CANopen, DeviceNet or Ethernet for the required gateway. Many gateways have the advantage of a feeder module already integrated, which saves costs and space. The integrated service interface is an outstanding feature. This enables the function of the station to be tested completely via the I/Oassistant diagnostics and commissioning software without the need for the high-level fieldbus master. In this way faults can be detected and rectified simply before the system is commissioned.

## Programmable CANopen gateway

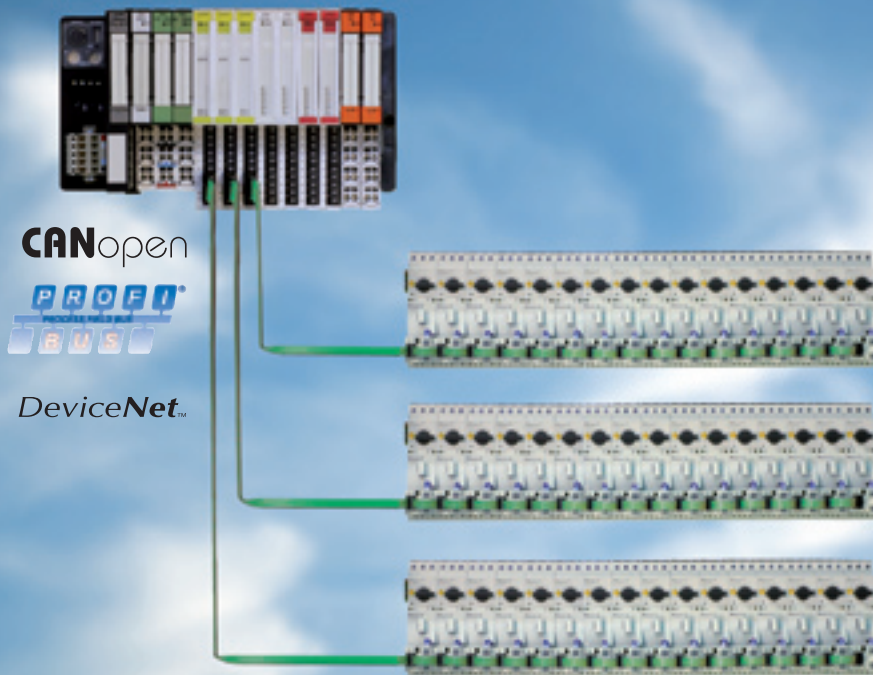
The programmable CANopen gateway brings PLC performance directly to the fieldbus terminal.

The device is ideal for decentralized automation concepts and for relieving the processing load on the higher-level PLC.

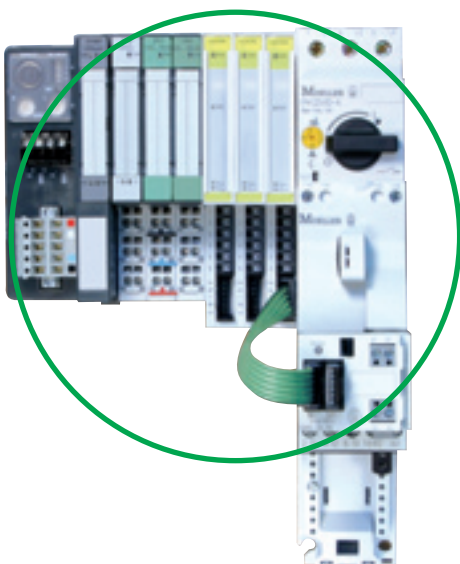
Programming or online commissioning can be carried out via the integrated service interface or with networked systems via the CANopen fieldbus.

The device can also be used as a stand-alone space-optimized PLC and connected to remote XI/ON stations.

# XI/ON Interface for easyConnect SmartWire from Moeller



The tried and tested XI/ON system has now been expanded with the SmartWire interface slice module. In addition to a number of different inputs and outputs, this also allows standard Moeller motor starters and contactors to be connected directly to XI/ON.



- 3 SmartWire lines pro XI/ON station
- 16 nodes per line
- Simple configuration by means of pushbutton
- Autodetect function

# MOELLER



SmartWire allows connection of switching devices to the PLC without any complex control wiring required. The control wiring between the PLC and the switching devices is replaced by pluggable pre-assembled connection cables.

The wiring requirement is drastically reduced and wiring faults become a thing of the past.

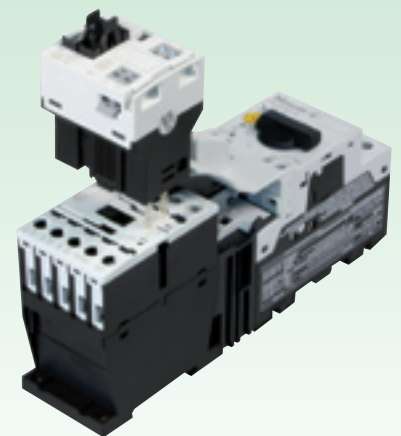
This achieves savings in mounting, commissioning and troubleshooting during operation.

The inputs/outputs of the PLC are replaced by the SmartWire modules. This considerably simplifies engineering and documentation since the terminal points of the control circuit are unnecessary.

SmartWire is an addition to the tried and tested Moeller switching devices and is designed as an accessory for the standard devices.

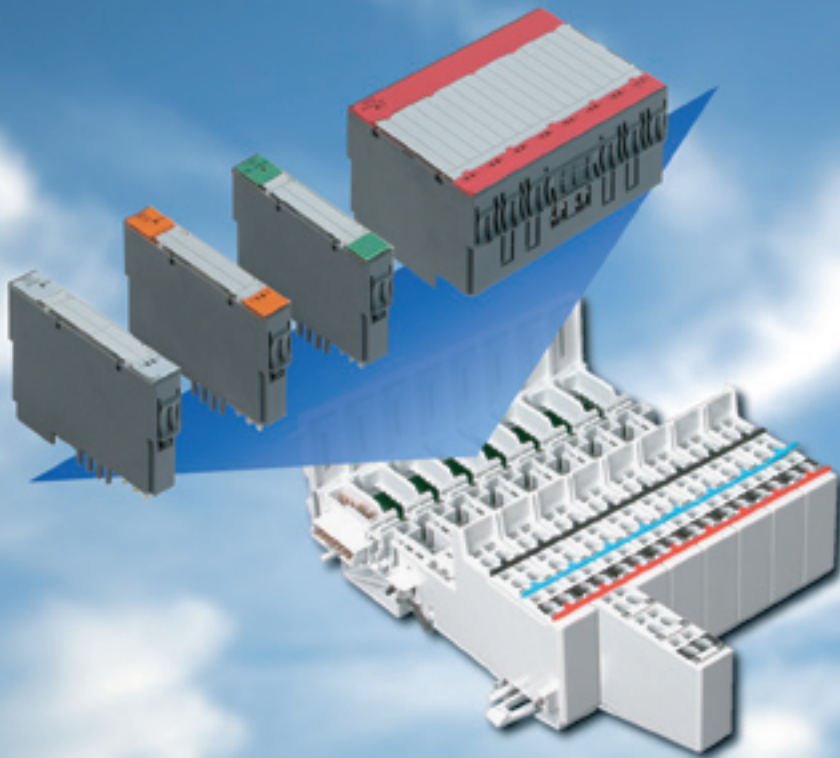
The flexibility of the switching devices is fully retained since the well-established system accessories can still be used.

The use of standard devices reduces inventory costs and ensures the worldwide availability of the spare parts. Gateways or interface modules are used to connect a wide range of fieldbus systems.



[www.moeller.net](http://www.moeller.net)

# XI/ON Tailor-Made for Your Application – Pluggable, Coded, Variable



The XI/ON standard modules are pluggable and consist of an electronic module and a base module implemented as a strip terminal. The different modules allow you to build up your station to your exact requirements.

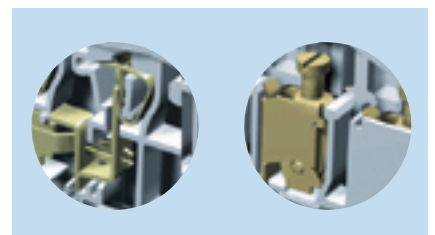
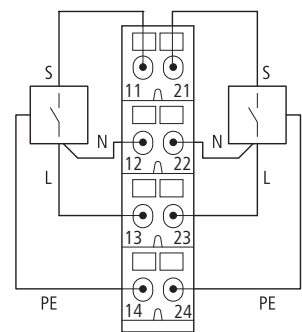
Slice and block modules with 1, 2, 4, 16 or 32 channels per module are available. These consist of a wide range of analog and digital I/O modules to meet your requirements exactly.

- Digital inputs: 24 V DC, 120/230 V AC
- Digital outputs: 24 V DC, 120/230 V AC, relay
- Analog inputs: 0/4..20 mA, +/- 10 V, U/I configurable, PT/NI, Thermo
- Analog outputs: 0/4..20 mA; +/- 10 V



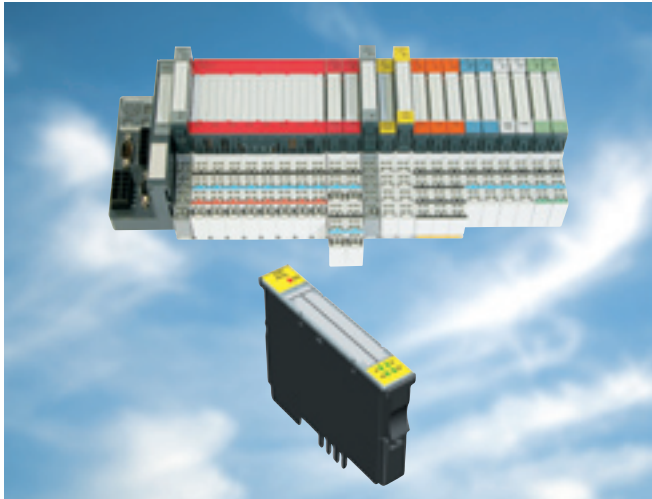
## Safety through coding

The pluggable design of the modules enable them to be exchanged quickly and without tools, even under live conditions (hot swappable). The mechanical coding prevents modules from being plugged incorrectly.



The base modules of the XI/ON standard systems are available with 2, 3 or 4-wire circuits and tension clamp or screw terminals. An additional terminal strip is unnecessary.



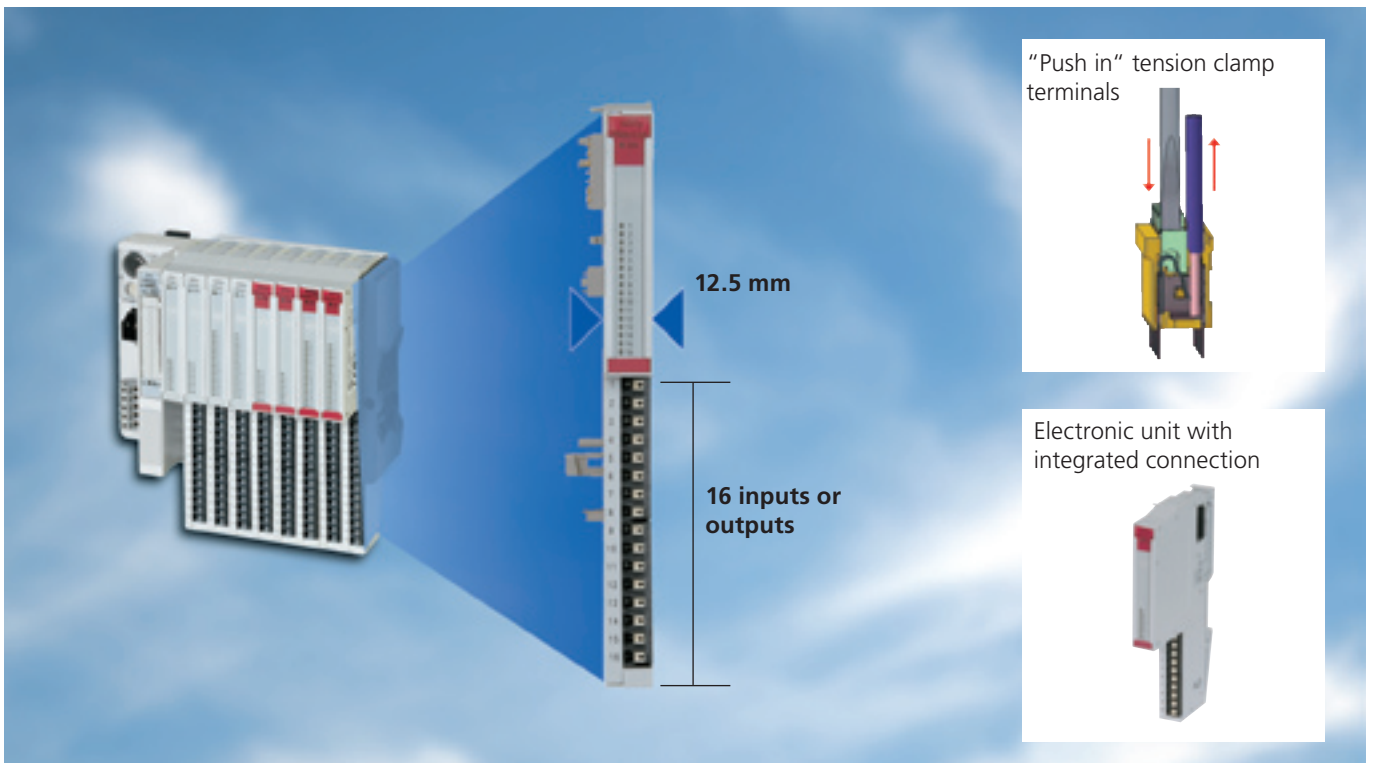


**XI/ON technology modules:  
Interfaces and counters**

The serial interface modules of the XI/ON range enable them to transfer serial data streams via the XI/ON system. This enables the connection of different devices such as printers, scanners or barcode readers with a serial RS232, RS485 or RS422 interface.

The XN-1SSI module allows the connection of encoders with an SSI interface, a supply voltage of 24 V DC (500 mA), a word length of up to 32 bits and a transmission rate of max. 1 MHz.

The XN-1CNT counter module detects normalized signals up to 200 kHz.



**XI/ON ECO modules:  
More information where space is at a premium**

Save space and costs with XI/ON ECO I/O modules. The Moeller XI/ON remote I/O system has been expanded with the new price and space optimized XI/ON ECO I/O modules. Depending on type, 8 or 16 inputs and outputs can be connected over a width of only 12.5 mm. The high connection density reduces the mounting width for typical applications. All modules are implemented with an integrated connection level.

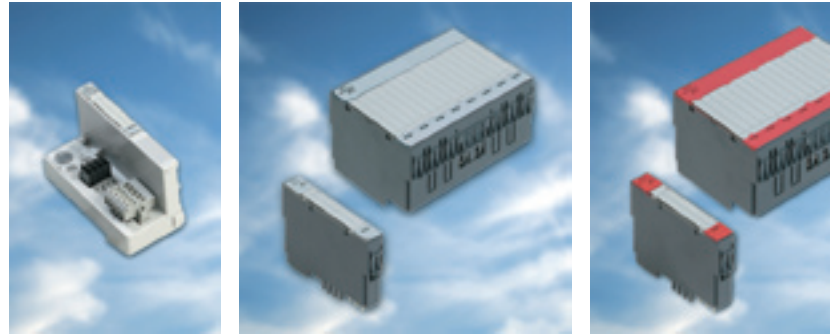
Key benefits of the XI/ON ECO modules at a glance:




- Space saving with 16 channels on 12.5 mm width
- Cost saving with electronic unit with integrated connection level
- Connection via "Push in" tension clamp terminal saves time required for mounting
- Can be combined with existing XI/ON modules

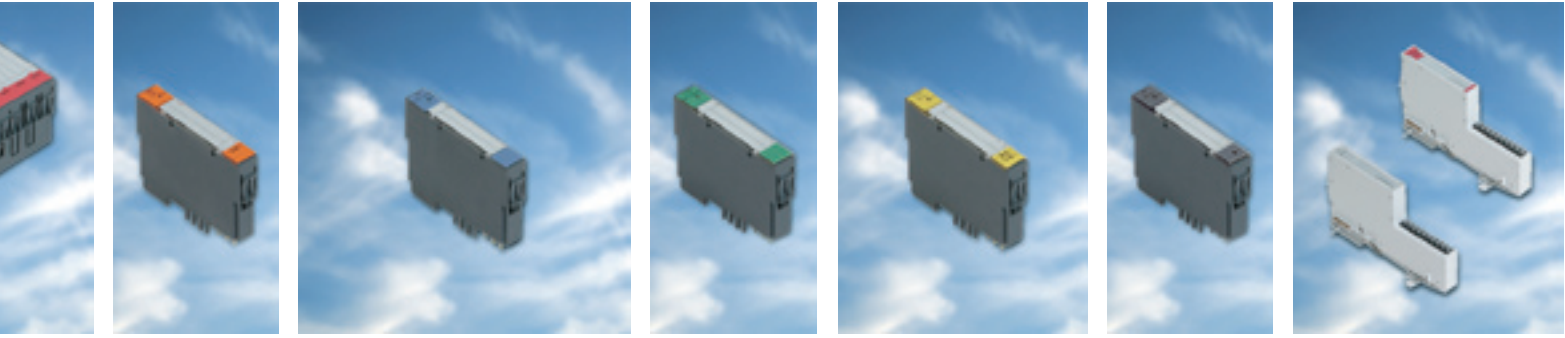


# XI/ON Modular I/O System Everything at a Glance

As much as necessary, as few as possible. This is the principle on which the XI/ON modular I/O system is based. The highly granular design of the system allows you to buy only the I/Os you actually need. A comprehensive range of digital and analog I/Os and technology modules are provided for this purpose.



Base modules		Gateways				Digital input						Digital output						Relay mod
		XI-GWBR-PBDP	XI-GWBR-CANOPEN	XI-GWBR-DNET	XI-PLC-CANOPEN	XI-2DI-24VDC-P	XI-2DI-24VDC-N	XI-2DI-120/230VAC-P	XI-4DI-24VDC-P	XI-16DI-24VDC-N	XI-32DI-24VDC-P	XI-2DO-24VDC-2A-P	XI-2DO-24VDC-0,5A-P	XI-2DO-120/230VAC-0,5A-P	XI-4DO-24VDC-0,5A-P	XI-16DO-24VDC-0,5A-N	XI-32DO-24VDC-0,5A-P	XI-
	XN-S3x-SBB					•	•	•										
	XN-S3x-SBC										•	•	•	•				
	XN-S4x-SBBC					•	•	•										
	XN-S4x-SBBS								•	•								•
	XN-S4x-SBCS											•	•	•	•			•
	XN-S6x-SBBSBB								•	•								
	XN-S4x-SBBS-CJ																	
XN-S6x-SBCSBC													•					
	XN-B3x-SBB										•							
	XN-B3x-SBC													•				
	XN-B4x-SBBC										•							
	XN-B6x-SBBSBB																•	
	XN-B6x-SBCSBC														•			
	XN-P3x-SBB																	
	XN-P3x-SBB-B																	
	XN-P4x-SBBC																	
	XN-P4x-SBBC-B																	



Module Type	Module Models	Base Modules (1)	Base Modules (2)
Analog input	XNI-1AI-(0/4...20MA)	•	•
	XNI-2AI-(0/4...20MA)	•	•
	XNI-1AI-UK-(10/0...+10VDC)	•	•
	XNI-2AI-UK-(10/0...+10VDC)	•	•
	XNI-4AI-U/I	•	•
Analog output	XNI-1AO-I/(0/4...20MA)	•	•
	XNI-2AO-I/(0/4...20MA)	•	•
	XNI-2AO-U(-10/0...+10V)	•	•
Technology modules	XNI-1CNF-24VDC	•	•
	XNI-1RS232	•	•
	XNI-1RS485/422	•	•
	XNI-1SSI	•	•
	XNI-1SWIRE	•	•
Supply modules	XNI-BR-24VDC-D	•	•
	XNI-PF-24VDC-D	•	•
	XNI-PF-120/240VAC-D	•	•
ECO - Digital inputs	XNI-E-8DI-24VDC-P	•	•
	XNI-16DI-24VDC-P	•	•
ECO - Digital outputs	XNI-E-8DO-24VDC-0.5A-P	•	•
	XNI-16DO-24VDC-0.5A-P	•	•

- 1) Base modules for gateway supply
- 2) Base modules for bus refreshing within the station

# WINbloc

## Bridges



The bridge connects the expandable I/O modules with Profibus-DP or CANopen, in which each I/O module represents a passive network station on the fieldbus.

The bus address setting is carried out with rotary coding switches on the I/O modules.

- A maximum of 10 I/O modules can be connected per bridge
- Bus connection either via SUB-D or tension clamp terminals
- Fieldbus electrically isolated
- Operating voltage: 24 V DC

### DP Bridge

Transmission speed: up to 1.5 Mbit/s

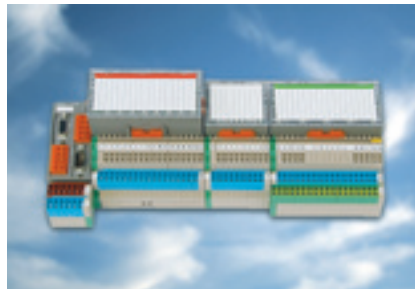
### DP Bridge/12 Mbaud

Transmission speed: up to 12 Mbit/s

### CAN Bridge

Transmission speed: up to 1 Mbit/s

## Digital I/O modules for CANopen



### Input modules 8/16/32-channel

**CAN-8-(16)DI/P**  
**CAN-16-(32)DI/P-2x8 (2x16)**

### Output modules 4/8/16/32-channel

Either 0.5 A or 2 A  
Short-circuit proof design -PK  
With short-circuit monitoring LED  
**CAN-4DO/2.0A-PK**  
**CAN-8-(16)DO/0.5A-PK**  
**CAN-16-(32)DO/0.5A-P-2x8 (2x16)**

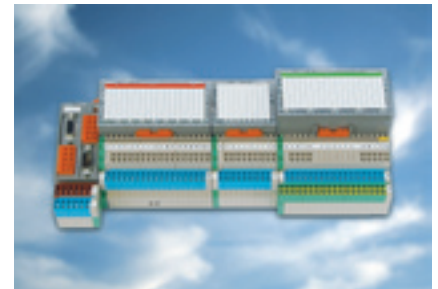
### Combi modules 8/32-channel

Optimum combination of input/output modules  
Either 0.5 A or 2 A outputs  
Short-circuit proof design -PK  
With short-circuit monitoring LED  
**CAN-4DI/4DO/0.5A-PK**  
**CAN-24DI/8DO/0.5A-PK**

### Relay modules 8/16-channel

Make contact  
**CAN-8(16)DO-R-NO**

## Analog I/O modules for CANopen



### Input modules 4-channel

Input ranges:  
10/0..+10 V, 0/4..20 mA  
Resolution 16-bit  
Reverse polarity protection  
**CAN-4AI/UI**

### Analog input PT100

Resolution 0.1 K, 0.1 W  
**CAN-4AI/PT100**

### Analog input

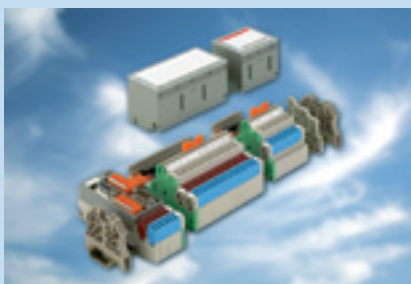
Thermo K, J, R, S, T, N, E, B  
Resolution 1K  
**CAN-4AI/Thermo**

### Output modules 4-channel

output range:  
10/0..+10 V, 0/4..20 mA  
Reverse polarity protection  
Resolution 16-bit  
**CAN-4AO/UI**

### Combi modules 4-channel

Input/output ranges:  
10/0..+10 V, 0/4..20 mA  
Reverse polarity protection  
**CAN-3AI/1AO/UI**



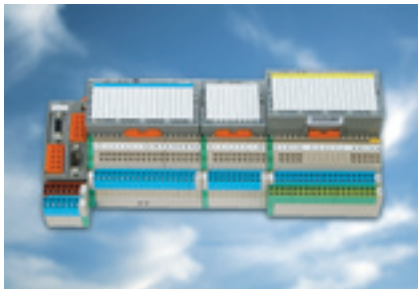
### Wide selection of I/O functions

The basic structure of the WINbloc system consists of a bridge, an electronic and a base module. The wide selection of I/O modules means that any possible combination can be implemented. Simply fit up to 10 I/O modules in a row and create the station exactly to the requirements of the application. It couldn't be simpler.

### Fast and economical wiring

Different base modules with either 2, 3 or 4-wire connection are available for the connection. Modularity on the entire line!  
The I/O points can be connected with tension clamp terminals allowing easier access.

## Digital I/O modules for Profibus-DP



### Input modules 8/16/32-channel

Either 24 V DC, 120 V AC or 230 V AC either positive/negative switching  
**DP-8-(16)DI/P**, **DP-16-(32)DI/P-2x8 (2x16)**  
**DP-8-DI/N**, **DP-8-DI/115VAC (230VAC)**

### Output modules 4/8/16/32-channel

Either 0.5 A or 2 A  
 Short-circuit proof design -PK  
 With short-circuit monitoring LED  
**DP-4DO/2.0A-PK**  
**DP-8-(16)DO/0.5A-PK**  
**DP-16-(32)DO/0.5A-P-2x8 (2x16)**

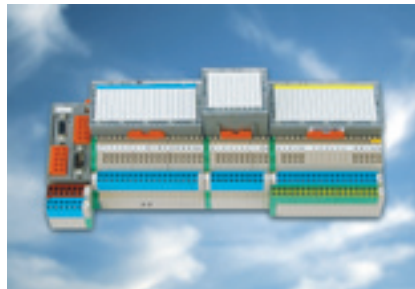
### Combi modules 8/12/16/32-channel

Optimum combination of input/output modules  
 Either 0.5 A or 2 A outputs  
 Short-circuit proof design -PK  
 With short-circuit monitoring LED  
**DP-4DI/4DO/0.5A-PK**  
**DP-8DI/4DO/0.5A-PK**  
**DP-8DI/4DO/2.0A-PK**  
**DP-8DI/8DO/0.5A-PK**  
**DP-24DI/8DO/0.5A-PK**

### Relay modules 8/16-channel

Either make contact or potential-free changeover contact  
**DP-8(16)DO-R-NO**, **DP-8DO-R-CO**

## Analog I/O modules and counter for Profibus-DP



### Input modules 4-channel

Input ranges: 10/0..+10 V, 0/4..20 mA  
 Resolution 16-bit, reverse polarity protection  
**DP-4AI/UI**  
 Analog input PT100  
 Resolution 0.5 K, 0.1 W/0.25 K, 0.025 W  
**DP-4AI/PT100**  
 Analog input  
 Thermo K, J, R, S, T, N, E, B  
 Resolution 1 K, 0.25 K  
**DP-4AI/Thermo**

### Output modules 4-channel

Output ranges: 10/0..+10 V, 0/4..20 mA  
 Reverse polarity protection, resolution 12-bit  
**DP-4AO/UI**

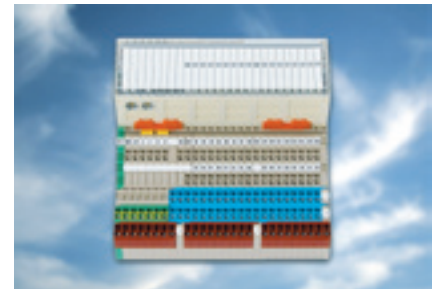
### Combi modules 4-channel

Input/output ranges:  
 10/0..+10 V, 0/4..20 mA  
 Reverse polarity protection  
**DP-3AI/1AO/UI**

### Counter module 1-channel, 25kHz

Forwards/backward positioning  
 Counter range 0..65535  
 Limit preset via Profibus-DP  
**DP-1CNT/24VDC**

## WINbloc Eco for Profibus-DP



### Digital input modules

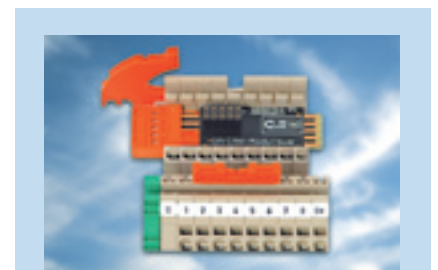
Positive switching  
**DP-16DI/P-ECO**  
**DP-32DI/P-ECO**

### Digital output modules

Positive switching  
 Short-circuit proof  
**DP-16DO/0.5A-PK-ECO**  
**DP-32DO/0.5A-PK-ECO**

### Combi modules

Positive switching  
 Short-circuit proof  
**DP-16DI-P/16DO/0,5A-PK-ECO**



### Modular plug adapter – Reliable connection

The electronics of the base elements are contacted reliably by using the sliding module bus link. A clip is used to ensure reliable mechanical connection. The electronic unit is then simply plugged onto the base modules and locked – that's it!

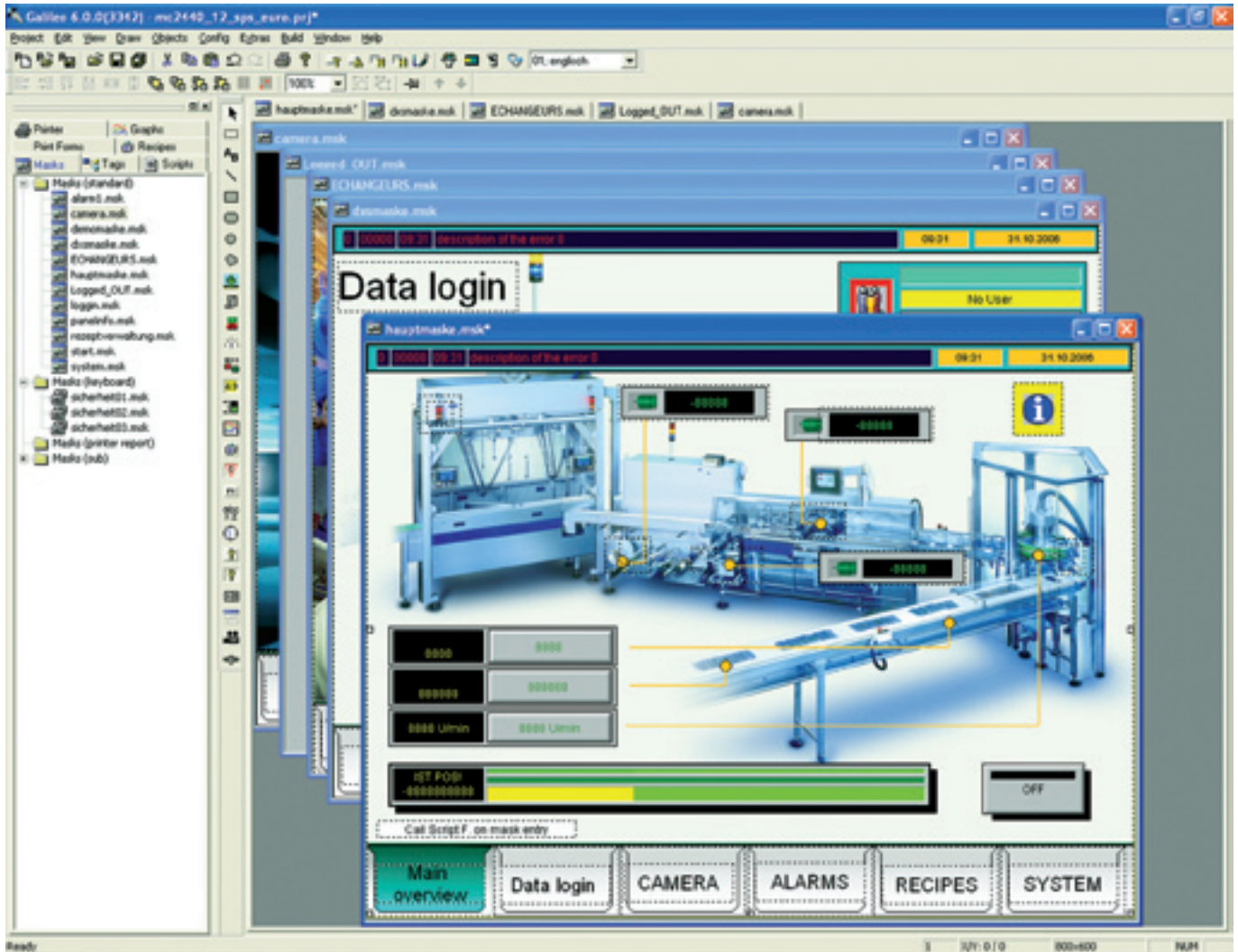
### WINbloc Eco

The economical and compact alternative for connecting to Profibus-DP. The system consists only of a base and electronic module. A bridge is not required. The fieldbus connection is implemented by direct wiring on the base module. Each WINbloc Eco module is a passive station on the Profibus-DP network. In addition to the extensive diagnostics LEDs, the signals are also indicated directly and clearly at the terminals.





# Galileo – Interactive Visualization Tool



Galileo is an easy to learn and yet powerful and extensive project design environment that can be used ideally in all system and machine building applications close to the machine and process.

Galileo is designed for use in all sectors and offers comprehensive project design for all graphical operating devices from the Micro Innovation HMI product range as well as for stand-alone PC solutions. Galileo provides the project designer with a full range of functions without any graduated restrictions on tags or screens, and takes into account the performance level of the panel used.



Reliable and simple connection to the control level and office world.

Comprehensive project design of all graphical panels up to and with the PC control station.

Up to 8 communication options at the same time, with data bridge.

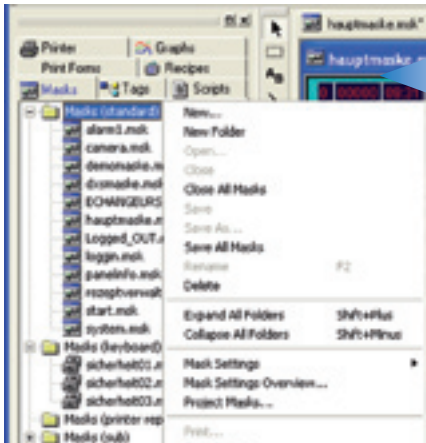
Some of over 100 protocols to all standard PLCs

A. BRADLEY	DF1 / EtherNet/IP
BECKHOFF	TwinCAT ADS
EIB	EIB-ETS2
MITSUBISHI	A Series
MOELLER	easy / SucomA / Suconet K / CANopen / CoDeSys
OMRON	C H K Series
SAIA	S-Bus / MPI
SIEMENS	PPI / MPI / DP Slave / Industrial Ethernet
TELEMECH.	Unitelway new
Various	OPC / Modbus RTU / Modbus TCP/IP / CoDeSys (SymArti) / CANopen (SDO/PDO) / 3964R

### GALILEO Highlights

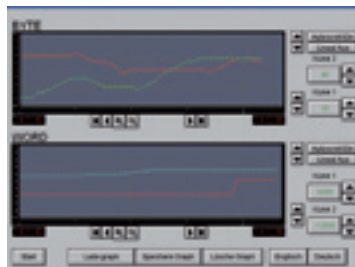
- Fast project design with project simulation on the design PC
- Easy to learn and intuitive graphical user interface with project overview window
- Drag & drop positioning of objects WYSIWYG (what you see is what you get)
- Simple parameter definition of objects
- Enhanced password handling with complex password and aging
- Extensiv recipe handling
- Alarm handling with time stamp, history and diagnostics support with picture display
- User-friendly multiple definitions of texts and pictures to variables
- Many graphical objects such as bargraph, slide adjuster, graph plot, camera
- Object parameter list, any number of data objects on one screen
- Dynamic measuring unit change (e .g. °C ↔ °F, inch ↔ mm)
- Many specific objects and functions
- Direct printing on the panel (reports, forms)
- Brilliant picture display with up to 65536 colors
- Import of 15 different picture formats
- Simple import of PLC variables
- Online language change
- Unicode support (also Asian character sets)
- Text import/export in XML format, e. g. Excel
- Always full functionality available, no graduated performance

# Galileo – Fast, Simple Project Design



## Fast project design

The required project data and information is shown in clearly visible groups in the project overview for simple selection. Other useful functions are available in every individual group via the context menu.



## Simple configuration of objects

Double-clicking the object concerned will activate the object configuration: Tag selection, object style, BMP/Text/ colors, object-related settings, view and operability.

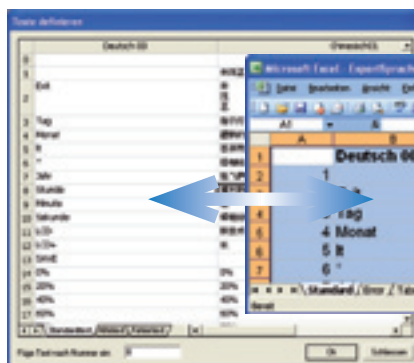
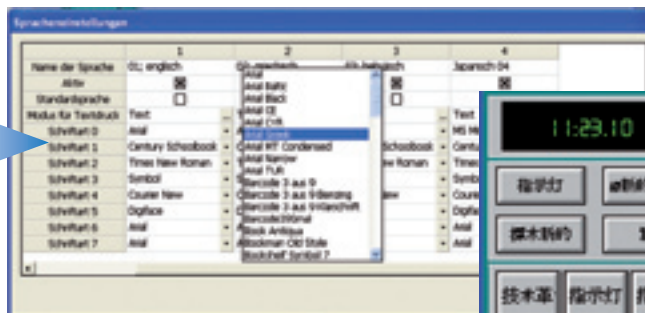
## A number of ready-to-use objects for fast project design



- Picture import
- Screen change
- Buttons
- Selector switch
- Status display
- Value entry display
- Bargraph
- Graph
- Recipe
- Alarm window
- Special functions
- Text entry
- Time/date
- Help buttons
- Help window
- Parameter list
- Sub screen
- Camera
- Slide adjuster

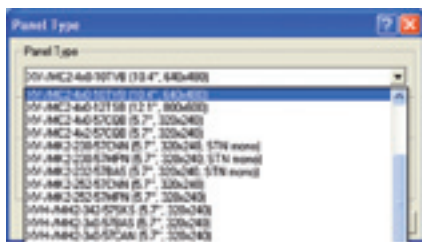
## Online language change, Text export/import with Unicode support.

An export and import interface allows you to extract texts in XML format from the project and translate them with external tools (e.g. Excel). Unicode support means that Asian picture characters can also be implemented. Different languages can also be selected on the panel.



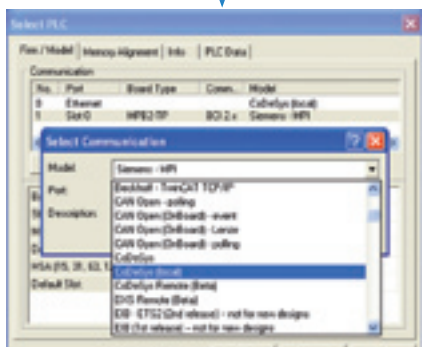


## Project ready in a few steps



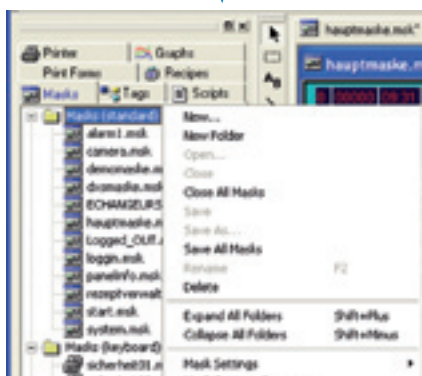
### 1 Open the project and select the panel type.

The project will automatically allow all the features of the selected panel.



### 2 Select communication.

Up to 8 communication protocols can be operated simultaneously from a selection of over 100. Data can thus be transferred via the panel from PLC to PLC.



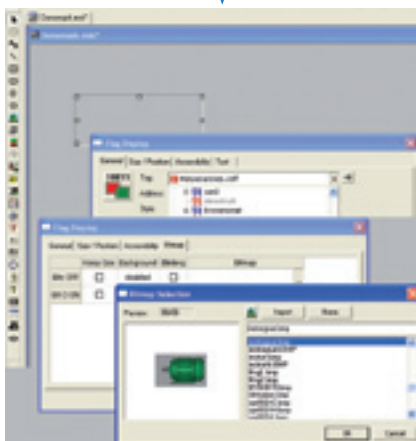
### 3 Create screens.

Full screens, sub screens, dialog screens and user-defined entry screens can be designed. Several ready-to-use standard screens for efficient project design are also available.



### 4 Create variables or import from MXpro (CoDeSys).

A specific entry dialog is provided for tag definition according to the communication protocol selected. Data from MXpro or other CoDeSys-based PLCs can be imported easily and synchronized when the PLC project is changed.



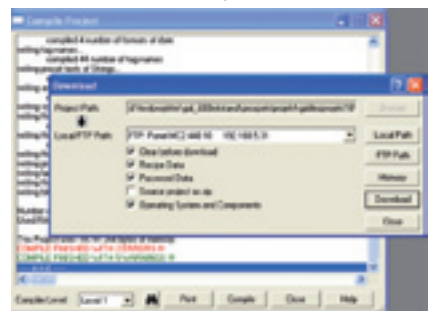
### 5 Position the object on screen.

Drag & drop functionality allows all visualization objects to be positioned on the screens and their wide range of properties to then be adapted to the application at hand.



### 6 Simulation of the project on the design PC.

Your project can be compiled and simulated directly on the design PC at any time. Detailed error messages and warnings notify you of any inconsistencies in the project. The simulation tool enables your project to be tested easily and developed efficiently.



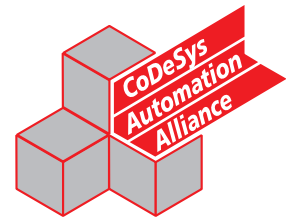
### 7 Download to the panel.

Once the compilation has been successfully completed, the project can be transferred during operation by clicking "Online" on the panel.



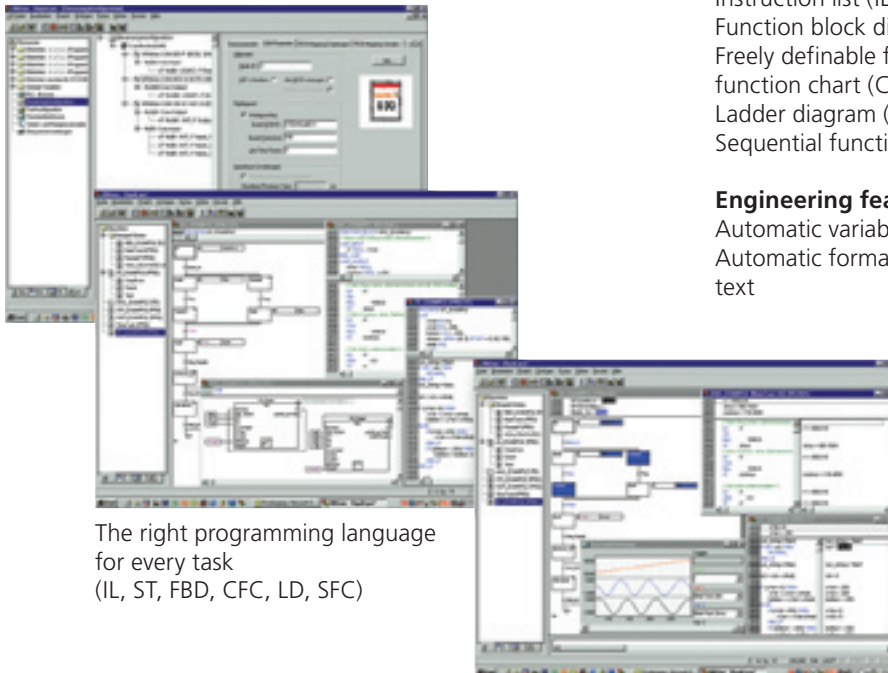


# MXpro: Programming Compliant with International Standards



All xSystem controllers of Micro Innovation are programmed with MXpro. MXpro is based on standard CoDeSys software from 3S. Fully developed technical features, simple handling and a widespread use of this software in automation components for different manufacturers guarantee successful programming with this software.

User-friendly PLC configuration



The right programming language  
for every task  
(IL, ST, FBD, CFC, LD, SFC)

## Programming languages

- Instruction list (IL) and structured text (ST)
- Function block diagram (FBD)
- Freely definable function block chart/continuous function chart (CFC)
- Ladder diagram (LD)
- Sequential function chart (SFC)

## Engineering feature

- Automatic variable declaration
- Automatic formatting and coloring of code/declaration text

Extensive debugging and  
commissioning tools save time  
and money

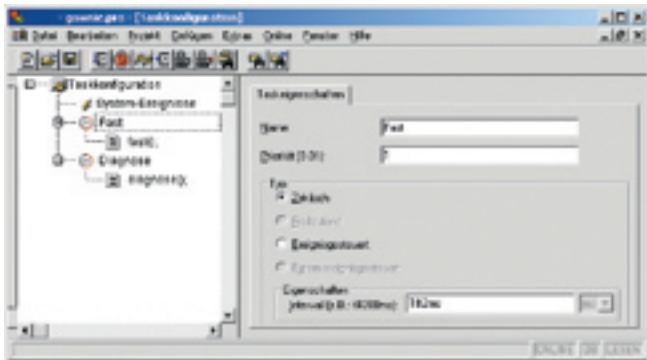
## Debugging and commissioning

MXpro offers you a number of important functions for debugging, testing and commissioning your PLC applications quickly and efficiently. All these features are available as soon as you log onto the PLC (online mode)

## Simulation

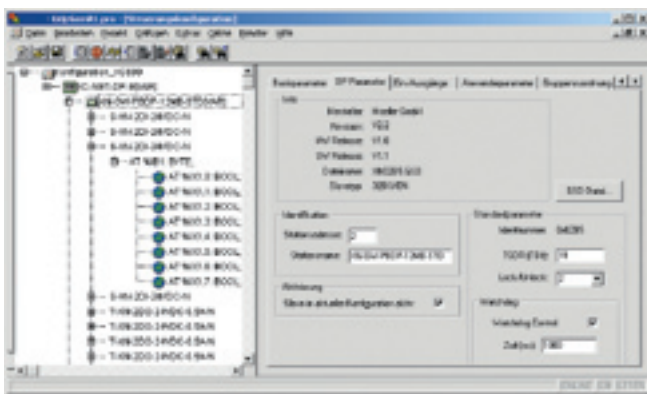
You can also test your application program when the PLC is not connected. This is possible thanks to the integrated offline simulation. You don't need to forgo the regular operator interface either, and handling is not any different to online mode with the PLC connected.

A number of features simplify application creation and support one aim: cost savings by reducing engineering times. Here is a selection of other features: Global search and replace, generation and use of libraries, context-sensitive help, output of a cross-reference list, checking of unused tags, etc.



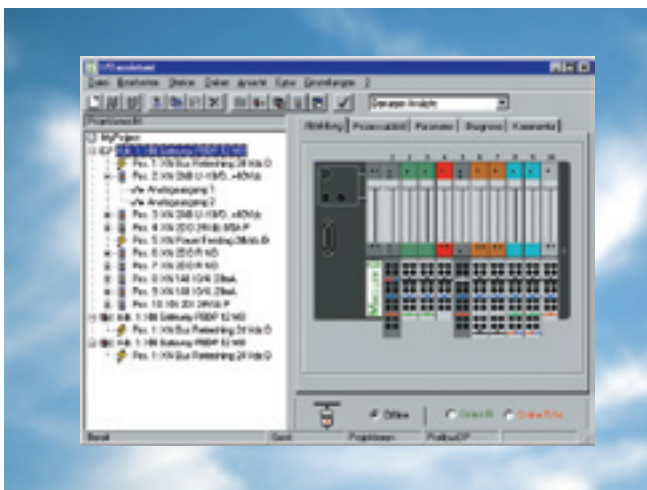
### Multitasking

The structuring of the application into several independent runtime programs (multitasking) optimizes the resources of your PLC and simplifies the implementation of time-critical tasks. Give priority to high-speed processes and provide slower processes with only as much processing time as required.



### Fieldbus configurator included

The hardware configurator shows all the local I/Os and the remote periphery (Profibus or CANopen) on one user interface. You can configure and parameterize the inputs and outputs directly, and assign them with a symbolic name. This prevents the occurrence of any assignment errors between the peripheral devices and the PLC program. You can also test variables in online mode.



### Multitasking

Up to 16 time and/or event driven tasks

### Visualization

Integrated tool for diagnostics and commissioning support

### Configuration

Configurator for local I/Os as well as CANopen and Profibus-DP stations

### Communication

RS232, Ethernet, in distributed networks via CANopen, OPC server, UDP, TCP/IP, FTP client/server, Modbus Master/Slave, email, SMS

### Password protection

8 levels

### Languages

D, GB

### Libraries

IEC, CompactFlash access, closed-loop control, motion control, etc.

### Special features

Network variables for cross traffic via CAN and Ethernet

## I/Oassistant

### Instantly online, instantly viewed, instantly tested

The I/Oassistant integrated in MXpro provides you with a specifically designed tool for configuring XI/ON from MXpro. Without leaving MXpro, all the functions of the I/Oassistant are available for interactively planning and implementing your remote XI/ON station.

For this you select gateways, electronic and base modules as well as the corresponding accessories.

The tool automatically checks that the structure is correct.

The individual stations are then configured offline or online.

Once everything is set to your satisfaction, you can put the system into operation.

# Application Libraries for Additional PLC Functions



Micro Innovation provides ready-to-use libraries for programming the controllers with MXpro for several applications.

The libraries can be incorporated simply via the MXpro Library Manager.

The additional function blocks of the libraries are then available like all other standard function blocks. The function block interfaces are kept as simple as possible and are normally easy to understand without requiring any extensive study in manuals.

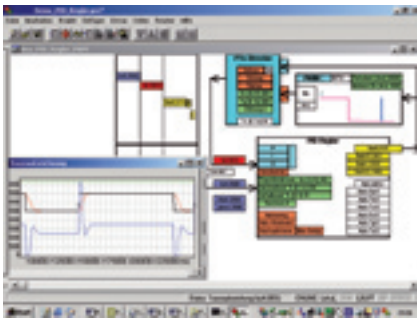
The user is therefore provided with ready-to-use solutions for automation tasks in many situations involving closed-loop and motion control.



## Closed-loop control toolbox

The closed-loop control toolbox contains around 120 function blocks. This firstly enables the implemented closed-loop control know-how to be utilized with the standard function blocks and secondly allows function blocks to be combined and cascaded in order to create special application solutions.

**PID controller:** The right controller can be selected for every control problem. The split range PID controller thus provides solutions for typical heating / cooling temperature controllers. The autotuning controller is used for the automatic setting of the parameters at the start of the control phase.



### Three step controller:

In addition to standard PID three step controllers, other robust and easy to set variants are available that are suitable for any valve opening time. The scan times of differential and integral components are optimized automatically.

### Pulse width modulation (PWM):

If the control system does not have an analog actuator, pulse width modulation outputs are connected behind the PID or fuzzy controllers. Conventional PWM algorithms are available and the noise-shape process with a highly dynamic switching frequency.

**Fuzzy control:** The fuzzy function blocks enable even inexperienced users to integrate fuzzy systems/controllers in a control concept. Even the gain factor or setpoint of a PID controller can be

programmed effortlessly with fuzzy logic.

### Signal processing and simulations:

Ramp delay function blocks and PT1 filters can be used to improve signal quality. First to tenth order PTn control systems can be simulated with the toolbox function blocks without an additional software package.

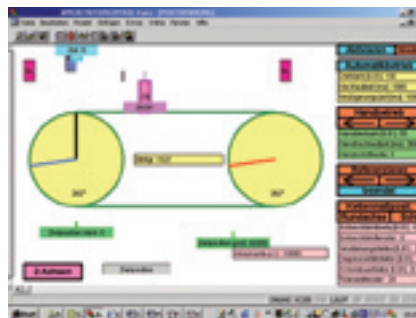
## Motion control toolbox

The motion control toolbox contains approximately 40 function blocks that can be individually integrated and adapted to the automation solution in question.

### Positioning

The toolbox contains basic positioning function blocks for elementary tasks and also more powerful function blocks with the following features:

- Asynchronous point-to-point positioning
- Master-slave positioning (e.g. interpolation)
- Incremental dimension positioning
- Rotary axis positioning (bending, turning) with optimized paths over the zero point
- Automatic referencing
- Manual mode with step width limitation
- Contouring error, wire break and positioning range monitoring
- Crawl speed zone at the end of positioning
- Compensation of the zero point coverage of hydraulic axes



Possible applications include handling tasks in the automobile supplier industry (manufacture of cup springs and spiral springs), winding of spiral springs, cable winding machines, pipe bending, positioning and synchronization of stages or curtains in theaters.

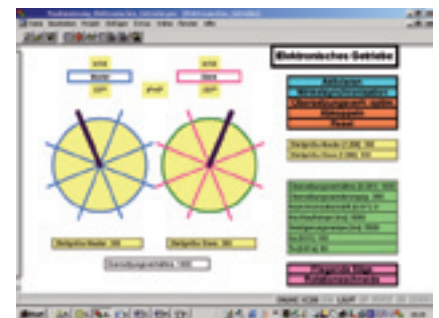
### Electronic gears

An electronic gear system can be implemented with the synchronization function blocks.

Different speeds can be synchronized with any transmission ratio.

Angle synchronization with online configurable offset between master and slave axes is also possible.

Three master axis variants are provided. The internal master is controlled in the same program. The external master is used by an external device to control the master. An incremental encoder records the motion of the master axis. With the virtual master, the slave axes follow a simulated axis.



Applications include: Press synchronization control with virtual master; angle and speed synchronization of belts; drawing of weaving materials with 5 slave axes and increasing transmission ratio per axis.

### Flying saw

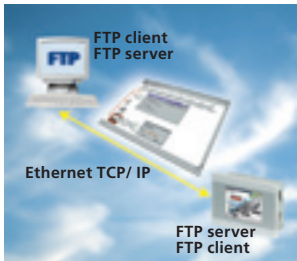
The "flying saw" function is a combination positioning and electronic gears. Positioning operations are carried out relative to the synchronized motion.



# Communication Libraries

## Flexible, Versatile and Efficient

Communication functions are increasingly becoming a central element in automation solutions. In addition to the conventional remote connections for peripheral devices via fieldbus systems such as CANopen or Profibus, data communication between PLCs or higher-level systems are of major importance. OPC, FTP, TCP/IP, email, web are just some of the technologies here that can be used for data communication or for transferring files.

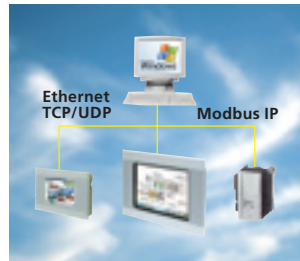


### FTP server: Updating recipe data

Micro Innovation controller uses a standard file system for internal program storage. This also applies to the pluggable external memory cards or a memory stick connected via the USB interface. Recipe data can be created really easily as a "normal" file, transferred to the PLC and read from there. Recipe data can now thus be updated easily via any PC.

### FTP client: Sending data archives automatically

The FTP client function blocks enable files that were created by the PLC to also be stored on any drives that can be accessed via the network. If, for example, the target drive is not accessible due to problems on the network, an alternative drive can be accessed. Daily or weekly logs can thus be stored locally and archived at any time. With a few function block calls, files can be saved from the PLC onto a network drive.



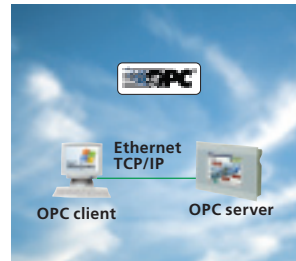
### UDP and TCP/IP

UDP and TCP/IP are protocols used on very many operating system platforms, which enable a simple and standard data exchange between the PLC and external systems. This can be other controllers or even PC-based applications.

### Modbus / TCP

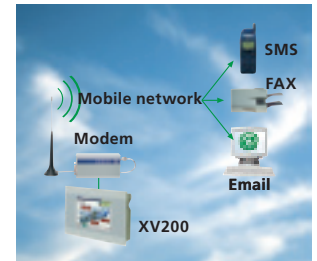
Modbus is a communication protocol that is widely used with different communication media. Modbus can be implemented as a serial connection (RS232/485) or as a Modbus IP Ethernet version.

Ready-to-use libraries for the masters and also the slave function are also available.



### OPC server

Virtually all SCADA, visualization and control systems support the OPC client/server interface. The OPC server is used by the controllers to present the process data to the OPC clients. The OPC server supports data access via the serial interface and via the Ethernet, and each OPC server is able to process requests from several clients. If data is to be used several times, for example by a visualization system or a database, different software packages can access the data of the OPC server without the need for any manufacturer specific conventions or additional implementations.

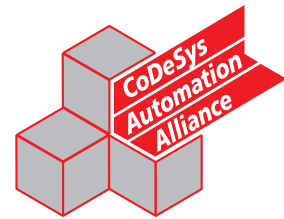


### SMS messaging or email

System states or alarm messages can be sent simply by SMS or email – whether for logging or for direct communication with the service technician. The ready-made user modules provide you with all the options you need to be always notified in time about the operating state of the machine or plant.

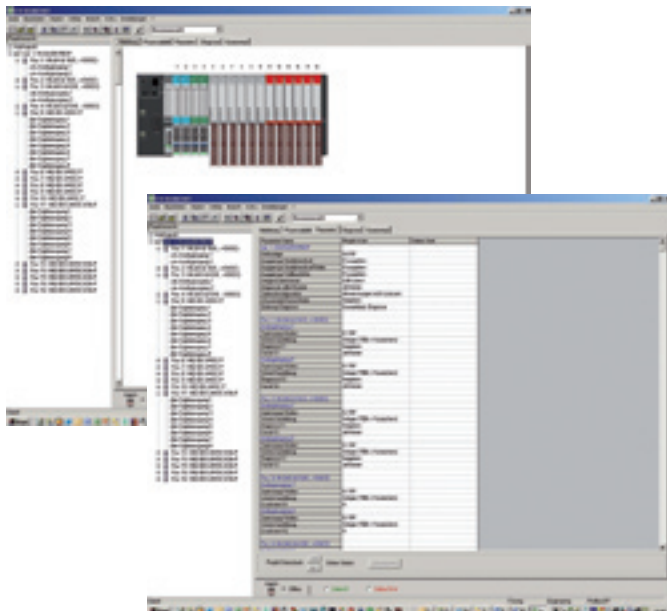
**Further information and downloads are  
can be obtained at:  
<http://www.microinnovation.com>**

# I/Oassistant: Configuration Software for XI/ON and WINbloc I/O System



Instantly online, instantly viewed, instantly tested!

The I/Oassistant provides you with a universal tool that supports you interactively throughout the planning and implementation stage of your XI/ON system. First of all, you need to create and structure a project on screen. To do this, you select gateways, electronics/base modules and the appropriate accessories. Then you configure the individual stations either offline or online. Once everything is set to your satisfaction, you can put the complete system into operation.



## Commissioning without a fieldbus master

The I/Oassistant checks the station, reads in process data, outputs values and visualizes the diagnostics data of the channels. In this way you can commission your station without a higher-level controller and ensure that sections of the system are operating correctly.

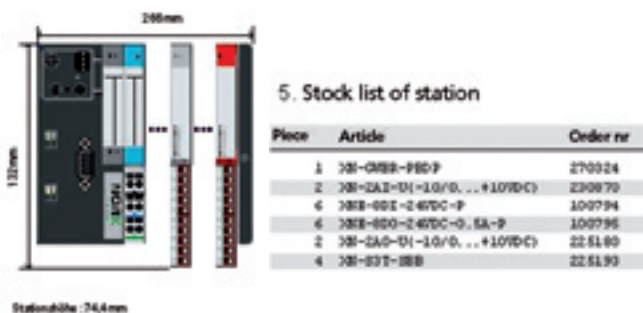
You set the outputs and modify values directly from the PC. By forcing the values you can instantly view the behavior of your application. You can thus check the field wiring, for example, without having a fully installed control system.

## Integration in MXpro

The I/Oassistant integrated MXpro is the special configuration tool for XI/ON and can also be accessed from within MXpro. You can therefore make full use of all I/Oassistant functions for interactive planning and implementation of your remote XI/ON station without having to exit MXpro.

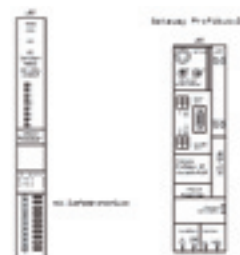
## Design plan and parts list generation

Once the planning has been completed, the software can generate a detailed project documentation that includes overview picture and parts lists.



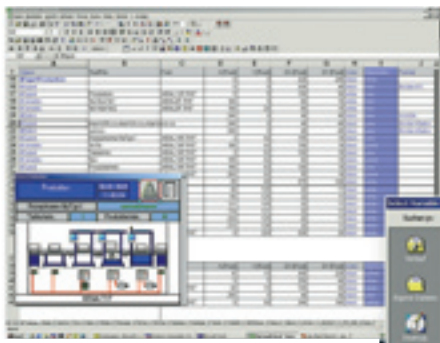
## EPLAN support

EPLAN macros are available for the XI/ON modular I/O system. This saves the time required for configuring and helps to prevent configuration errors.



# EPAM: Visualization Tool under Microsoft-Office

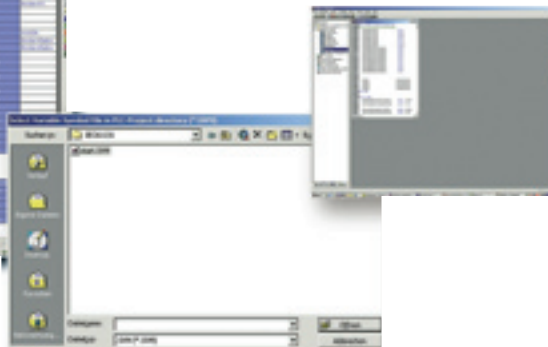
EPAM is designed as an open visualization system for OEM machine builders and can be extended at any time with the customer's own functions using Visual Basic macros.



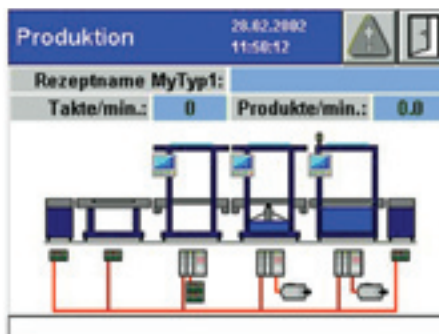
Simple and efficient project design with EXCEL

Import of variables from MXpro

Easy positioning



... and it's ready



## Project design with MS Excel

The visualization project is designed in Microsoft Excel. Once EPAM is installed and an add-in is installed in Microsoft-Excel, all the necessary commands and objects are available for designing a visualization system. Button, switch, alphanumeric variable, bargraph, message element, bitmaps etc.

The PLC variables can be imported simply from MXpro. The project is designed in a tabular description of the visualization system. The tables are then later interpreted on the target system by the EPAM runtime.

An interpreter is also provided within Excel.

This enables functions and the screens to be tested beforehand on the design PC. This test also enables the visualization of process values from the PLC. All the features of Excel are available during the project design phase.

Already existing screens or objects can be reused simply with Copy & Paste.

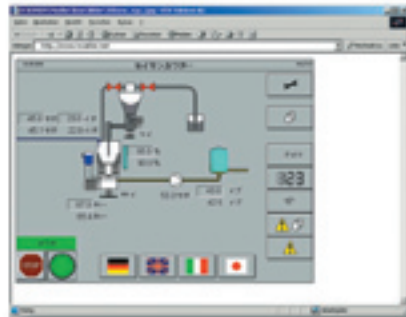
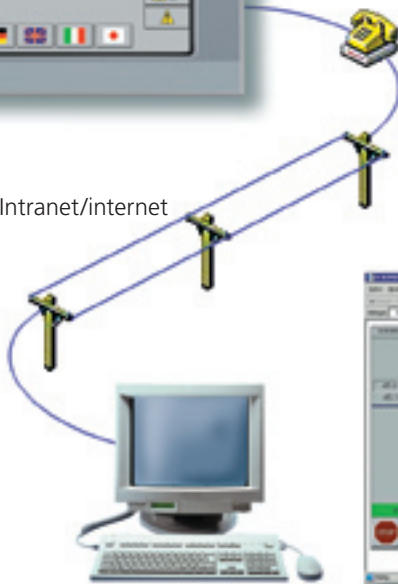
A program expansion with custom Visual Basic macros enables the system to be linked to external data sources.

**WEB-EPAM enables both new and existing EPAM applications to be turned into remote HMI systems via the Intranet/Internet.**

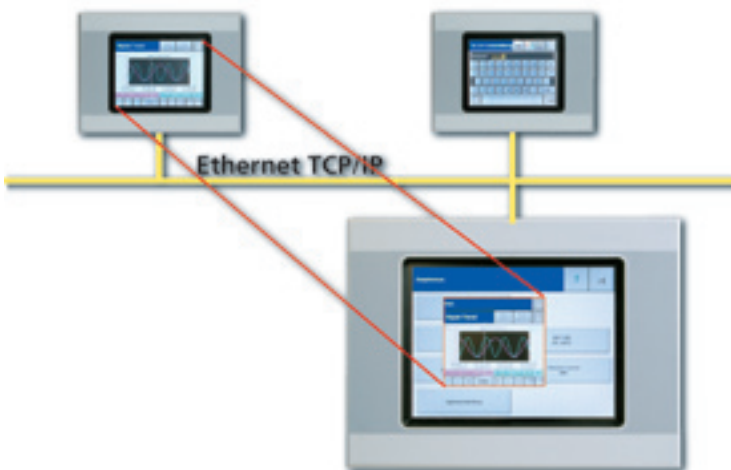
EPAM application



Intranet/internet



Java-enabled standard browser



**WEB-EPAM**

Each visualization system created with EPAM is web-enabled automatically. A Java applet is simply loaded on the target system via the integrated web server and generates a 1:1 image of the visualization in any standard Java-compatible browser, enabling the system to be operated remotely with any standard PC without the need to install additional software.

Identification is implemented with user passwords so that only authorized persons are allowed access.

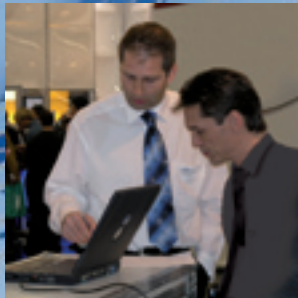
**Picture in picture display with EPAM remote control**

EPAM's remote control object enables the screen pages of other touch screens to be displayed. The operating states of individual system sections can thus be diagnosed and controlled remotely. A 1:1 copy of the actual image of a XV400 with a 5.7" display is shown on the visualization page of a XV400 with a 10.4" display. All touch functions can be carried out locally or remotely via the screen shown in the remote XV400. All this is possible at no extra cost and without any additional engineering requirements or software packages.



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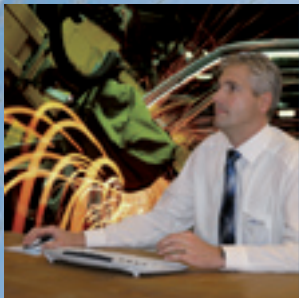
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Automation Catalogue  
2006/2007

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An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Subject to availability and technical modifications.



**Automation and visualization**



**1** HMI and HMI-PLC  
 XV200                      XVH300  
 XV400                      XVC600  
 XVS400                    XVC100



**2** Remote I/O XI/ON



**3** Remote I/O WINbloc



**4** Software  
 GALILEO                      *MX,pro*  
 GALILEO OPEN              Additional software  
 EPAM

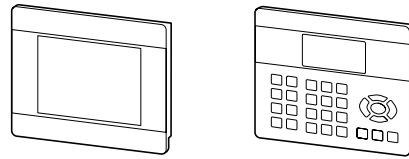
**Information**



**5** International sales offices, services

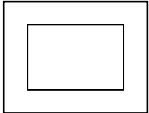






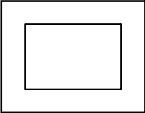
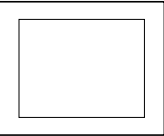
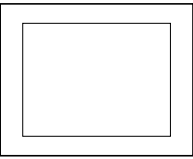
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<b>Device versions</b>	
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XV400	1/16
XVS400	1/18
XVH300	1/20
XVC600	1/22
XVC100	1/24
<b>Dimensions</b>	1/27



Display	Version front	Screen diagonal Inch	Display area mm	Resolution Pixels	Communication interface	Type Order No.	Price See price sheet	Std. pack
<b>XV200</b> Processor RISC CPU, 32-bit, 200 MHz OS, program und data memory 32 MB Display: 5.7" FSTN-LCD (monochrome display), 256 grayscales or 5.7" CSTN-LCD (color display), 256 colors Integrated interfaces depending on type: Ethernet, USB Device, communication interface(s) Software: Visualization = GALILEO, PLC = <i>MXpro</i> Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash™ required → Accessories.								
								
Resistive touch, 5.7" FSTN-LCD (monochrome display), 256 grayscales	Standard film	5.7	115 × 86	320 x 240	CAN	<b>XV-230-57CNN-1-10</b> 85 28 200010		1 off
	Standard film	5.7	115 × 86	320 x 240	Profibus <sup>1)</sup>	<b>XV-230-57MPN-1-10</b> 85 28 200050		
	Standard film	5.7	115 × 86	320 x 240	RS232	<b>XV-232-57BAS-1-10</b> 85 28 200000		
Resistive touch, 5.7" CSTN-LCD (color display), 256 colors	Standard film	5.7	115 × 86	320 x 240	CAN, RS232	<b>XV-252-57CNN-1-10</b> 85 28 200510		
	Standard film	5.7	115 × 86	320 x 240	Profibus <sup>1)</sup> , RS232	<b>XV-252-57MPN-1-10</b> 85 28 200550		

**Notes:** 1) Possible protocols via Profibus: MPI, PPI, DP master

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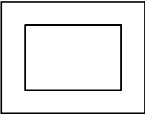
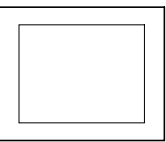
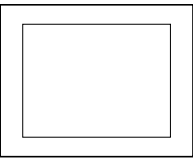
Display	Version front	Screen diagonal	Display area	Resolution	Slots for communication modules	Type Order No.	Price	Std. pack
		Inch	mm	Pixels	Number		See price sheet	
<b>XV400</b> Processor RISC CPU, 32-bit, 400 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors; 10.4"/12.1" TFT-LCD (color), adjustable: 65536 or 256 colors Integrated interfaces: Ethernet, RS 232, CAN, USB Host, USB Device Communication slots for communication modules Software: Visualization = GALILEO or EPAM <sup>1)</sup> , PLC = MX <sup>pro</sup> Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash <sup>TM</sup> required → Accessories.								
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 x 240	1	<b>XV-442-57CQB-1-10</b> 85 17 200110	1 off
		Brushed satin finished stainless steel <sup>2)</sup>	5.7	115 × 86	320 x 240	1	<b>XV-442-57CQB-1-50</b> 85 17 200280	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 x 240	1	<b>XV-432-57CQB-1-10</b> 85 17 200010	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	10.4	211 × 158	640 × 480	2	<b>XV-440-10TVB-1-10</b> 85 17 200400	
		Brushed satin finished stainless steel <sup>3)</sup>	10.4	211 × 158	640 × 480	2	<b>XV-440-10TVB-1-50</b> 85 17 200575	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	10.4	211 × 158	640 × 480	2	<b>XV-430-10TVB-1-10</b> 85 17 200300	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	12.1	246 × 185	800 × 600	2	<b>XV-440-12TSB-1-10</b> 85 17 200700	
		Brushed satin finished stainless steel <sup>3)</sup>	12.1	246 × 185	800 × 600	2	<b>XV-440-12TSB-1-50</b> 85 17 200875	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	12.1	246 × 185	800 × 600	2	<b>XV-430-12TSB-1-10</b> 85 17 200600	

**Notes:**

- 1) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.
- 2) Is also approved for IP69K
- 3) Is also approved for II 2G EEx p II IP5x (ATEX 94/9/EC):
  - Zone 1, category 2G (only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous.)
  - Zone 2, category 3G (only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous.)



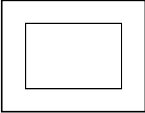


Display	Version front	Screen diagonal Inch	Display area mm	Resolution Pixels	Type Order No.	Price See price sheet	Std. pack
<b>XVS400</b> Processor RISC CPU, 32-bit, 400 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors; 10.4"/12.1" TFT-LCD (color), adjustable: 65536 or 256 colors Integrated interfaces: Ethernet, RS 232, Profibus <sup>1)</sup> (up to 1.5 Mbaud), USB Host, USB Device Software: Visualization = GALILEO or EPAM <sup>2)</sup> , PLC = MXpro Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options and PLC functionality → Licensing. WinCE license required → Accessories. Compact Flash™ required → Accessories.							
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 x 240	<b>XVS-440-57MPI-1-10</b> 85 31 200100	1 off
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 x 240	<b>XVS-430-57MPI-1-10</b> 85 31 200000	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	10.4	211 × 158	640 × 480	<b>XVS-440-10MPI-1-10</b> 85 31 200300	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	10.4	211 × 158	640 × 480	<b>XVS-430-10MPI-1-10</b> 85 31 200200	
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	12.1	246 × 185	800 × 600	<b>XVS-440-12MPI-1-10</b> 85 31 200500	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	12.1	246 × 185	800 × 600	<b>XVS-430-12MPI-1-10</b> 85 31 200400	

**Notes:**

- 1) Possible protocols via Profibus: MPI, PPI, DP master
- 2) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.

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Display	Version front	Screen diagonal	Display area	Resolution	Communication interface	Type Order No.	Price	Std. pack
		Inch	mm	Pixels			See price sheet	
<b>XVH300</b> Processor: RISC CPU, 32-bit, 200 MHz OS, program und data memory 64 MB Display: 5.7" CSTN-LCD (color), 256 colors Integrated interfaces depending on type: Ethernet, USB Device, communication interface(s) Software: Visualization: GALILEO or EPAM <sup>1)</sup> Basic device with 140 license points enables communication to the value of 40 points via an onboard interface. Additional communication options → Licensing. WinCE license required → Accessories. Compact Flash™ required → Accessories.								
	IR touch (infra-red light matrix), robust, scratchproof front (safety glass)	Standard film	5.7	115 × 86	320 x 240	CAN	<b>XVH-340-57CAN-1-10</b> 85 16 200610	1 off
		Standard film	5.7	115 × 86	320 x 240	Suconet K, RS 232	<b>XVH-342-57SKS-1-10</b> 85 16 200950	
	Resistive touch, absolutely flat (seamless protective seal)	Standard film	5.7	115 × 86	320 x 240	CAN	<b>XVH-330-57CAN-1-10</b> 85 16 200110	

**Notes:** 1) A LIC-HMI-EPAM-STD license product paper is required for operation of EPAM → Licensing.





Display	Screen diagonal Inch	Display area mm	Resolution Pixels	Additional interface	Type Order No.	Price See price sheet	Std. pack
<b>XVC600</b> Processor: Pentium 200 MHz, ETX form factor, 64 MByte DRAM, 32 KByte SRAM Data/program memory: removable Compact Flash™ Integrated interfaces: CAN, Ethernet, RS 232 IP65 front incl. Compact Flash with PLC and EPAM runtime system incl. battery for real-time clock TFT color display Software: Visualization = EPAM <sup>1)</sup> , PLC = MXpro <sup>1)</sup>							
IR touch (Infra-red light matrix) robust, scratchproof front (safety glass)	10.4	211 × 158	640 × 480 VGA	–	<b>XVC-601-GTI-10-V1-000</b> 85 32 000000		1 off
	10.4	211 × 158	640 × 480 VGA	PROFIBUS-DP	<b>XVC-601-GTI-10-DPM-V1-000</b> 85 32 000100		
	15	304 × 228	1024 × 768 XGA	–	<b>XVC-601-GTI-15-V1-000</b> 85 32 000500		
	15	304 × 228	1024 × 768 XGA	PROFIBUS-DP	<b>XVC-601-GTI-15-DPM-V1-000</b> 85 32 000600		

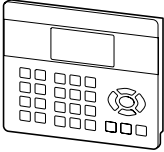
**Notes:** 1) No license product paper required

For information on additional products such as:

- Infra-red touch DVI panel
- Compact devices without display

Please contact your Micro Innovation agent.

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Description	Type Order No.	Price	Std. pack
<p><b>HMI-PLC XVC100</b> Text display HMI-PLC with small mounting depth for use in restricted spaces.</p>  <ul style="list-style-type: none"> <li>8 × 20 or 4 × 10 characters</li> <li>28 keys, 8 of which are function keys</li> <li>1 × CompactFlash slot</li> <li>1 × CAN interface</li> <li>1 × RS232 interface</li> <li>10 × digital inputs, 24 V</li> <li>2 × counter inputs, 50 kHz</li> <li>2 × interrupt inputs</li> <li>1 encoder input, max. 50 kHz</li> <li>8 × digital outputs, 24 V DC/0.5 A</li> <li>8 × digital inputs/outputs, 24 V DC/0.5 A, can be configured individually</li> <li>2 × analog inputs, 0 – 10 V/0 – 20 mA, 10-bit</li> <li>2 × analog outputs ±10 V/12-bit</li> <li>incl. battery</li> </ul>	<p><b>XVC-101-C192K-K82</b> 85 23 200000</p>	<p>See price sheet</p>	<p>1 off</p>





Description	For use with	Type Order No.	Price	Std. pack
			See price sheet	
<b>Windows CE licenses</b>				
WinCE 3.0 License with license sticker	XV-2... XV-4... XVS-4... XVH-3...	<b>LIC-OS-CE30</b> 91 30 600000		1 off
WinCE 5.0 Standard license with license sticker	XV-2... XV-4... XVS-4... XVH-3...	<b>LIC-OS-CE50-C</b> In preparation		
Professional license with license sticker	XV-2... XV-4... XVS-4... XVH-3...	<b>LIC-OS-CE50-P</b> In preparation		
<b>Memory cards</b>				
– Compact Flash without operating system	XV-2... XV-4... XVS-4... XVH-3... XVC-1...	<b>MEMORY-CF-A1-S</b> 50 61 000400		1 off
– Compact Flash, bootable with Windows CE, without Windows CE license	XV-2... XV-4... XVS-4... XVH-3...	<b>OS-FLASH-A1-S</b> 90 17 000060		
– Compact Flash, bootable without operating system and without runtime systems, for storing applications and data	XVC-6...	<b>MEMORY-CF-BRS-1</b> 50 61 000510		
<b>XV license product papers</b>				
– PLC license product paper with license sticker	XV-2xx-57BAS... XV-2xx-57CNN...	<b>LIC-PLC-MXP-LIGHT</b> 91 30 000050		1 off
– PLC license product paper with license sticker	XV-2xx-57MPN... XV-4xx-57... XVS-4xx-57...	<b>LIC-PLC-MXP-SMALL</b> 91 30 000100		
– PLC license product paper with license sticker	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	<b>LIC-PLC-MXP-MEDIUM</b> 91 30 000110		
– EPAM license product paper with license sticker	XV-4... XVS-4... XVH-3...	<b>LIC-HMI-EPAM-STD</b> 91 30 000012		
– License product paper 40 POINTS	XV-2... XV-4... XVS-4... XVH-3...	<b>LIC-OPT-1ST-LEVEL</b> 91 30 000400		
– License product paper 80 POINTS	XV-2... XV-4... XVS-4... XVH-3...	<b>LIC-OPT-2ND-LEVEL</b> 91 30 000420		
<b>Communication modules</b>				
– Multiprotocol board	XV-4...	<b>COM-MPB1-TP</b> 85 12 000009		1 off
– Multiprotocol board MPI	XV-4...	<b>COM-MPB2-TP</b> 85 12 000004		
– PROFIBUS DP Master (12Mbaud)	XV-4...	<b>COM-DPM-MC2</b> 85 12 000200		
– PROFIBUS DP Slave (12Mbaud)	XV-4...	<b>COM-PDP-TP</b> 85 12 000008		
– EIB	XV-4...	<b>COM-EIB2-TP</b> 85 12 000011		
<b>Additional fixing brackets</b>				
– Additional fixing brackets for IP65	XV-4... XVS-4... XVH-3...	<b>ACCESSORIES-HKS-IP65</b> 65 01 000002		1 off
– Set of retaining brackets for mounting the device (4 retaining brackets with threaded pin)				
<b>Batteries</b>				
– Spare batteries	XVC-6... XVC-1...	<b>ACCESSORIES-BAT01x</b> 45 60 000001		1 off



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Description	For use with	Type Order No.	Price See price sheet	Std. pack
<b>Device accessories (supplied with the devices)</b>				
– Device accessories as replacement 8 Retaining brackets for mounting the device 8 Threaded pins for mounting the device 1 Sealing strip for mounting the device 1 Power supply connector 1 Touch pen	XV-2...	<b>ACCESSORIES-TP-57-KG-1</b> 83 17 000018		1 off
– Device accessories as replacement <sup>1)</sup> 1 Set of retaining brackets for mounting the device (4 retaining brackets with threaded pin) 1 Sealing strip for mounting the device 1 Power supply connector 1 Touch pen	XV-4xx-57... XVS-4xx-57... XVH-3...	<b>ACCESSORIES-TP-57-RES-1<sup>1)</sup></b> 83 17 000001		
– Device accessories as replacement 2 Set of retaining brackets for mounting the device (4 retaining brackets with threaded pin) 1 Sealing strip for mounting the device 1 Power supply connector 1 Touch pen	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	<b>ACCESSORIES-TP-10/12-RES-1</b> 83 17 000007		

**Notes** 1) XV-442-57-CQB-1-50 have a special seal



**Licensing XV200, XV400, XVS400 and XVH300**

The range of functions possible for each device is determined by means of license points that are uniquely assigned to the device concerned. Additional license points can be assigned to the device by means of license product papers (see Accessories XV license product papers). Licensing is carried out via the Internet at [www.microinnovation.com/license](http://www.microinnovation.com/license).

Entering the license product paper and device series number on the web page provides you with the license code and a license confirmation via email for your production documents. You enter the license code via the licensing menu on the device and thus increase the number of internal license points on the device.

**Note:**

If there are not enough license points on the device for the required functionality, a message box of the touch display will prompt you at regular intervals to extend the license for the device.

**Calculation of the required license points**

To use the PLC function in accordance with the applicable license conditions, the device license must be extended explicitly using a specific license product paper, see table „XV license product papers“. These license product papers contain a PLC license sticker which must be affixed to the device.

Add the required license points for each of the external communication options you use. Communication to several devices with the same protocol only has to be counted once. Deduct the number of points already on the device (e.g. 140) from the total. The resulting difference is the number of license points that must be added using the license product papers.

**Number of required license points depending on the required functionality:**

Runtime / Tools	Onboard interface	License points
GALILEO runtime	–	100
EPAM runtime	–	100 <sup>1)</sup>
MX <sub>pro</sub> runtime	–	100
CE Telediag	RS232	40
S7 PG Router	Ethernet and Profibus	80
CAN Monitor	CAN	–
DXS Remote (DXS communication)	Ethernet	80

Communication	Onboard interface	License points		
		MX <sub>pro</sub>	GALILEO	EPAM
Programming access	Ethernet	0	0	0
CoDeSys-SYMArti local (GALILEO / EPAM ↔ MX <sub>pro</sub> )	Local	0	0	0
CoDeSys-SYMArti external	Ethernet	0	40	0
A.Bradley DF1	RS232	–	40	–
A.Bradley EtherNet/IP	Ethernet	–	120	–
Beckhoff TwinCAT ADS	Ethernet	–	80	–
CANopen, Master	CAN	0	–	–
CANopen, Device (Slave)	CAN	0	40	–
DXS Remote (DXS communication)	Ethernet	–	80	–
Modbus TCP/IP	Ethernet	–	80	–
Modbus RTU	RS232	–	40	–
Moeller easy800/MFD	RS232	–	40	–
Moeller Sucom A	RS232	–	40	–
Moeller Suconet K on XVH342-57SKS	Suconet K	–	0	–
Profibus DP Master (1.5 Mbaud)	PROFIBUS	40	–	–
Siemens Industrial Ethernet	Ethernet	–	80	–
Siemens MPI	PROFIBUS	–	40	–
Siemens PPI	PROFIBUS	–	40	–
Siemens S7 Profibus Standard Profile	PROFIBUS	–	40	–

**Notes:** 1) A LIC-HMI-EPAM-STD license product paper is required for the operation of EPAM runtime on XV400, XVS400 and XVH300 devices. The sticker provided on the license product paper must be affixed to the device. Validation of the certificate via the Internet is unnecessary.

Contact your Micro Innovation representative for any enquiries about other protocols.



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**List of the most common protocols**

The following is a list of the most common protocols that can be implemented on XV400 devices by using optional plug-in communication modules (no license points required).

Protocol	Required communication modules for XV400
EIB (3rd release)	COM-EIB2-TP
Matsushita FP Series	COM-MPB1-TP / COM-MPB2-TP
Mitsubishi A Series / F Series	COM-MPB1-TP / COM-MPB2-TP
Moeller Suconet K	COM-MPB1-TP / COM-MPB2-TP
Omron C H K Series	COM-MPB1-TP / COM-MPB2-TP
Profibus DP Master (12 Mbaud)	COM-DPM-MC2
Profibus DP Slave (12 Mbaud)	COM-PDP-TP
Siemens MPI	COM-MPB2-TP
Telemecanique Unitelway new	COM-MPB1-TP / COM-MPB2-TP

Contact your Micro Innovation representative for any enquiries about other protocols.

**XV license product papers**

The following license product papers are available depending on the functions required (→ Accessories):

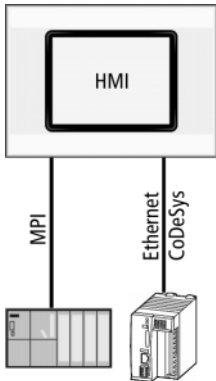
XV license product papers	For use with	Type
<b>PLC function</b>		
PLC license product paper with license sticker	XV-2xx-57BAS... XV-2xx-57CNN...	LIC-PLC-MXP-LIGHT
PLC license product paper with license sticker	XV-2xx-57MPN... XV-4xx-57... XVS-4xx-57...	LIC-PLC-MXP-SMALL
PLC license product paper with license sticker	XV-4xx-10... XV-4xx-12... XVS-4xx-10... XVS-4xx-12...	LIC-PLC-MXP-MEDIUM
<b>EPAM</b>		
EPAM license product paper with license sticker	XV-4... XVS-4... XVH-3...	LIC-HMI-EPAM-STD
<b>Communication</b>		
40 license points	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-1ST-LEVEL
80 license points	XV-2... XV-4... XVS-4... XVH-3...	LIC-OPT-2ND-LEVEL





Licensing examples:

HMI application: XV200, XVS400

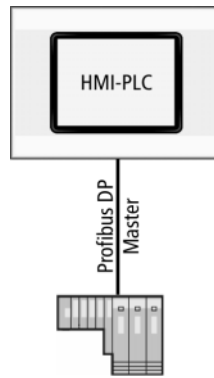


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication MPI	40 Points
Communication CoDeSys external	40 Points
<b>Total</b>	<b>180 Points</b>
Already provided in the device on delivery	-140 Points
<b>Additional points required for communication</b>	<b>40 Points</b>

PLC	
PLC application	No

**Required license product papers:**  
1 × LIC-OPT-1ST-LEVEL (40 points)

HMI-PLC application: XV200 Profibus and XVS400 5.7"

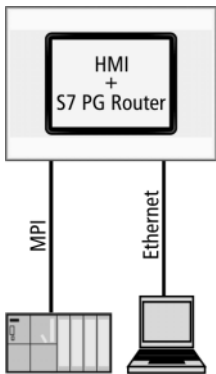


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication Profibus DP Master (MXpro)	40 Points
<b>Total</b>	<b>140 Points</b>
Already provided in the device on delivery	-140 Points
<b>Additional points required for communication</b>	<b>0 Points</b>

PLC	
PLC application	100 Points

**Required license product papers:**  
1 × LIC-PLC-MXP-SMALL (100 points, only for XV-2xx-57MPN..., XV-4xx-57... and XVS-4xx-57...)

HMI application: XV200, XVS400, with additional software, e.g. S7 PG Router

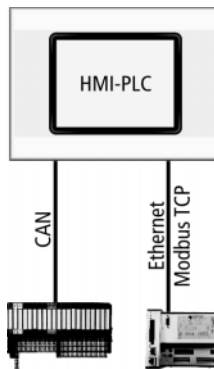


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication MPI	40 Points
S7 PG Router	80 Points
<b>Total</b>	<b>220 Points</b>
Already provided in the device on delivery	-140 Points
<b>Additional points required for communication</b>	<b>80 Points</b>

PLC	
PLC application	No

**Required license product papers:**  
1 × LIC-OPT-2ND-LEVEL (80 points)

HMI-PLC application: XV400 10.4"

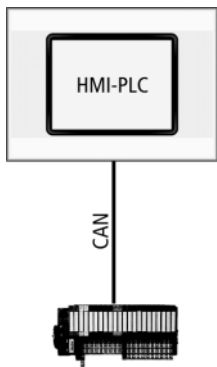


Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication Modbus TCP client (GALILEO)	80 Points
Communication CANopen (MXpro)	0 Points
<b>Total</b>	<b>180 Points</b>
Already provided in the device on delivery	-140 Points
<b>Additional points required for communication</b>	<b>40 Points</b>

PLC	
PLC application	100 Points

**Required license product papers:**  
1 × LIC-OPT-1ST-LEVEL (40 points)  
1 × LIC-PLC-MXP-MEDIUM (100 points for XV-4xx-10... and XV-4xx-12... and XVS-4xx-10... and XVS-4xx-12...)

HMI-PLC application: XV200 CAN



Visualization, communication	
Visualization (GALILEO)	100 Points
Communication HMI ↔ PLC local	0 Points
Communication CANopen (MXpro)	0 Points
<b>Total</b>	<b>100 Points</b>
Already provided in the device on delivery	-140 Points
<b>Additional points required for communication</b>	<b>0 Points</b>

PLC	
PLC application	100 Points

**Required license product papers:**  
1 × LIC-PLC-MXP-LIGHT (60 points for XV-2xx-57BAS... and XV-2xx-57CAN...)



**Validating license product papers**

The validation of license product paper couldn't be simpler. Once you have entered the license product paper and the device series number on the Internet page [www.microinnovation.com/license](http://www.microinnovation.com/license) the license code is issued immediately for activating the device functions required. After the license code is entered on the XV200, XV400, XVS400 or XVH300 device, the additional license points are added directly to the device.

The image illustrates the process of validating a license product paper. It consists of four sequential screenshots:

- Physical License Certificate:** A document titled "Lizenzproduktsschein" (License Product Certificate) with a QR code and license details.
- Web Browser - License Page:** A screenshot of the "Lizenz" page on the micro innovation website. A red arrow points from the QR code on the physical certificate to the "Zertifikat" (Certificate) input field.
- Web Browser - License Code:** A screenshot showing the generated license code: **280-33E1-B179-45ED-BB6B**.
- License Administrator Software:** A screenshot of the "License Administrator 2.14.0" software window. A red arrow points from the license code to the "Serial" field, which contains the same code.





		XV-230-57CNN-1-10	XV-230-57MPN-1-10
<b>Display</b>			
Screen diagonal / type		5.7" FSTN-LCD (monochrome display)	
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)	
Visible display area		115 mm × 86 mm	
Color resolution (grayscale and colors)		256 grayscales	
Contrast ratio		Normally 10:1	
Brightness		Normally 150 cd/m <sup>2</sup>	
Backlight		1x CCFL, dimmable via software	
Lifespan of backlight		Normally 50000 h	
Back panel		Glass with film	
<b>Operation</b>			
Technology		Resistive touch, 4-wire	
<b>System</b>			
Processor		RISC, 32-bit, 200 MHz	
Internal memory	DRAM (OS, program, data memory)	32 MByte	
	FLASH (can be used for data storage)	Approx. 1.5 MByte available	
	SRAM (retain data)	Approx. 100 byte available	
External memory	CF slot	CompactFlash Card Type I for operating system, programs and data	
Real-time clock (battery backup)	Battery	Maintenance-free	
	Backup time in de-energized state	Normally 10 years	
Operating system		Windows CE	
<b>Software</b>			
Visualization software		GALILEO	
PLC programming software		MXpro	
<b>Interfaces, communication</b>			
Ethernet		100Base-TX / 10Base-T	
System Port		-	
CAN		CAN, not electrically isolated (9-pin, D-Sub connector, male, UNC)	-
PROFIBUS		-	Profibus <sup>1)</sup> , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)
USB Device		USB 1.1, not electrically isolated	
<b>Power supply</b>			
Rated voltage		24 VDC SELV (safety extra low voltage)	
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2 ... 30.0 VDC 35 VDC for a period < 100 ms	
Voltage dips		20 ms from rated voltage (24 VDC), 10 ms from undervoltage (20.4 VDC)	
Power consumption		Max. 8 W	
Protection against reverse polarity		Yes	
Fuse protection		Yes (maintenance-free)	
Potential isolation		No	
<b>General</b>			
IP protection classes	Front	IP65	
	Rear	IP20	
Approvals	Certificates	UL	
	Explosion protection (to ATEX 94/9/EC)	II 3D EEx II T70°C IP5x: Zone 22, category 3D	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950 / UL 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 0.7 kg	
<b>Ambient conditions</b>			
Temperature	Operation	0...+50°C	
	Storage / Transport	-20...60°C	
Relative air humidity		10...95%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	

Notes: 1) Possible protocols via Profibus: MPI, PPI, DP master

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XV-232-57BAS-1-10	XV-252-57CNN-1-10	XV-252-57MPN-1-10
5.7" FSTN-LCD (monochrome display)	5.7" CSTN-LCD (color display)	
QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
115 mm × 86 mm		
256 greyscale	256 colors	
Normally 10:1	Normally 35:1	
Normally 150 cd/m <sup>2</sup>		
1 × CCFL, dimmable via software		
Normally 50000 h		
Glass with film		
Resistive touch, 4-wire		
RISC, 32-bit, 200 MHz		
32 MByte		
Approx. 1.5 MByte available		
Approx. 100 byte available		
CompactFlash Card Type I for operating system, programs and data		
Maintenance-free		
Normally 10 years		
Windows CE		
GALILEO		
MX <sub>pro</sub>		
100Base-TX / 10Base-T		
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)		
–	CAN, not electrically isolated (9-pin, D-Sub connector, male, UNC)	–
–	–	Profibus <sup>1)</sup> , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)
USB 1.1, not electrically isolated		
24 VDC SELV (safety extra low voltage)		
RMS value: 20.4... 28.8 VDC (rated voltage +20 % / -15 %)		
Absolute with ripple: 19.2... 30.0 VDC		
35 VDC for a period < 100 ms		
20 ms from rated voltage (24 VDC), 10 ms from undervoltage (20.4 VDC)		
Max. 8 W		
Yes		
Yes (maintenance-free)		
No		
IP65		
IP20		
UL		
II 3D EEx II T70°C IP5x: Zone 22, category 3D		
EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
EN 60950 / UL 60950		
EN 50178, EN 61131-2		
Approx. 0.7 kg		
0...+50°C		
-20...60°C		
10...95%, non-condensing		
according to IEC68-2-27		
according to IEC68-2-6		







		XV-442-57CQB-1-10	XV-442-57CQB-1-50	XV-432-57CQB-1-10
<b>Display</b>				
Screen diagonal / type		5.7 "CSTN-LCD (color)		
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
Visible display area		115 mm × 86 mm		
Color resolution (grayscale and colors)		256 colors		
Contrast ratio		Normally 35:1		
Brightness		Normally 150 cd/m <sup>2</sup>		
Backlight		1x CCFL, dimmable via software		
Lifespan of backlight		Normally 50000 h		
Protective panel / back panel		Non-reflective safety glass		Glass with film, absolutely flat (seamless)
<b>Operation</b>				
Technology		Infra-red touch, 47 × 31 logic channels		Resistive touch, 4-wire
<b>System</b>				
Processor		RISC, 32-bit, 400 MHz		
Internal memory	DRAM (OS, program, data memory)	64 MByte		
	FLASH (can be used for data storage)	Approx. 1.5 MByte available		
	SRAM (retain data)	Approx. 32 KByte available		
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data		
Real-time clock (battery backup)	Battery	Maintenance-free		
	Backup time in de-energized state	Normally 10 years		
Operating system		Windows CE		
<b>Software</b>				
Visualization software		GALILEO / EPAM		
PLC programming software		MX <sub>pro</sub>		
<b>Interfaces, communication</b>				
Ethernet		100Base-TX / 10Base-T		
System Port		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)		
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)		
PROFIBUS		-		
USB Host		USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated		
USB Device		USB 1.1, not electrically isolated		
Slots for communication modules		1		
<b>Power supply</b>				
Rated voltage		24 VDC SELV (safety extra low voltage)		
Permissible voltage		RMS value: 20.4...28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2...30.0 VDC 35 VDC for a period < 100 ms		
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)		
Power consumption		Max. 24 W (normally 13 W)		
Protection against reverse polarity		Yes		
Fuse protection		Yes (fuse cut-out, not accessible)		
Potential isolation		No (0V connected to housing potential)		
<b>General</b>				
IP protection classes	Front	IP65 <sup>1)</sup>	IP65	IP65 <sup>1)</sup>
	Rear	IP20		
Approvals	Certificates	UL		
	Explosion protection (to ATEX 94/9/EC)	II 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>1)</sup>	II 3D EEx II T70°C IP5x: Zone 22, category 3D	II 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>1)</sup>
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
	Safety	EN 60950 / UL 60950		
	Product standards	EN 50178, EN 61131-2		
Weight		Approx. 1.9 kg		
<b>Ambient conditions</b>				
Temperature	Operation	0...+50°C		
	Storage / Transport	-20...60°C		
Relative air humidity		10...95%, non-condensing		
Shock		according to IEC68-2-27		
Vibration		according to IEC68-2-6		

- Notes**
- 1) Additional set of retaining brackets required for mounting (→ Accessories)
  - 2) Only for mounting in a pressurized housing! Max. permissible pressure: 10 mbar continuous

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XV-440-10TVB-1-10	XV-440-10TVB-1-50	XV-430-10TVB-1-10	XV-440-12TSB-1-10	XV-440-10TVB-1-50	XV-430-12TSB-1-10
10.4" TFT-LCD (color)			12.1" TFT-LCD (color)		
VGA (640 × 480 pixels and 480 × 640 pixels with portrait format)			SVGA (800 × 600 pixels and 600 × 800 pixels with portrait format)		
211 mm × 158 mm			246 mm × 185 mm		
Adjustable: 65536 or 256 colors					
Normally 350:1					
Normally 350 cd/m <sup>2</sup>					
2× CCFL, dimmable via software					
Normally 50000 h					
Non-reflective safety glass		Glass with film, absolutely flat (seamless)		Non-reflective safety glass	
				Glass with film, absolutely flat (seamless)	
Infra-red touch, 79 × 59 logic channels		Resistive touch, 4-wire		Infra-red touch, 95 × 71 logic channels	
				Resistive touch, 4-wire	
RISC, 32-bit, 400 MHz					
64 MByte					
Approx. 1.5 MByte available					
Approx. 32 KByte available					
2× CompactFlash Cards Type I/II for operating system, programs and data					
Maintenance-free					
Normally 10 years					
Windows CE					
GALILEO / EPAM					
MX <sub>pro</sub>					
100Base-TX / 10Base-T					
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)					
CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)					
-					
2× USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated					
USB 1.1, not electrically isolated					
2					
24 VDC SELV (safety extra low voltage)					
RMS value: 20.4... 28.8 VDC (rated voltage +20 % / -15 %)					
Absolute with ripple: 19.2... 30.0 VDC					
35 VDC for a period < 100 ms					
10 ms from rated voltage (24 VDC), 5 ms from undervoltage (20.4 VDC)					
Max. 32 W (normally 14 W)					
Yes					
Yes (fuse cut-out, not accessible)					
No (0V connected to housing potential)					
IP65 <sup>1)</sup>		IP65		IP65 <sup>1)</sup>	
IP20					
UL					
II 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>1)</sup>		II 2G EEx p II IP5x: Zone 1, category 2G <sup>2)</sup> Zone 2, category 3G <sup>2)</sup> Zone 22, category 3D		II 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>1)</sup>	
				II 2G EEx p II IP5x: Zone 1, category 2G <sup>2)</sup> Zone 2, category 3G <sup>2)</sup> Zone 22, category 3D	
EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2					
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463; XV-440-10TVB-X-50-1 and XV-440-10TVB-X-50-1 also comply with: EN 1127, EN 50016					
EN 60950 / UL 60950					
EN 50178, EN 61131-2					
Approx. 4.1 kg			Approx. 4.5 kg		
0...+50°C					
-20...60°C					
10...95%, non-condensing					
according to IEC68-2-27					
according to IEC68-2-6					





		XVS-440-57MPI-1-10	XVS-430-57MPI-1-10
<b>Display</b>			
Screen diagonal / type		5.7 "CSTN-LCD (color)	
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)	
Visible display area		115 mm × 86 mm	
Color resolution (grayscale and colors)		256 colors	
Contrast ratio		Normally 35:1	
Brightness		Normally 150 cd/m <sup>2</sup>	
Backlight		1x CCFL, dimmable via software	
Lifespan of backlight		Normally 50000 h	
Protective panel / back panel		Non-reflective safety glass	Glass with film, absolutely flat (seamless)
<b>Operation</b>			
Technology		Infra-red touch, 47 × 31 logic channels	Resistive touch, 4-wire
<b>System</b>			
Processor		RISC, 32-bit, 400 MHz	
Internal memory	DRAM (OS, program, data memory)	64 MByte	
	FLASH (can be used for data storage)	Approx. 1.5 MByte available	
	SRAM (retain data)	Approx. 32 KByte available	
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data	
Real-time clock (battery backup)	Battery	Maintenance-free	
	Backup time in de-energized state	Normally 10 years	
Operating system		Windows CE	
<b>Software</b>			
Visualization software		GALILEO / EPAM	
PLC programming software		MX <sub>pro</sub>	
<b>Interfaces, communication</b>			
Ethernet		100Base-TX / 10Base-T	
System Port		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN		-	
PROFIBUS		Profibus <sup>1)</sup> , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)	
USB Host		USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated	
USB Device		USB 1.1, not electrically isolated	
Slots for communication modules		1	
<b>Power supply</b>			
Rated voltage		24 VDC SELV (safety extra low voltage)	
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2 ... 30.0 VDC 35 VDC for a period < 100 ms	
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)	
Power consumption		Max. 19 W (normally 12 W)	
Protection against reverse polarity		Yes	
Fuse protection		Yes (fuse cut-out, not accessible)	
Potential isolation		No (0V connected to housing potential)	
<b>General</b>			
IP protection classes	Front	IP65 <sup>2)</sup>	
	Rear	IP20	
Approvals	Certificates	UL	
	Explosion protection (to ATEX 94/9/EC)	III 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>2)</sup>	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950 / UL 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 1.8 kg	
<b>Ambient conditions</b>			
Temperature	Operation	0 ... +50°C	
	Storage / Transport	-20 ... 60°C	
Relative air humidity		10...95%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	
<b>Notes</b>			
		1) Possible protocols via Profibus: MPI, PPI, DP master	
		2) Additional set of retaining brackets required for mounting (→ Accessories)	

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XVS-440-10MPI-1-10	XVS-430-10MPI-1-10	XVS-440-12MPI-1-10	XVS-430-12MPI-1-10
10.4" TFT-LCD (color)		12.1" TFT-LCD (color)	
VGA (640 × 480 pixels and 480 × 640 pixels with portrait format)		SVGA (800 × 600 pixels and 600 × 800 pixels with portrait format)	
211 mm × 158 mm		246 mm × 185 mm	
Adjustable: 65536 or 256 colors			
Normally 350:1			
Normally 350 cd/m <sup>2</sup>			
2× CCFL, dimmable via software			
Normally 50000 h			
Non-reflective safety glass	Glass with film, absolutely flat (seamless)	Non-reflective safety glass	Glass with film, absolutely flat (seamless)
Infra-red touch, 79 × 59 logic channels	Resistive touch, 4-wire	Infra-red touch, 95 × 71 logic channels	Resistive touch, 4-wire
RISC, 32-bit, 400 MHz			
64 MByte			
Approx. 1.5 MByte available			
Approx. 32 KByte available			
2× CompactFlash Cards Type I/II for operating system, programs and data			
Maintenance-free			
Normally 10 years			
Windows CE			
GALILEO / EPAM			
MX <sub>pro</sub>			
100Base-TX / 10Base-T			
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)			
-			
Profibus <sup>1)</sup> , not electrically isolated, max. 1.5 Mbit/s (9-pin D-Sub connector, female, UNC)			
2× USB 2.0 (1.5 / 12 Mbit/s), not electrically isolated			
USB 1.1, not electrically isolated			
2			
24 VDC SELV (safety extra low voltage)			
RMS value: 20.4... 28.8 VDC (rated voltage +20 % / -15 %)			
Absolute with ripple: 19.2... 30.0 VDC			
35 VDC for a period < 100 ms			
10 ms from rated voltage (24 VDC), 5 ms from undervoltage (20.4 VDC)			
Max. 24 W (normally 14 W)			
Yes			
Yes (fuse cut-out, not accessible)			
No (0V connected to housing potential)			
IP65 <sup>2)</sup>			
IP20			
UL			
II 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>2)</sup>			
EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2			
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463			
EN 60950 / UL 60950			
EN 50178, EN 61131-2			
Approx. 3.7 kg		Approx. 4.1 kg	
0...+50°C			
-20...60°C			
10...95%, non-condensing			
according to IEC68-2-27			
according to IEC68-2-6			







		XVH-340-57CAN-1-10	XVH-342-57SKS-1-10	XVH-330-57CAN-1-10
<b>Display</b>				
Screen diagonal / type		5.7 " CSTN-LCD (color)		
Resolution		QVGA (320 × 240 pixels and 240 × 320 pixels with portrait format)		
Visible display area		115 mm × 86 mm		
Color resolution (grayscale and colors)		256 colors		
Contrast ratio		Normally 35:1		
Brightness		Normally 150 cd/m <sup>2</sup>		
Backlight		1x CCFL, dimmable via software		
Lifespan of backlight		Normally 50000 h		
Protective panel / back panel		Non-reflective safety glass		Glass with film, absolutely flat (seamless)
<b>Operation</b>				
Technology		Infra-red touch, 47 × 31 logic channels		Resistive touch, 4-wire
<b>System</b>				
Processor		RISC, 32-bit, 200 MHz		
Internal memory	DRAM (OS, program, data memory)	64 MByte		
	FLASH (can be used for data storage)	Approx. 1.5 MByte available		
	SRAM (retain data)	-		
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data		
Real-time clock (battery backup)	Battery	Maintenance-free		
	Backup time in de-energized state	Normally 10 years		
Operating system		Windows CE		
<b>Software</b>				
Visualization software		GALILEO / EPAM		
PLC programming software		-		
<b>Interfaces, communication</b>				
Ethernet		100Base-TX / 10Base-T		
System Port		-	RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	-
Suconet K		-	Suconet K (RS485), electrically isolated (9-pin, D-Sub connector, female, UNC)	-
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	-	CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)
PROFIBUS		-		
USB Device		USB 1.1, not electrically isolated		
<b>Power supply</b>				
Rated voltage		24 VDC SELV (safety extra low voltage)		
Permissible voltage		RMS value: 20.4 ... 28.8 VDC (rated voltage +20 % / -15 %) Absolute with ripple: 19.2 ... 30.0 VDC 35 VDC for a period < 100 ms		
Voltage dips		20 ms from rated voltage (24 VDC), 2 ms from undervoltage (20.4 VDC)		
Power consumption		Max. 19 W (normally 12 W)		
Protection against reverse polarity		Yes		
Fuse protection		Yes (fuse cut-out, not accessible)		
Potential isolation		No (0V connected to housing potential)		
<b>General</b>				
IP protection classes	Front	IP65 <sup>1)</sup>		
	Rear	IP20		
Approvals	Certificates	UL		
	Explosion protection (to ATEX 94/9/EC)	III 3D EEx II T70°C IP5x: Zone 22, category 3D <sup>1)</sup>		
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 61131-2		
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463		
	Safety	EN 60950 / UL 60950		
	Product standards	EN 50178, EN 61131-2		
Weight		Approx. 1.8 kg		
<b>Ambient conditions</b>				
Temperature	Operation	0...+50°C		
	Storage / Transport	-20...60°C		
Relative air humidity		10...95%, non-condensing		
Shock		according to IEC68-2-27		
Vibration		according to IEC68-2-6		
<b>Notes</b>				
1) Additional set of retaining brackets required for mounting (→ Accessories)				

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		XVC-601-GTI-10-V1-000	XVC-601-GTI-10-DPM-V1-000
<b>Display</b>			
Screen diagonal / type		10.4" TFT-LCD (color)	
Resolution		VGA (640 × 480 pixels)	
Visible display area		211 mm × 158 mm	
Color resolution (grayscale and colors)		256K colors	
Contrast ratio		Normally 250:1	
Brightness		Normally 400 cd/m <sup>2</sup>	
Backlight		2 × CCFL	
Lifespan of backlight		Normally 50000 h	
Protective panel / back panel		Non-reflective safety glass	
<b>Operation</b>			
Technology		Infra-red touch, 81 × 61 logic channels	
<b>System</b>			
Processor		Pentium 200 MHz, ETX form factor	
Internal memory	DRAM (OS, program, data memory)	64 MByte	
	FLASH (can be used for data storage)		
	SRAM (retain data)	Approx. 32 KByte available	
External memory	CF slot	CompactFlash Card Type I/II for operating system, programs and data	
Real-time clock (battery backup)	Battery	ACCESSORIES-BAT01x	
	Backup time in de-energized state	Normally 5 years	
Operating system		VxWorks	
<b>Software</b>			
Visualization software		EPAM	
PLC programming software		MXpro	
<b>Interfaces, communication</b>			
Ethernet		100Base-TX / 10Base-T	
RS232 serial interface		RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN		CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	
PROFIBUS		–	Profibus DP Master, not electrically isolated, max. 12 Mbit/s (9-pin D-Sub connector, female, UNC)
Keyboard (only for service tasks)		PS2	
<b>Power supply</b>			
Rated voltage		24 VDC	
Permissible voltage		RMS value: 20.4 ... 8.8 DC Ripple: ≤ 5 %	
Voltage dips		10 ms	
Power consumption		Max. 25 W	
Protection against reverse polarity		Yes	
Fuse protection		4 A, slow blow fuse	
Power loss		25 W	
Potential isolation		No (0V connected to housing potential)	
<b>General</b>			
IP protection classes	Front	IP65	
	Rear	IP20	
Applicable standards and regulations	EMC (in relation to CE)	EN 61000-6-2, EN 61000-6-4, EN 61131-2	
	Explosion protection (in relation to CE)	EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
	Safety	EN 60950	
	Product standards	EN 50178, EN 61131-2	
Weight		Approx. 5.2 kg	
<b>Ambient conditions</b>			
Temperature	Operation	0...+50°C with vertical mounting, 0...+40°C with diagonal mounting position up to max. 35°	
	Storage / Transport	-20...60°C	
Relative air humidity		10...90%, non-condensing	
Shock		according to IEC68-2-27	
Vibration		according to IEC68-2-6	

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XVC-601-GTI-15-V1-000	XVC-601-GTI-15-DPM-V1-000
15" TFT-LCD (color)	
XGA (1024 × 768)	
304 mm × 228 mm	
256K colors	
Normally 300:1	
Normally 250 cd/m <sup>2</sup>	
2 × CCFL	
Normally 35000	
Non-reflective safety glass	
Infra-red touch, 115 × 87 logic channels	
Pentium 200 MHz, ETX form factor	
64 MByte	
Approx. 32 KByte available	
CompactFlash Card Type I/II for operating system, programs and data	
ACCESSORIES-BAT01x	
Normally 5 years	
VxWorks	
EPAM	
MX <sub>pro</sub>	
100Base-TX / 10Base-T	
RS232, not electrically isolated (9-pin, D-Sub connector, male, UNC)	
CAN, electrically isolated (9-pin, D-Sub connector, male, UNC)	
–	Profibus DP Master, not electrically isolated, max. 12 Mbit/s (9-pin D-Sub connector, female, UNC)
PS2	
24 VDC	
RMS value: 20.4 ... 28.8 DC	
Ripple: ≤ 5 %	
10 ms	
Max. 38 W	
Yes	
4 A, slow blow fuse	
38 W	
No (0V connected to housing potential)	
IP65	
IP20	
EN 61000-6-2, EN 61000-6-4, EN 61131-2	
EN 50014, EN 60079-0, EN 50281-1-1, EN 13463	
EN 60950	
EN 50178, EN 61131-2	
Approx. 7 kg	
0...+50°C with vertical mounting, 0...+40°C with diagonal mounting position up to max. 35°	
-20...60°C	
10...90%, non-condensing	
according to IEC68-2-27	
according to IEC68-2-6	







		XVC-101-C192K-K82
<b>General</b>		
Ambient temperature		
Operation		0...60°C
Storage / Transport		-25...85°C
Relative air humidity		10...95%, non-condensing
Immunity		EN 61000-6-2
Emission		EN 50081-2, class A
Protection type		
Front (NEMA 12) IEC/EN 60529		IP65
Rear		IP20
Weight		Approx. 0.9 kg
<b>Power supply</b>		
Rated value		24 VDC SELV, safety extra low voltage
Rated voltage	$U_e$	24 VDC to DIN 19240
Permissible voltage		
Voltage dips		max. 100 ms (with 20.4 VDC to 0 VDC, repetition rate 1 s)
Protection against reverse polarity		Yes
Fuse protection		Yes
Fuse protection		2 A, slow blow fuse
Breaking capacity		30 A
Potential isolation		No, 0V connected to housing potential (GND)
Current consumption		Normally 160 mA
Power consumption		Normally 4 W
<b>Real-time clock</b>		
Counter		Seconds, minutes, hours, day, month, year, decade
Leap year change		Automatic
DST change		via software
Deviation with $T_{amb} = 25^\circ\text{C}$		Normally $\pm 100$ ppm
<b>Display</b>		
Type		Passive Matrix Mono LC-Display (Mono STN-LCD Yellow-Green)
Resolution		128 × 64 pixels
Display area		71 × 39 mm
Backlight		LED
<b>Operation</b>		
Membrane keyboard		28 keys; 3 LEDs
CompactFlash card		Type 1, ATA Flash, 5 V
<b>Interfaces</b>		
Programming interface		RS 232, not electrically isolated (D subminiature 9-pin male)
Communication interface		CAN, not electrically isolated (D subminiature 9-pin male)
<b>Connector X1 (digital inputs, outputs)</b>		
Number of digital I/Os		8
Number of supply terminals		1
Number of 0V terminals		1
Power supply		
Outputs		Normally 24 VDC
Permissible range		18.5...30.2 VDC
Max. output current per channel		0.5 A
Inductive loads		Max. 150 mJ
Input voltage		
High signal	$U_H$	-14...32.0 VDC
Low signal	$U_L$	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	$I_H$	2...15 mA
Low signal	$I_L$	0...1 mA

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		XVC-101-C192K-K82
Protection against reverse polarity		Yes
Electrical isolation		No
Short-circuit proof		Yes
Power supply monitoring		Yes
Status error		Group for all outputs
<b>Connector X2 (digital outputs)</b>		
Number of digital I/Os		8
Number of supply terminals		1
Number of 0V terminals		1
Power supply		Normally 24 VDC
Max. output current per channel		0.5 A
Inductive loads		Max. 150 mJ
Protection against reverse polarity		Yes
Electrical isolation		No
Short-circuit proof		Yes
Power supply monitoring		Yes
Status error		Group for all outputs
<b>Connector X3</b>		
Digital inputs		
Number		10, of which all have a second function
Number of 0V terminals		1
Input voltage		
High signal	$U_H$	-14...32.0 VDC
Low signal	$U_L$	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	$I_H$	2...15 mA
Low signal	$I_L$	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Counter input		
Number		2
Input voltage		
High signal	$U_H$	-14...32.0 VDC
Low signal	$U_L$	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	$I_H$	2...15 mA
Low signal	$I_L$	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Maximum counter frequency		50 kHz
Direction change		Yes
Interrupt input		
Number		2
Input voltage		
High signal	$U_H$	-14...32.0 VDC
Low signal	$U_L$	-3...4.5 VDC
Maximum input voltage		40 VDC
Input current		
High signal	$I_H$	2...15 mA
Low signal	$I_L$	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No

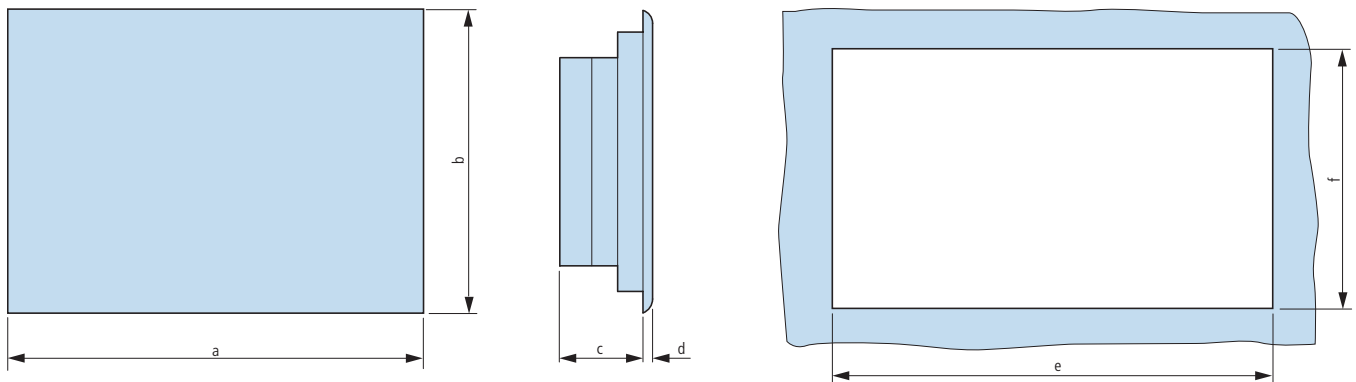




		XVC-101-C192K-K82
<b>Incremental encoder</b>		
Number		1
Signals		A, B, zero mark, zero mark active
Decoding		Dual, quadrature signal
<b>Input voltage</b>		
High signal	$U_H$	-14...32.0 VDC
Low signal	$U_L$	-3...4.5 VDC
Maximum input voltage		40 VDC
<b>Input current</b>		
High signal	$I_H$	2...15 mA
Low signal	$I_L$	0...1 mA
Protection against reverse polarity		Yes
Electrical isolation		No
Max. input frequency		50 kHz
Incremental encoder output		Push-pull
<b>Connector X4</b>		
<b>Analog inputs</b>		
Number		2
Connections		3 per input (0V, voltage, current) 1 reference output
Input voltage		0...10 VDC
Input resistance		1000 k $\Omega$
Input current		0...20 mA
Input resistance		500 $\Omega$
Resolution		10-bit
Reference output		4.096 V $\pm$ 0.2%
Short-circuit proof		Yes
Electrical isolation		No
<b>Analog outputs</b>		
Number		2
Connections		2 per output (0V, voltage)
Output voltage		-10...+10 VDC
Output current		1 mA (10 k $\Omega$ load)
Resolution		12-bit
Short-circuit proof		Yes
Electrical isolation		No

Dimensions

Mounting dimensions

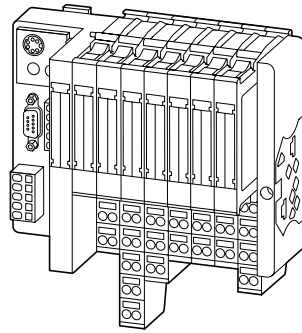


Type	a	b	c	d	e	f
XV-2xx-57	212	156	50	5	198	142
XV-4xx-57	212	156	76	5	198	142
XV-4xx-10	345	260	88	5	329	238
XV-4xx-12	361	279	88	5	344	262
XVS-400-57	212	156	55	5	198	142
XVS-400-10	345	260	62	5	329	238
XVS-400-12	361	279	62	5	344	262
XVH-3xx-57CAN	212	156	55	6	198	142
XVH-3xx-57SKS	212	156	75.5	6	198	142
XVC-601-GTI-10	345	260	104	5	329	238
XVC-601-GTI-15	427	332	104	5	410	315
XVC-1xx	212	156	50	5	198	142

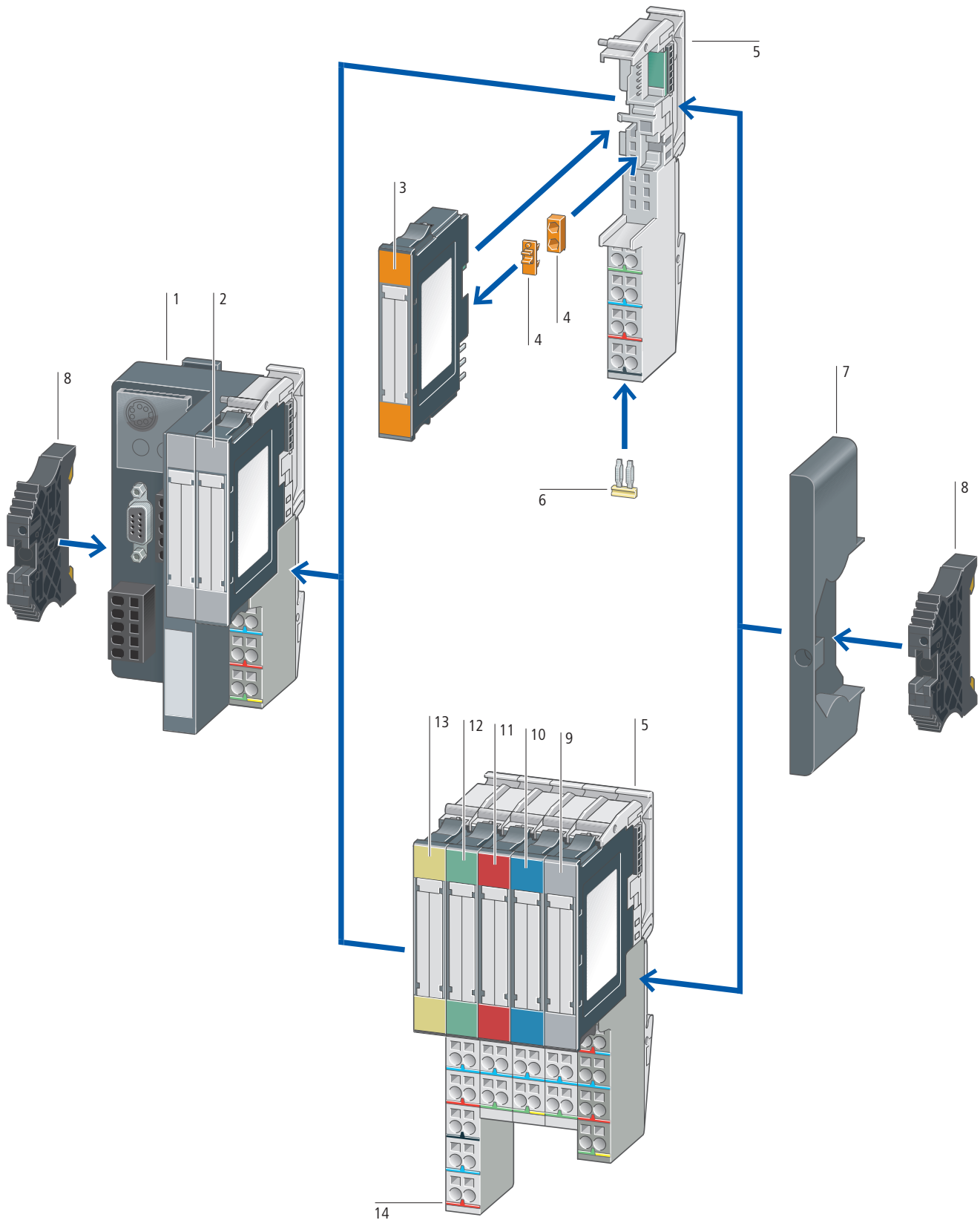








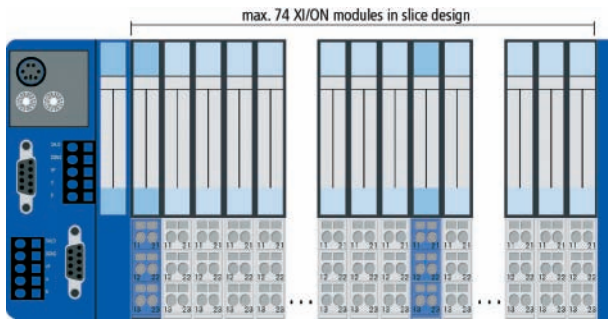
	<b>Page</b>
<b>System overview</b>	2/2
<b>Description</b>	
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<b>Gateways</b>	<b>1</b>	<b>Power feeding module</b>	<b>9</b>	<b>Analog output</b>	<b>12</b>
XN-GW-PBDP-1.5MB(-S)		XN-PF-24VDC-D		XN-1AO-I(0/4...20MA)	
XN-GW-PBDP-12MB		XN-PF-120/230VAC-D		XN-2AO-I(0/4...20MA)	
XN-GW-PBDP-12MB-STD				XN-2AO-U(-10/0...+10VDC)	
XN-GW-CANOPEN		→ Page 2/8			
XN-GW-DNET				→ Page 2/9	
XN-GWBR-PBDP					
XN-GWBR-CANOPEN		<b>Analog input</b>	<b>10</b>	<b>Technology modules</b>	<b>13</b>
XN-GWBR-DNET		XN-1AI-I(0/4...20MA)		XN-1RS232	
XN-GWBR-MODBUS-TCP		XN-2AI-I(0/4...20MA)		XN-1RS485/422	
XN-PLC-CANOPEN		XN-1AI-U(-10/0...+10VDC)		XN-1SSI	
		XN-2AI-U(-10/0...+10VDC)		XN-1SWIRE	
→ Page 2/7		XN-2AI-PT/NI-2/3		XN-1CNT-24VDC	
		XN-2AI-THERMO-PI			
		XN-4AI-U/I		→ Page 2/9	
<b>Digital input</b>	<b>2</b>				
XN-2DI-24VDC-P		→ Page 2/9			
XN-2DI-24VDC-N					
XN-2DI-120/230VAC				<b>Accessories</b>	
XN-4DI-24VDC-P		<b>Digital output</b>	<b>11</b>	End plate	7
XN-4DI-24VDC-N		XN-2DO-24VDC-2A-P		End bracket	8
XN-16DI-24VDC-P		XN-2DO-24VDC-0,5A-P		Relay jumpers	6
XN-32DI-24VDC-P		XN-4DO-24VDC-0,5A-P		Marker	14
XNE-8DI-24VDC-P		XN-2DO-24VDC-0,5A-N		Coding element	4
XNE-16DI-24VDC-P		XN-2DO-120/230VAC-0,5A			
		XN-16DO-24VDC-0,5A-P		→ Page 2/12	
→ Page 2/8		XN-32DO-24VDC-0.5A-P			
		XNE-8DO-24VDC-0.5A-P			
		XNE-16DO-24VDC-0.5A-P			
<b>Relay modules</b>	<b>3</b>				
XN-2DO-R-CO		→ Page 2/8			
XN-2DO-R-NC					
XN-2DO-R-NO					
→ Page 2/9					
<b>Base modules</b>	<b>5</b>				
2/3-wire					
4-wire					
4 × 2/3-wire					
→ Page 2/10					





Design your XI/ON station simply with the "I/O Assistant" software (free download from [www.microinnovation.com](http://www.microinnovation.com)).

Benefit 1:

A complete parts list is generated automatically for your order.

Benefit 2:

Menu item [Station] > [Verify] will generate an error message as soon as any system limits are exceeded.

A XI/ON station can consist of the gateway and a maximum of 74 modules in slice design (corresponds to a 1 m mounting rail length, including end brackets and end plate). When modules in block design are used, the maximum number of modules is reduced accordingly (1 module in block design is equivalent to about 8 modules in slice design).

For the maximum system configuration, the use of a sufficient number of bus refreshing and power feeding modules must be taken into account.

### CANopen system configuration

Module type	Channels max. no./station	Modules max. no./station
Digital inputs, 4 DI	288	72 <sup>2)</sup>
Digital outputs, 4 DO	288	72 <sup>2)</sup>
Analog inputs, 2 AI-I	142	71 <sup>1)</sup>
Analog inputs, 2 AI-U	142	71 <sup>1)</sup>
Analog inputs, 2 AI-PT/NI or 2 AI-THERMO	142	71 <sup>1)</sup>
Analog outputs, 2 AO-I	142	71 <sup>1)</sup>
Analog outputs, 2 AO-U	142	71 <sup>1)</sup>
Counter module, 1 CNT	71/71	71 <sup>1)</sup>

### PROFIBUS-DP system configuration

Maximum station configuration, dependent on process data

Module type	Channels max. no./station	Modules max. no./station
Digital inputs, 4 DI	288	72 <sup>2)4)</sup>
Digital outputs, 4 DO	288	72 <sup>2)4)</sup>
Analog inputs, 2 AI-I	78	39 <sup>2)4)</sup>
Analog inputs, 2 AI-U	78	39 <sup>2)4)</sup>
Analog inputs, 2 AI-I-PT/NI	46	23 <sup>3)4)</sup>
Analog inputs, 2 AI-THERMO	76	38 <sup>2)4)</sup>
Analog outputs, 2 AO-I	38	19 <sup>3)5)</sup>
Analog outputs, 2 AO-U	38	19 <sup>3)5)</sup>
Counter module, 1 CNT	7/7	7 <sup>3)4)</sup>

### PROFIBUS-DP system configuration

Maximum station configuration, dependent on diagnostics data

Module type	Channels max. no./station	Modules max. no./station
Digital inputs, 4 DI	288	72 <sup>2)4)</sup>
Digital outputs, 4 DO	288	72 <sup>2)4)</sup>
Analog inputs, 2 AI-I	78	39 <sup>2)4)</sup>
Analog inputs, 2 AI-U	78	39 <sup>2)4)</sup>
Analog inputs, 2 AI-I-PT/NI	46	23 <sup>3)4)</sup>
Analog inputs, 2 AI-THERMO	58	29 <sup>2)4)</sup>
Analog outputs, 2 AO-I	38	19 <sup>3)5)</sup>
Analog outputs, 2 AO-U	38	19 <sup>3)5)</sup>
Counter module, 1 CNT	7/7	7 <sup>3)4)</sup>

### DeviceNet system configuration

Module type	Channels max. no./station	Modules max. no./station
Digital inputs, 4 DI	288	72 <sup>2)</sup>
Digital outputs, 4 DO	288	72 <sup>2)</sup>
Analog inputs, 2 AI-I	142	71 <sup>3)</sup>
Analog inputs, 2 AI-U	142	71 <sup>3)</sup>
Analog inputs, 2 AI-PT/NI or 2 AI-THERMO	126	63 <sup>3)</sup>
Analog outputs, 2 AO-I	126	63 <sup>3)</sup>
Analog outputs, 2 AO-U	126	63 <sup>3)</sup>
Counter module, 1 CNT	31/31	31 <sup>1)</sup>

1) Plus 1 bus refreshing module

2) Plus 2 bus refreshing modules

3) Plus 3 bus refreshing modules

4) Standard GSD file: unpacked module representation

5) Typified GSD file: unpacked module representation



Electronic modules	Spring-loaded terminal (T) or screw terminal (S)																
	Base modules	XN-S3x-SBB	XN-S3x-SBC	XN-S4x-SBBC	XN-S4x-SBBS	XN-S4x-SBCS	XN-S6x-SBBSBB	XN-S4x-SBBS-CJ	XN-S6x-SBCSBC	XN-B3x-SBB	XN-B3x-SBC	XN-B4x-SBBC	XN-B6x-SBBSBB	XN-B6x-SBCSBC	XN-P3x-SBB	XN-P4x-SBBC	XN-P4x-SBBC-B
<b>Digital input</b>																	
XN-2DI-24VDC-P		●		●													
XN-2DI-24VDC-N		●		●													
XN-2DI-120/230VAC-P		●		●													
XN-4DI-24VDC-P					●		●										
XN-4DI-24VDC-N					●		●										
XN-16DI-24VDC-P									●			●					
XN-32DI-24VDC-P													●				
XNE-8DI-24VDC-P <sup>1)</sup>																	
XNE-16DI-24VDC-P <sup>1)</sup>																	
<b>Digital output</b>																	
XN-2DO-24VDC-2A-P			●			●											
XN-2DO-24VDC-0,5A-P			●			●											
XN-2DO-24VDC-0,5A-N			●			●											
XN-4DO-24VDC-0,5A-N						●		●									
XN-16DO-24VDC-P										●							
XN-32DO-24VDC-0.5A-P														●			
XNE-8DO-24VDC-0.5A-P <sup>1)</sup>																	
XNE-16DO-24VDC-0.5A-P <sup>1)</sup>																	
<b>Relay modules</b>																	
XN-2DO-R-NC				●	●												
XN-2DO-R-NO				●	●												
XN-2DO-R-CO				●													
<b>Analog input</b>																	
XN-1AI-I(0/4...20MA)	●			●													
XN-2AI-I(0/4...20MA)	●			●													
XN-1AI-U(-10/0...+10VDC)	●			●													
XN-2AI-U(-10/0...+10VDC)	●			●													
XN-2AI-PT/NI-2/3	●			●													
XN-2AI-THERMO-PI						●											
XN-4AI-U/I							●										
<b>Analog output</b>																	
XN-1AO-I(0/4...20MA)	●																
XN-2AO-I(0/4...20MA)	●																
XN-2AO-U(-10/0...+10V)	●																
<b>Technology module</b>																	
XN-1CNT-24VDC				●													
XN-1RS232				●													
XN-1RS485/422				●													
XN-1SSI				●													
XNE-15WIRE <sup>1)</sup>																	
<b>Power supply modules</b>																	
XN-BR-24VDC-D														● <sup>2)</sup>	● <sup>2)</sup>	● <sup>3)</sup>	
XN-PF-24VDC-D														●	●		
XN-PF-120/230VAC-D														●	●		

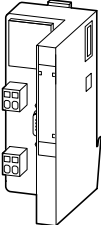
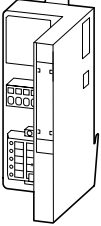
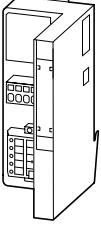
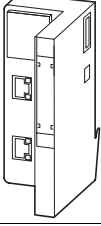
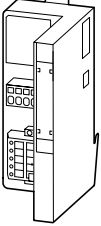
Notes

- 1) No base module required
- 2) Base modules for gateway power supply
- 3) Base modules for bus refreshing within the station

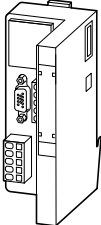
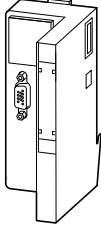
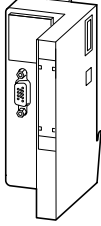
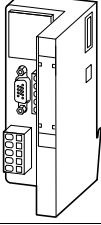
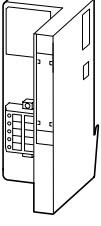








Description	Type Order No.	Price See price sheet	Std. pack
<b>Gateways with integrated power supply module</b>			
 <p>Gateway with integrated power supply Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...99 Bus refreshing module is already integrated</p>	<p><b>XN-GWBR-PBDP</b> 85 50 270324</p>		1 off
 <p>Gateway with integrated power supply Connection to CANopen Supports up to 74 modules in slice design Transmission rate selectable up to 1Mbit/s 1 × open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...99 Bus refreshing module is already integrated</p>	<p><b>XN-GWBR-CANOPEN</b> 85 50 270325</p>		
 <p>Gateway with integrated power supply Connection to DeviceNet Supports up to 74 modules in slice design Transmission rate: 125 Kbit/s, 250 Kbit/s, 500 Kbit/s 1 × open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches Address range: 1...63 Bus refreshing module is already integrated</p>	<p><b>XN-GWBR-DNET</b> 85 50 270326</p>		
 <p>Gateway with integrated power supply Connection to Ethernet-IP Supports up to 74 modules in slice design Transmission rate 10/100 Mbit/s 1 × RJ45 Connection of the power supply via spring-loaded terminals PS/2 socket (programming interface for connecting to MXpro) Address setting via rotary switches, BootIP, DHCP or IOassistant Bus refreshing module is already integrated</p>	<p><b>XN-GWBR-MODBUS-TCP</b> In preparation</p>		
<p>In preparation Gateway with integrated power supply and connection to Profinet</p>	<p><b>XN-GWBR-PROFINET</b> In preparation</p>		
<p>In preparation Gateway with integrated power supply and connection to Ethernet</p>	<p><b>XN-GWBR-ETHERNET-IP</b> In preparation</p>		
<p>In preparation Gateway with integrated power supply and connection to PROFIBUS-DP V1</p>	<p><b>XN-GWBR-PBDP-V1</b> In preparation</p>		
<b>Programmable gateways</b>			
 <p>Gateway with integrated power supply Connection to CANopen Supports up to 74 modules in slice design Transmission rate selectable up to 1Mbit/s 1 x open style connector Connection of the power supply via spring-loaded terminals PS/2 socket (programming interface for connecting to MXpro) 2 decimal rotary switches (operating mode and user) Bus refreshing module is already integrated</p>	<p><b>XN-PLC-CANOPEN</b> 85 50 274124</p>		1 off
<p><b>Notes</b> Supplied with all gateways: 2 × end brackets XN-WEW-32/2-SW, 1 × end plate XN-ABPL</p>			

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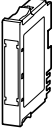

Description	Type Order No.	Price  See price sheet	Std. pack
<b>Gateways without integrated power supply module</b>			
 <p>Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 1.5 Mbit/s 2 × 9-pin SUB-D sockets 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.</p>	<p><b>XN-GW-PBDP-1.5MB</b> 85 50 225162</p>		1 off
 <p>Connection to PROFIBUS-DP Supports up to 74 modules in slice design Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.</p>	<p><b>XN-GW-PBDP-12MB</b> 85 50 225161</p>		
 <p>Connection to PROFIBUS-DP Supports up to 15 modules (incl. max. 4 modules in block design) Transmission rate: 9.6 Kbit/s to 12 Mbit/s 1 × 9-pin SUB-D socket PS/2 socket (service interface only for firmware download via I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.</p>	<p><b>XN-GW-PBDP-12MB-STD</b> 85 50 229499</p>		
 <p>Connection to CAN Transmission rates: 1000 Kbit/s, 800 Kbit/s, 500 Kbit/s, 250 Kbit/s, 125 Kbit/s, 50 Kbit/s, 20 Kbit/s, 10 Kbit/s Address range for CANopen 001 to 127 (dec) 1 × 9-pin SUB-D socket, 1 × 9-pin SUB-D plug 2 × spring-loaded terminal strips for direct wiring PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 hexadecimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.</p>	<p><b>XN-GW-CANOPEN</b> 85 50 225163</p>		
 <p>Connection to DeviceNet via an open style connector Transmission rates: 500 Kbit/s, 250 Kbit/s, 125 Kbit/s PS/2 socket (service interface for connecting to I/Oassistant software) Address setting via 2 decimal rotary switches The supply module XN-BR-24VDC-D must be mounted directly next to the gateway to provide the supply for the gateway.</p>	<p><b>XN-GW-DNET</b> 85 50 225164</p>		

**Notes** Supplied with all gateways:  
2 × end brackets XN-WEW-32/2-SW,  
1 × end plate XN-ABPL



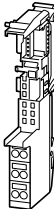
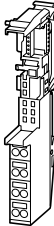

Description		For use with base module	Type Order No.	Price See price sheet	Std. pack
<b>Power supply modules</b>					
	Bus refreshing module	Module for supply/refreshing the (nominal) 5 V DC system voltage, via internal module bus. Supply for XI/ON modules with 24 V DC nominal voltage. Gateways of type XN-GW-... require a bus refreshing module directly next to the gateway. In type XN-GWBR-... gateways the bus refreshing function is already integrated.	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC XN-P4T-SBBC-B XN-P4S-SBBC-B	<b>XN-BR-24VDC-D</b> 85 50 225187	1 off
	Power feeding module	Field power supply module with 24 V DC nominal voltage	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC	<b>XN-PF-24VDC-D</b> 85 50 225186	
	Power feeding module	Field power supply module with 120/230 V AC nominal voltage	XN-P3T-SBB XN-P3S-SBB XN-P4T-SBBC XN-P4S-SBBC	<b>XN-PF-120/230VAC-D</b> 85 50 225188	
<b>I/O modules</b>					
	Digital input	2 digital inputs, 24 V DC Positive switching	XN-S3T-SBB XN-S3S-SBB	<b>XN-2DI-24VDC-P</b> 85 50 225169	1 off
		2 digital inputs, 24 V DC Negative switching	XN-S4T-SBBC XN-S4S-SBBC	<b>XN-2DI-24VDC-N</b> 85 50 225170	
		2 digital inputs, 120/230 V AC		<b>XN-2DI-120/230VAC</b> 85 50 225171	
		4 digital inputs, 24 V DC Positive switching	XN-S4T-SBBS XN-S4S-SBBS XN-S6T-SBBSBB XN-S6S-SBBSBB	<b>XN-4DI-24VDC-P</b> 85 50 225165	
		4 digital inputs, 24 V DC Negative switching	XN-S4T-SBBS XN-S4S-SBBS XN-S6T-SBBSBB XN-S6S-SBBSBB	<b>XN-4DI-24VDC-N</b> 85 50 225172	
		16 digital inputs, 24 V DC Positive switching Block module	XN-B3T-SBB XN-B3S-SBB XN-B4T-SBBC XN-B4S-SBBC	<b>XN-16DI-24VDC-P</b> 85 50 229434	
		32 digital inputs, 24 V DC Positive switching Block module	XN-B6T-SBBSBB XN-B6S-SBBSBB	<b>XN-32DI-24VDC-P</b> 85 50 230879	
		8 digital inputs, 24 V DC Positive switching	–	<b>XNE-8DI-24VDC-P</b> 85 50 100794	
		16 digital inputs, 24 V DC Positive switching	–	<b>XNE-16DI-24VDC-P</b> 85 50 101439	
		2 digital outputs, 24 V DC/2 A Positive switching	XN-S3T-SBC XN-S3S-SBC	<b>XN-2DO-24VDC-2A-P</b> 85 50 225168	
		2 digital outputs, 24 V DC/0.5 A Positive switching	XN-S4T-SBCS XN-S4S-SBCS	<b>XN-2DO-24VDC-0.5A-P</b> 85 50 225166	
		2 digital outputs, 24 V DC/0.5 A Negative switching		<b>XN-2DO-24VDC-0.5A-N</b> 85 50 225174	
		2 digital outputs, 120/230 V AC/0.5 A		<b>XN-2DO-120/230VAC-0.5A</b> 85 50 265697	
		4 digital outputs, 24 V DC/0.5 A Positive switching	XN-S4T-SBCS XN-S4S-SBCS XN-S6T-SBCSBC XN-S6S-SBCSBC	<b>XN-4DO-24VDC-0.5A-P</b> 85 50 230880	
		16 digital outputs, 24 V DC/0.5 A Positive switching Block module	XN-B3T-SBC XN-B3S-SBC	<b>XN-16DO-24VDC-0.5A-P</b> 85 50 229433	
		32 digital outputs, 24 V DC/0.5 A Positive switching Block module	XN-B6T-SBCSBC XN-B6S-SBCSBC	<b>XN-32DO-24VDC-0.5A-P</b> 85 50 289790	
		8 digital outputs, 24 V DC/0.5 A Positive switching	–	<b>XNE-8DO-24VDC-0.5A-P</b> 85 50 100795	
		16 digital outputs, 24 V DC/0.5 A Positive switching	–	<b>XNE-16DO-24VDC-0.5A-P</b> 85 50 101438	



	Description	For use with base module	Type Order No.	Price See price sheet	Std. pack
<b>I/O modules</b>					
	Relay modules	2 changeover contacts, isolated 230 V AC/30 V DC	XN-S4T-SBBS XN-S4S-SBBS	<b>XN-2DO-R-CO</b> 85 50 225167	1 off
		2 break contacts 230 V AC/30 V DC	XN-S4T-SBBS XN-S4S-SBBS XN-S4T-SBCS XN-S4S-SBCS	<b>XN-2DO-R-NC</b> 85 50 225175	
		2 make contacts 230 V AC/30 V DC	XN-S4T-SBBS XN-S4S-SBBS XN-S4T-SBCS XN-S4S-SBCS	<b>XN-2DO-R-NO</b> 85 50 225176	
	Analog input	1 analog input 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB	<b>XN-1AI-I(0/4...20MA)</b> 85 50 225177	
		2 analog inputs 0/4 to 20 mA	XN-S4T-SBBS XN-S4S-SBBS	<b>XN-2AI-I(0/4...20MA)</b> 85 50 230869	
		1 analog input -10/0 to +10 V DC		<b>XN-1AI-U(-10/0...+10VDC)</b> 85 50 225178	
		2 analog inputs -10/0 to +10 V DC		<b>XN-2AI-U(-10/0...+10VDC)</b> 85 50 230870	
		2 analog inputs Acquisition of normalized signals for temperature measurement Connection of sensor types PT100, PT200, PT500, PT1000 and NI100, NI1000 in 2 or 3-wire circuit		<b>XN-2AI-PT/NI-2/3</b> 85 50 225181	
		2 analog inputs Acquisition of normalized signals for measuring temperatures or voltages up to ± 1 V Connection of thermocouple types B, E, J, K, N, R, S, T	XN-S4T-SBBS-CJ XN-S4S-SBBS-CJ	<b>XN-2AI-THERMO-PI</b> 85 50 225182	
		4 analog inputs -10/0 to +10 V DC, 0/4 to 20 mA Selectable by channel	XN-S6T-SBCSBC XN-S6S-SBCSBC	<b>XN-4AI-U/I</b> 85 50 289162	
Analog output	1 analog output 0/4 to 20 mA	XN-S3T-SBB XN-S3S-SBB	<b>XN-1AO-I(0/4...20MA)</b> 85 50 225179		
	2 analog outputs 0/4 to 20 mA		<b>XN-2AO-I(0/4...20MA)</b> 85 50 230871		
	2 analog outputs -10/0 to +10 V DC		<b>XN-2AO-U(-10/0...+10VDC)</b> 85 50 225180		
Counter module	1 digital input/24 V DC 1 digital output/24 V DC Counter modes: endless, once only, or periodic count Frequency, speed or period measurement Acquisition of signals from rotary encoders (channel A/B)	XN-S4T-SBBS XN-S4S-SBBS	<b>XN-1CNT-24VDC</b> 85 50 225183		
Serial interface RS232	Transmission rate selectable up to 115200 bit/s		<b>XN-1RS232</b> 85 50 270321		
Serial interface RS485/422	Transmission rate selectable up to 115200 bit/s		<b>XN-1RS485/422</b> 85 50 270322		
Serial interface SSI	Connection of SSI encoders up to max. 32-bit. Transmission rate selectable up to 1 Mbit/s		<b>XN-1SSI</b> 85 50 270323		
Smartwire interface	Connection to up to 16 motor starters (Moeller) Maximum 3 XNE-1SWIRE per XI/ON station	–	<b>XNE-1SWIRE</b> 85 50 107590		

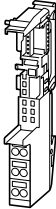

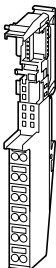




Description	For use with module	Type Order No.	Price	Std. pack
<b>Spring-loaded terminal</b>				
<b>2/3-wire</b>				
Base modules 	With XN-BR-24VDC-D/ base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D/ base module to provide the field supply	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D	<b>XN-P3T-SBB</b> 85 50 225190	1 off
	Slice module	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2AI-PT/NI-2/3 XN-1AO-I(0/4...20MA) XN-2AO-I(0/4...20MA) XN-2AO-U(-10/0...+10VDC)	<b>XN-S3T-SBB</b> 85 50 225193	
	Connection to C rail	XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-120/230VAC-0.5A	<b>XN-S3T-SBC</b> 85 50 225195	
	Block module	XN-16DI-24VDC-P	<b>XN-B3T-SBB</b> 85 50 227751	
	Block module Connection to C rail	XN-16DO-24VDC-0.5-P	<b>XN-B3T-SBC</b> 85 50 227752	
<b>4-wire</b>				
Base modules 	With XN-BR-24VDC-D/ base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D/ base module to provide the field supply Connection to C rail	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D	<b>XN-P4T-SBBC</b> 85 50 225192	1 off
	Base modules for bus refreshing within the stations Connection to C rail	XN-BR-24VDC-D	<b>XN-P4T-SBBC-B</b> 85 50 225191	
	Connection to C rail	XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC	<b>XN-S4T-SBBC</b> 85 50 225194	
	Connection to C rail	XN-2DO-24VDC-0,5A-P XN-2DO-24VDC-0,5A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A	<b>XN-S4T-SBCS</b> 85 50 225196	
	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2DO-R-CO XN-2DO-R-NO XN-2DO-R-NC XN-2AI-PT/NI-2/3 XN-1CNT-24VDC	<b>XN-S4T-SBBS</b> 85 50 225197	
	Cold junction compensation	XN-2AI-THERMO-PI	<b>XN-S4T-SBBS-CJ</b> 85 50 225200	
	Block module Connection to C rail	XN-16DI-24VDC-P XN-4AI-U/I	<b>XN-B4T-SBBC</b> 85 50 227753	
<b>4 (32) × 2/3-wire</b>				
Base modules 	Slice module	XN-4DI-24VDC-P XN-4DI-24VDC-N	<b>XN-S6T-SBBSBB</b> 85 50 225198	1 off
	Connection to C rail	XN-4DO-24VDC-0.5A-P	<b>XN-S6T-SBCSBC</b> 85 50 225199	
	Block module	XN-32DI-24VDC-P	<b>XN-B6T-SBBSBB</b> 85 50 227754	
	Block module	XN-32DO-24VDC-0.5A-P	<b>XN-B6T-SBCSBC</b> 85 50 289164	



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Description	For use with module	Type Order No.	Price	Std. pack	
<b>Screw terminal</b>					
<b>2/3-wire</b>					
 <p>Base modules</p>	With XN-BR-24VDC-D/ base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D/ base module to provide the field supply Slice module Connection to C rail Block module Block module Connection to C rail	XN-PF-24VDC-D XN-PF-120/230VAC-D XN-PF-120/230VAC-D XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2AI-PT/NI-2/3 XN-1AO-I(0/4...20MA) XN-2AO-I(0/4...20MA) XN-2AO-U(-10/0...+10VDC) XN-2DO-24VDC-0.5A-P XN-2DO-24VDC-0.5A-N XN-2DO-24VDC-2A-P XN-2DO-120/230VAC-0.5A XN-16DI-24VDC-P XN-16DO-24VDC-0.5-P	XN-P35-SBB 85 50 225202 XN-S35-SBB 85 50 225205 XN-S35-SBC 85 50 225207 XN-B35-SBB 85 50 227755 XN-B35-SBC 85 50 227756	See price sheet	1 off
<b>4-wire</b>					
 <p>Base modules</p>	With XN-BR-24VDC-D/ base module for the gateway supply With XN-PF-24VDC-D and XN-PF-120/230VAC-D/ base module to provide the field supply Connection to C rail Base modules for bus refreshing within the stations Connection to C rail Connection to C rail Connection to C rail Slice module Cold junction compensation Suitable for XN-2AI-THERMO-PI Block module Connection to C rail	XN-BR-24VDC-D XN-PF-24VDC-D XN-PF-120/230VAC-D XN-BR-24VDC-D XN-2DI-24VDC-P XN-2DI-24VDC-N XN-2DI-120/230VAC XN-2DO-24VDC-0,5A-P XN-2DO-24VDC-0,5A-N XN-2DO-24VDC-2A-P XN-2DO-R-NO XN-2DO-R-NC XN-2DO-120/230VAC-0.5A XN-4DI-24VDC-P XN-4DI-24VDC-N XN-1AI-I(0/4...20MA) XN-2AI-I(0/4...20MA) XN-1AI-U(-10/0...+10VDC) XN-2AI-U(-10/0...+10VDC) XN-2DO-R-CO XN-2DO-R-NO XN-2DO-R-NC XN-2AI-PT/NI-2/3 XN-1CNT-24VDC XN-2AI-THERMO-PI XN-16DI-24VDC-P	XN-P45-SBBC 85 50 225204 XN-P45-SBBC-B 85 50 225203 XN-S45-SBBC 85 50 225206 XN-S45-SBCS 85 50 225208 XN-S45-SBBS 85 50 225209 XN-S45-SBBS-CJ 85 50 225212 XN-B45-SBBC 85 50 227757	See price sheet	1 off
<b>4 (32) × 2/3-wire</b>					
 <p>Base modules</p>	Slice module Connection to C rail Block module Block module	XN-4DI-24VDC-P XN-4DI-24VDC-N XN-4DO-24VDC-0.5A-P XN-4AI-U/I XN-32DI-24VDC-P XN-32DO-24VDC-0.5A-P	XN-S65-SBBSBB 85 50 225210 XN-S65-SBCSBC 85 50 225211 XN-B65-SBBSBB 85 50 227758 XN-B65-SBCSBC 85 50 289166	See price sheet	1 off

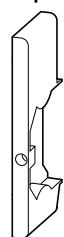




For use with	Type Order No.	Price	Std. pack
<b>Coding elements electronics/base</b>			
A coding element is a standard item in the delivery package for each electronics module, and is used to prevent the module being inserted in the wrong location.		See price sheet	
XN-xDI-24VDC	<b>XN-KO/2</b> 85 50 225233		10 off
XN-2DI-120/230VAC	<b>XN-KO/5</b> 85 50 225236		
XN-xDO-24VDC	<b>XN-KO/6</b> 85 50 225237		
XN-2DO-120/230VAC-0.5A	<b>XN-KO/7</b> 85 50 225238		
XN-2DO-R-NO	<b>XN-KO/8</b> 85 50 225239		
XN-2DO-R-NC	<b>XN-KO/9</b> 85 50 225240		
XN-2DO-R-CO	<b>XN-KO/10</b> 85 50 225241		
XN-xAI-I	<b>XN-KO/11</b> 85 50 225242		
XN-1AI-U(-10/0...+10V)	<b>XN-KO/12</b> 85 50 225243		
XN-2AI-U(-10/0...+10V)			
XN-2AI-THERMO-PI			
XN-2AI-PT/NI-2/3			
XN-1AO-I(0/4...20MA)	<b>XN-KO/13</b> 85 50 225244		
XN-2AO-U(-10/0...+10V)	<b>XN-KO/14</b> 85 50 225245		
XN-1CNT-24VDC	<b>XN-KO/15</b> 85 50 225246		
XN-1RS232			
XN-1RS485/422			
XN-1SSI			
XN-BR-24VDC-D	<b>XN-KO/16</b> 85 50 225247		
XN-PF-24VDC-D			
XN-PF-120/230VAC-D		<b>XN-KO/17</b> 85 50 225248	

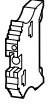

Description	Type Order No.	Price	Std. pack
<b>Relay jumpers</b>			
The relay jumper are for bridging relay roots.		See price sheet	
1-pin	<b>XN-QV/1</b> 85 50 225216		10 off
2-pin	<b>XN-QV/2</b> 85 50 225217		
3-pin	<b>XN-QV/3</b> 85 50 225218		
4-pin	<b>XN-QV/4</b> 85 50 225219		
5-pin	<b>XN-QV/5</b> 85 50 225220		
6-pin	<b>XN-QV/6</b> 85 50 225221		
7-pin	<b>XN-QV/7</b> 85 50 225222		
8-pin	<b>XN-QV/8</b> 85 50 225223		

**End plate**



For covering a XI/ON station An end plate is supplied as part of the gateway package.	<b>XN-ABPL</b> 85 50 225250		2 off
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Description	Type Order No.	Price	Std. pack
<b>End bracket</b>			
 <p>For fixing the sides of the XI/ON station to the mounting rails 2 end brackets are supplied as standard with the gateways</p>	<b>XN-WEW-35/2-SW</b> 85 50 225254	See price sheet	100 off
<b>Connection level marking on the base</b>			
<p>The markers are for clear and application specific marking of the connection levels of a base module.</p> 	Blue	<b>XN-ANBZ-BL</b> 85 50 225224	10 off
	Red	<b>XN-ANBZ-RT</b> 85 50 225225	
	Green	<b>XN-ANBZ-GN</b> 85 50 225226	
	Black	<b>XN-ANBZ-SW</b> 85 50 225227	
	Brown	<b>XN-ANBZ-BR</b> 85 50 225228	
	Red/blue	<b>XN-ANBZ-RT/BL-BED</b> 85 50 225229	
	Green/yellow	<b>XN-ANBZ-GN/GE-BED</b> 85 50 225230	
	White	<b>XN-ANBZ-WS</b> 85 50 225231	
<b>Shield connection for gateway</b>			
Shield connection for direct bus connection	<b>SCH-1-WINBLOC</b> 85 50 224089		1 off
<b>Shield connection spring-loaded base modules</b>			
2-pin shield connection for analog signals	<b>XN-KLBU/T</b> 85 50 225251		10 off
<b>Service cable</b>			
Provides the connection between the PC with I/O assistant and the service interface at the gateway	<b>XN-PS2-CABLE</b> 85 50 225215		1 off
<b>Labels</b>			
For labelling the electronics modules	DIN A5 sheet, perforated, 10 × 57 labels	<b>XN-LABEL/SCHEIBE</b> 85 50 225255	5 off
	DIN A5 sheet, perforated, 10 × 6 labels	<b>XN-LABEL/BLOCK</b> 85 50 225256	





General		
Standards		DIN 19245 EN 61131 DIN IEC 68-2 EN 50082-2
Supported fieldbus systems		PROFIBUS-DP, CANopen, DeviceNet
Potential isolation		Yes, via optocouplers
Ambient temperature	°C	0...55
Ambient temperature, storage	°C	-25...85
Relative air humidity	%	5...95 (indoor), Level RH-2, no condensation (at 45°C for storage)
Harmful gases		
SO <sub>2</sub>	ppm	10 (relative humidity < 75%, no condensation)
H <sub>2</sub> S	ppm	1.0 (relative humidity < 75%, no condensation)
Vibration resistance, operating conditions		To IEC/EN 61131
Shock resistance		To IEC 60068-2-27
Repetitive shock resistance		To IEC 60068-2-29
Tipping and falling		To IEC 60068-2-31, free fall to IEC 60068-2-32
Protection type		IP20
Electromagnetic compatibility (EMC)		
ESD		EN 61131-2
Electromagnetic fields		EN 61131-2
Burst		EN 61131-2
Surge		EN 61000-6-2
HF asymmetric		EN 61000-6-2
Radiated interference / conducted interference		EN 61000-6-4
Radiated interference (radiated, high frequency)		EN 61000-6-4
Type test		To EN 61131-2
Base modules		
Rated data		To VDE 0611 Part 1/8.92 / IEC 947-7-1/1989
Connections in TOP direction		Spring-loaded/screw terminal
Stripping length	mm	8
Terminal capacity		
Single conductor H07V-U	mm <sup>2</sup>	1.5
Single conductor H07V-K	mm <sup>2</sup>	0.5...2.5
Flexible with ferrule	mm <sup>2</sup>	0.5...1.5
Plug gauge IEC/EN 60947-1		A1
Approvals		CE, UL and CSA

			XN-BR-24VDC-D	XN-PF-24VDC-D	XN-PF-120/230VAC-D
Power supply modules					
Operating voltage		V DC	24	24	120 / 230 AC
System supply	$U_{sys}$	V DC	24/5	–	–
Permissible range 24 V DC	$U_{sys}$	V DC	18...30	–	–
Permissible range 5 V DC	$U_{sys}$	V DC	4.7...5.3	–	–
Field voltage	$U_L$		24 V DC	24 V DC	24 V DC
Permissible range			–	–	To EN 61131-2
Permissible range		V DC	18...30	18...30	–
Nominal current drawn from module bus	$I_{MB}$	mA	–	≤ 28	≤ 25
Insulation test voltage	$U_i$	V AC	–	–	1780
Ripple		%	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)
Maximum operating current	$I_{EI}$	A	10	10	10
Maximum system supply current	$I_{MB}$	A	1.5	–	–
Number of diagnostics bits			4	4	4
Base module without gateway supply					
Without C connection			–	2 / 3-wire XN-P3x-SBB	2 / 3-wire XN-P3x-SBB
With C connection			4-wire XN-P4x-SBBC-B	4-wire XN-P4x-SBBC	4-wire XN-P4x-SBBC

Notes

Permissible range for system supply:  
for  $U_{sys} = 24$  V DC: 18 to 30 V DC (to EN 61 131-2)  
for  $U_{sys} = 5$  V DC: 4.7 to 5.3 V DC (only XN-BR-24VDC-D)  
Permissible range for field supply  $U_L$ :  
To EN 61 131-2 (18 to 30 V DC)  
Permissible range for nominal voltage and field supply  $U_L$ :  
To EN 61 131-2



			XN-GWBR-PBDP	XN-GWBR-CANOPEN	XN-GWBR-DNET	XN-GWBR-MODBUS-TCP	XN-PLC-CANOPEN
<b>Networking</b>							
Fieldbus			PROFIBUS-DP	CANopen	DeviceNet	Modbus TCP	CANopen
System supply	$U_{sys}$	V DC	24 V DC / 5 V DC	24 V DC / 5 V DC	24 V DC / 5 V DC	24 V DC / 5 V DC	24 V DC / 5 V DC
Permissible range 5 V DC	$U_{sys}$	V DC	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3
Permissible range 24 V DC	$U_{sys}$	V DC	18 ... 30	18 ... 30	18 ... 30	18 ... 30	18 ... 30
Field voltage	$U_L$		24	24	24	24	24
Permissible range		V DC	18 ... 30	18 ... 30	18 ... 30	18 ... 30	18 ... 30
Ripple		%	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)	< 5 (to EN 61131-2)
Service interface			PS/2 socket	PS/2 socket	PS/2 socket	PS/2 socket	PS/2 socket
Connections, fieldbus			1 × SUB-D connector, 9-pin	Open style connector	Open style connector	RJ45	Open style connector
Data transmission rate		Kbit/s	9.6 ... 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500	10/100 Mbit/s	20, 50, 125, 250, 500, 800, 1000
Selecting the data transmission rate			–	Via DIP switch	Via DIP switch	Automatic	Software
Addressing			2 rotary coding switches			Coding switch, BootIP, DHCP	Software
Fieldbus termination			External	External	External	Automatic	External
Number of parameter bytes			5 bytes	–	–	–	–
Number of diagnostics bytes			3 bytes	–	–	–	–
Address range			1 ... 99 dec.	1 ... 99 dec.	1 ... 63 dec.	1 ... 4.162.314.256	1 ... 127 dec.
Program code		KByte	–	–	–	–	128
Program data		KByte	–	–	–	–	128
Cycle time 1k instructions		ms	–	–	–	–	0.5
Real-time clock			–	–	–	–	Yes

			XN-GW-PBDP-1.5MB	XN-GW-PBDP-12MB	XN-GW-PBDP-12MB-STD	XN-GW-CANOPEN	XN-GW-DNET
<b>Networking</b>							
Fieldbus			PROFIBUS-DP			CANopen	DeviceNet
Operating voltage		V DC	5 (from bus refreshing module)				
Permissible range		V DC	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3	4.7 ... 5.3
Ripple		%	< 5 (to EN 61131-2)				
Nominal current drawn from module bus	$I_{MB}$	mA	≤ 430	≤ 430	≤ 410	≤ 350	≤ 250
Service interface			PS/2 socket	PS/2 socket	PS/2 socket only for firmware download	PS/2 socket	PS/2 socket
Connections, fieldbus			2 × SUB-D connectors, 9-pin 2 × spring-loaded terminal strips for direct wiring	1 × SUB-D connector, 9-pin	1 × SUB-D connector, 9-pin	1 × SUB-D connector, 9-pin 1 × SUB-D connector, 9-pin 2 × direct wiring, 5-pin; spring-loaded	Open style connector
Data transmission rate		Kbit/s	9.6 ... 1500	9.6 ... 12000	9.6 ... 12000	20, 50, 125, 250, 500, 800, 1000	125, 250, 500
Selecting the data transmission rate			–	–	–	Via DIP switch	Via DIP switch
Addressing			2 hex rotary coding plugs		2 rotary coding switches		2 decimal coding switches
Fieldbus termination			Via SUB-D connector	Via SUB-D connector	Via SUB-D connector	Via SUB-D connector	Via DIP switch
Number of parameter bytes			5 bytes	5 bytes	5 bytes	–	–
Number of diagnostics bytes			3 bytes	3 bytes	3 bytes	–	–
Address range			1 ... 125 dec.	1 ... 125 dec.	1 ... 125 dec.	1 ... 127 dec.	0 ... 63 dec.





			XN-2DI-24VDC-P	XN-2DI-24VDC-N	XN-2DI-120/230VAC
<b>Digital input modules</b>					
Channels		Number	2	2	2
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC	120/230 V AC
Nominal current drawn from supply terminal	$I_L$	mA	$\leq 20$	$\leq 20$	$\leq 20$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 28$	$\leq 28$	$\leq 28$
Insulation test voltage	$U_i$	V AC	–	–	1780
Power loss		W	0.7	0.7	1
<b>Input voltage</b>					
Input voltage nominal value		V DC	24 V DC	24 V DC	120/230 V AC
Low signal	$U_L$		-30 V ... +5 V	0 V ... +5 V	0 ... 20 V AC
High signal	$U_H$		11 ... 30 V	$> (U_{PF} - 11 \text{ V})$	79 V AC ... 265 V AC
Frequency range		Hz	–	–	48 ... 63
<b>Input current</b>					
Low signal / active signal	$I_L$		0 mA ... 1.5 mA	1.8 mA ... 10 mA	0 mA ... 1 mA
High signal / active signal	$I_H$		2 mA ... 10 mA	0 mA ... 1.7 mA	3 mA ... 8 mA
<b>Input delay</b>					
$t_{\text{rising edge}}$		$\mu\text{s}$	$< 200$	$< 200$	$< 20000$
$t_{\text{falling edge}}$		$\mu\text{s}$	$< 200$	$< 200$	$< 20000$
Maximum permissible cable capacitance			–	–	141 nF at 79 V AC/50 Hz; 23 nF at 265 V AC/50 Hz;
<b>Base modules</b>					
Without C connection			2 / 3-wire XN-S3x-SBB 2-wire proximity switches (Bero® initiators) can be attached, with a permissible quiescent current up to 1.5 mA.		2 / 3-wire XN-S3x-SBB
With C connection			4-wire XN-S4x-SBBC	4-wire XN-S4x-SBBC	4-wire XN-S4x-SBBC

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XN-4DI-24VDC-P	XN-4DI-24VDC-N	XN-16DI-24VDC-P	XN-32DI-24VDC-P	XNE-8DI-24VDC-P	XNE-16DI-24VDC-P
4	4	16	32	8	16
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
$\leq 40$	$\leq 40$	$\leq 40$	$\leq 30$	1.5 mA <sup>1)</sup>	13 mA <sup>1)</sup>
$\leq 28$	$\leq 28$	$\leq 45$	$\leq 30$	15 mA <sup>2)</sup>	15 mA <sup>2)</sup>
-	-	-	-	-	-
1	1	2.5	4.2	< 1.5	< 2.5
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
-30 V...+5 V	0 V...+5 V	-30 V...+5 V	-30 V...+5 V	-U <sub>L</sub> ...+5 V	-U <sub>L</sub> ...+5 V
15 V...30 V	> (U <sub>PF</sub> -11 V)	15 V...30 V	15 V...30 V	11 V...U <sub>L</sub>	11 V...U <sub>L</sub>
-	-	-	-	-	-
0 mA... 1.5 mA	1.3 mA... 6 mA	0 mA... 1.5 mA	< 1.5 mA	-1 mA...1.5 mA	-1 mA...1.5 mA
2 mA... 10 mA	20mA... 1.2 mA	2 mA... 10 mA	2 mA... 10 mA	2 mA...5 mA	2 mA...5 mA
< 200	< 200	< 200	< 200	< 100	< 150
< 200	< 200	< 200	< 200	< 200	< 300
-	-	-	-	-	-
2 / 3-wire XN-S4x-SBBS 4-wire XN-S6x-SBBSBB	2 / 3-wire XN-S4x-SBBS 4-wire XN-S6x-SBBSBB	2 / 3-wire XN-B3x-SBB	2 / 3-wire XN-B6x-SBBSBB	Already integrated	Already integrated
-	-	4-wire XN-B4x-SBBC	-	-	-

**Notes**

- 1) The supply terminal (U<sub>L</sub>) supplies the current for the module electronics and the loads at the outputs. The total current required for each module is the sum of all partial currents.
- 2) Part of the electronics of the XI/ON module is supplied by the module bus voltage (5 V DC), and the other part by the supply terminal (U<sub>L</sub>).





			XN-2DO-24VDC-0.5A-P	XN-2DO-24VDC-0.5A-N	XN-2DO-24VDC-2A-P
<b>Digital output modules</b>					
Channels		Number	2	2	2
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC	24 V DC
Nominal current drawn from the supply terminal (at load current = 0 mA)	$I_L$	mA	$\leq 20$	$\leq 20$	$\leq 50$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 32$	$\leq 32$	$\leq 33$
Insulation test voltage			–	–	–
Power loss		W	Normally 1	Normally 1	Normally 1
Output voltage					
High signal	$U_H / U_A$		min. L+ (-1 V)	max. GND (+1 V)	min. L+ (-1 V)
Output current					
High signal (nominal value)	$I_H$		0.5	0.5 A	2
High signal (permissible range)	$I_H$	A	< 0.6	< 0.6	< 2.4
Low signal	$I_A$	mA	–	–	–
Backup fuse			–	–	–
Surge current	$I_S$	A	–	–	–
Number of outputs that can be switched in parallel	max.		–	–	–
Total module current		A	–	–	–
Delay on signal change and resistive load					
from Low to High		$\mu s$	< 100	< 100	< 100
From High to Low		$\mu s$	< 100	< 100	< 100
Load resistance range			48 $\Omega$ ... 1 k $\Omega$	–	12 $\Omega$ ... 1 k $\Omega$
Utilization factor	g	%	100	100	100
Connectable equipment			Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
Resistive load		O	$\leq 48$	$\leq 48$	$\leq 12$
Inductive load		H	$\leq 1.2$	$\leq 1.2$	$\leq 1.2$
Lamp load	$R_{LL}$	W	$\leq 3$	$\leq 12$	$\leq 6$
Switching frequency					
With resistive load	f	Hz	5000 ( $R_{LO} < 1$ k $\Omega$ )	100 ( $R_{LO} < 1$ k $\Omega$ )	5000 ( $R_{LO} < 1$ k $\Omega$ )
Inductive load		Hz	2	2	2
With lamp load		Hz	$\leq 10$	$\leq 10$	$\leq 10$
Number of diagnostics bits			2	2	2
Diagnostics			–	–	–
Short-circuit proof to EN 61131-2			–	–	–
Restart after short-circuit rectified	$I_i$		–	–	–
Base modules					
With C connection			2 / 3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	2 / 3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	2 / 3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS

**Note**

Output delay on signal change and resistive load/operating frequency, resistive load:  $R_{LO} < 1$  k $\Omega$

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XN-2DO-120/230VAC-0.5A	XN-4DO-24VDC-0.5A-P	XN-16DO-24VDC-0.5A-P	XN-32DO-24VDC-0.5A-P	XNE-8DO-24VDC-0.5A-P	XNE-16DO-24VDC-0.5A-P
2	4	16	32	8	16
120/230 V AC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
≅ 20	≅ 25	≅ 30	≅ 30	3 mA <sup>2)</sup>	3 mA <sup>2)</sup>
≅ 35	≅ 30	≅ 45	≅ 50	15 mA <sup>3)</sup>	25 mA <sup>3)</sup>
–	–	–	–	–	–
Normally 1	Normally 1	Normally 4	Normally 5	Normally 1.5	Normally 2.5
> U <sub>L</sub> (-2 V)	min. L+ (-1 V)	min. L+ (-1 V)	min. L+ (-1 V)	U <sub>L</sub> ...1 V DC	U <sub>L</sub> ...1 V DC
0.5 A	0.5 A	0.5 A	0.5 A	0.5 A <sup>1)</sup>	0.5 A <sup>1)</sup>
0.02...0.5	1.0 A for max. 5 minutes	< 0.6	1.0	1.0	1.0
< 1.5	–	–	–	–	–
500 mA FF	–	–	–	–	–
8 (1 period at 60 Hz)	–	–	–	–	–
–	–	–	2	–	–
–	–	–	10	–	–
< T/2 +1 ms	< 250	< 100	< 300	< 300	< 300
< T/2 +1 ms	< 250	< 100	< 300	< 300	< 300
at 120 VAC: 240 Ω...6 kΩ at 230 VAC: 460 Ω...11.5 kΩ	48 Ω...1 kΩ	–	48 Ω...1 kΩ	–	–
100	100	100	See Total module current	100	50%, max. 4 A <sup>2)</sup>
Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
≅ 48	≅ 48	≅ 48	≅ 48	≅ 48	≅ 48
≅ 1.2	≅ 1.2	Category DC 13 to EN 60947-5-1	≅ 1.2	To DC13 in accordance with IEC 60947-5-1	To DC13 in accordance with IEC 60947-5-1
–	≅ 6	≅ 3	≅ 6	≅ 6	≅ 6
–	5000 (R <sub>LO</sub> < 1 kΩ)	100 (R <sub>LO</sub> < 1 kΩ)	100 (R <sub>LO</sub> < 1 kΩ)	< 100	< 100
–	2	–	–	To DC13 in accordance with IEC 60947-5-1	To DC13 in accordance with IEC 60947-5-1
–	≅ 10	–	–	< 10	< 10
0	1	4	8	–	–
–	–	–	Yes	–	–
–	–	–	Yes	Yes	Yes
–	–	–	Automatic	Automatic	Automatic
2 /3-wire XN-S3x-SBC 4-wire XN-S4x-SBCS	4-wire XN-S4x-SBCS 4 × 2 /3-wire XN-S4x-SBCSBC	2 /3-wire XN-B3x-SBC	2 /3-wire XN-B6x-SBCSBC	–	–

Notes:

- 1) Two outputs can be switched in parallel to increase the maximum output current up to 1 A.
- 2) The supply terminal (U<sub>I</sub>) supplies the current for the module electronics and the loads at the outputs. The total current required for each module is the sum of all partial currents.
- 3) Part of the electronics of the XI/ON module is supplied by the module bus voltage (5 V DC), and the other part by the supply terminal (U<sub>I</sub>).





			XN-1AI-I(0/4...20MA)	XN-2AI-I(0/4...20MA)
<b>Analog input modules</b>				
Channels		Number	1	2
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC
Nominal current drawn from supply terminal	$I_L$	mA	$\leq 50$	$\leq 12$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 41$	$\leq 35$
Power loss		W	< 1	< 1
Input current		mA	0/4...20	0/4...20
Maximum input current		mA	50	50
Input voltage			–	–
Maximum input voltage		V DC	–	–
Input resistance			< 125 $\Omega$	< 125 $\Omega$
Limit frequency (–3 db)		Hz	200	> 50
Offset error		%	$\leq 0.1$	$\leq 0.1$
Linearity		%	0.03	–
Basic error limit at 23 °C		%	< 0.2	< 0.2
Repetition accuracy (deviation)		%	0.09	0.05
Temperature coefficient			300 ppm/°C of full scale value	300 ppm/°C of full scale value
Resolution of A/D converter			14-bit (signed integer)	16-bit
Measuring principle			Successive approximation	Delta Sigma
Measured value representation			16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left
Transmitter supply			Linked to L+ and L- of the supply; Not short-circuit proof	$\leq 250$ mA; Linked to L+ and L- of the supply; Not short-circuit proof
Cycle time		ms	–	–
Connectable sensors			–	–
Number of diagnostics bits			2 bits	2 bits
Diagnostics				
Number of parameter bits			3 bits	1 byte (per channel)
<b>Base modules</b>				
Without C connection			2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB
Without C connection, for transmitter supply			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS



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XN-1AI-U(-10/0...+10VDC)	XN-2AI-U(-10/0...+10VDC)	XN-4AI-U/I	XN-2AI-PT/NI-2/3	XN-2AI-THERMO-PI
1	2	4	2	2
24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
≅ 50	≅ 12	≅ 20	≅ 30	≅ 30
≅ 41	≅ 35	≅ 50	≅ 45	≅ 45
< 1	< 1	< 1	< 1	< 1
-	-	0/4...20	-	-
-	-	50	-	-
-10/0...+10 V DC	-10/0...+10 V DC	-10/0...+10 V DC	-	-
35 V continuous	35 V continuous	35 V continuous	-	-
≅ 98.5 kΩ	≅ 98.5 kΩ	< 62 Ω/>98.5 Ω	-	-
200	> 50	20	-	-
≅ 0.1	≅ 0.1	≅ 0.1	≅ 0.1	≅ 0.1
0.03	-	0.05	< 0.1	0.1
< 0.2	< 0.2	< 0.3	< 0.2	< 0.2
0.05	0.05	0.05	0.05	0.05
300 ppm/°C of full scale value	150 ppm/°C of full scale value	300 ppm/°C of full scale value	300 ppm/°C of full scale value	300 ppm/°C of full scale value
14-bit (signed integer)	16-bit	16-bit	-	-
Successive approximation	Delta Sigma	Delta Sigma	-	-
16-bit signed integer 12-bit signed integer, flush-left 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left
Linked to L+ and L- of the supply; Not short-circuit proof	≅ 250 mA; Linked to L+ and L- of the supply; Not short-circuit proof	-	-	-
-	-	-	< 130 per channel	< 60 per channel + 100
-	-	-	Platinum sensors: PT100, PT500, PT1000 (to DIN IEC 751) Nickel sensors: Ni100, Ni1000 (to DIN 43760)	Thermocouple types B, E, J, K, N, R, S, T to DIN IEC 584, class 1, 2, 3
1 bit	2 bits	-	2 bytes (1 byte per channel)	2 bytes (1 byte per channel)
		Yes		
3 bits	2 bytes	-	4 bytes (2 byte per channel)	2 bytes (1 byte per channel)
2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S6x-SBCSBC	2 / 3-wire XN-S3x-SBB	-
4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	-	4-wire XN-S4x-SBBS	4-wire with integrated cold junction compensation XN-S4x-SBBS-CJ





			XN-1AO-I(0/4...20MA)	XN-2AO-I(0/4...20MA)	XN-2AO-U(-10/0...+10VDC)
<b>Analog output modules</b>					
Channels		Number	1	2	2
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	$I_L$	mA	$\leq 50$	$\leq 50$	$\leq 50$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 39$	$\leq 40$	$\leq 43$
Power loss		W	Normally 1	Normally 1	Normally 1
Output voltage		V DC	–	–	-10/0... +10
Output current		mA	0/4...20	0/4...20	–
Load resistance					
Resistive load		$\Omega$	< 450	< 450	> 1000
Inductive load		H	< 0,001	< 0,001	–
Capacitive load		$\mu\text{F}$	–	–	> 1
Short-circuit current		mA	–	–	$\leq 40$
Transmission frequency		Hz	$\leq 200$	$\leq 200$	$\leq 100$
Offset error		%	$\leq 0.1$	$\leq 0.1$	$\leq 0.1$
Linearity		%	0.02	–	0.1
Basic error limit at 23 °C		%	< 0.2	< 0.2	< 0.2
Repetition accuracy (deviation)		%	0.05	–	0.05
Output ripple		%	0.02	–	0.02
Temperature coefficient			300 ppm/°C of full scale value	150 ppm/°C of full scale value	300 ppm/°C of full scale value
Recovery time					
Resistive load		ms	0.1	2	0.1
Inductive load		ms	0.5	2	0.5
Capacitive load		ms	0.5	0.5	0.5
RFI suppression			–	–	Common mode > 90 dB Differential mode > 70 dB Cross talk between channels > -50 dB
Measured value representation			16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit full range, flush-left	16-bit signed integer 12-bit signed integer, flush-left 12-bit full range, flush-left
Number of parameter bytes			3	3 (per channel)	3 (per channel)
Base modules					
Without C connection			2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB	2 / 3-wire XN-S3x-SBB

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			XN-2DO-R-NC	XN-2DO-R-NO	XN-2DO-R-CO
<b>Relay modules</b>					
Contact type			2 break contacts	2 make contacts	2 changeover contacts, isolated
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	$I_L$	mA	$\leq 20$	$\leq 20$	$\leq 20$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 28$	$\leq 28$	$\leq 28$
Insulation test voltage	$U_i$	V AC	1780	1780	1780
Power loss		W	Normally 1	Normally 1	Normally 1
Connectable equipment			Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads	Resistive loads Inductive loads Lamp loads
Nominal load voltage			230 V AC, 30 V DC	230 V AC, 30 V DC	230 V AC, 30 V DC
Output current per channel/230 V AC					
Maximum continuous current		A	2	2	2
Maximum continuous current, resistive load			5 A, load-dependent	5 A, load-dependent	5 A, load-dependent
Minimum load current		mA	10 mA at $\geq 12$ V DC	10 mA at $\geq 12$ V DC	10 mA at $\geq 12$ V DC
Output current for DC voltage (resistive)			Load limit curve → Page 2/36	Load limit curve → Page 2/36	Load limit curve → Page 2/36
Utilization factor	g	%	100	100	100
Lifespan at 230 V AC					
at 5 A	Operations	$\times 10^6$	> 0.1	> 0.1	> 0.1
at 0.5 A	Operations	$\times 10^6$	> 1	> 1	> 1
<b>Base modules</b>					
Without C connection			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS
With C connection			4-wire XN-S4x-SBCS	4-wire XN-S4x-SBCS	–





				XN-1CNT-24VDC
<b>Counter module</b>				
Channels		Number		1
Nominal voltage on supply terminal	$U_L$			24 V DC
Nominal current drawn from supply terminal	$I_L$	mA		$\leq 50$
Nominal current drawn from module bus	$I_{MB}$	mA		$\leq 40$
Power loss		W		< 1.3
Power supply of encoders				Output voltage L+ (-0.8 V) Output current $\leq 0.5$ A, short-circuit proof
<b>Digital inputs</b>				
Input voltage				
Input voltage nominal value		V DC		24
Low signal	$U_L$			-30 V DC ... 5 V DC
High signal	$U_H$			11 V DC ... 30 V DC
Input current				
Low signal	$I_L$			-8 mA ... 1.5 mA
High signal	$I_H$			2 mA ... 10 mA
Minimum pulse width		$\mu$ s		Filter on: > 25 ms (20 kHz) Filter off: < 2.5 ms (200 kHz)
<b>Digital outputs</b>				
Output voltage				
Output voltage, nominal value		V DC		24
Low signal	$U_L$			$\leq 3$ V DC
High signal				$\cong L+ (-1$ V)
Output current				
High signal (permissible range)	$I_H$	A		5 mA ... 2 A
High signal (nominal value)	$I_H$			$\leq 0.5$ A (55° C)
Switching frequency				
With resistive load		Hz		100
Inductive load		Hz		2
With lamp load		Hz		$\leq 10$
Lamp load	$R_{LL}$	W		$\leq 10$
Output delay				100 $\mu$ s (resistive load)
Short-circuit proof				Yes
Response threshold		V		2.6 ... 4 A
Inductive quenching				L+ (-50 ... -60 V)
<b>Measuring ranges</b>				
Frequency				0.1 Hz ... 200 kHz
Speed				1 rpm ... 25000 rpm
Period duration				5 ms ... 120 s
<b>Counter modes</b>				
Signal evaluation A, B				Pulse and direction, rotary encoder single/double/quadruple
Mode				Endless, once only, or periodic count
Hysteresis		mm		0 ... 255
Pulse duration				0 ... 255
Synchronisation				Once only/periodic
Count limits				Upper count limit: 0 ... 7FFF FFFF Lower count limit: 8000 0000 ... FFFF FFFF
<b>Measuring modes</b>				
Signal evaluation A, B				Pulse and direction, rotary encoder single
Temperature coefficient				$\leq 100$ ppm/°C of full scale value
Number of diagnostics bits				1
Number of parameter bits				15
<b>Base modules</b>				
Without C connection, for transmitter supply				4-wire XN-S4x-SBBS

**Notes**

The nominal current values from the supply terminal apply for load current = 0 mA.

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			XN-1RS232	XN-1RS485/422	XN-1SSI
<b>Interfaces</b>					
Type			RS 232	RS 484 / RS 422	SSI
Nominal voltage on supply terminal	$U_L$		24 V DC	24 V DC	24 V DC
Nominal current drawn from supply terminal	$I_L$	mA	$\leq 25$	$\leq 25$	$\leq 25$
Nominal current drawn from module bus	$I_{MB}$	mA	$\leq 140$	$\leq 90$	$\leq 50$
Power loss		W	Normally 1	Normally 1	Normally 1
Transmission channels			RxD, TxD, RTS, CTS	RxD, TxD	CL, D
<b>Data buffer</b>					
Receive		Byte	128	128	–
Transmit		Byte	64	64	–
<b>Connection type</b>					
RS 232			Full-duplex	–	–
RS 485			–	2-wire half-duplex	–
RS 422			–	2-wire half-duplex or 4-wire full-duplex	4-wire full-duplex (clock output/signal input)
Bit transmission rate			Max. 115200 bit/s (adjustable), default setting: 9600 bit/s, 7 data bits, odd parity and 2 stop bits	Max. 115200 bit/s (adjustable), default setting: 9600 bit/s, 7 data bits, odd parity and 2 stop bits	Max. 1 MHz (adjustable), default setting: 500 Kbit/s
<b>Insulation voltage</b>					
Between interface and module bus / system voltage		$V_{rms}$	500	500	500
Between interface and field voltage		$V_{rms}$	500	500	500
Common mode range		V DC	-7 ... 12	–	–
Cable impedance		$\Omega$	–	120	120
Bus termination			–	120 $\Omega$ (external)	internal
Cable length RS 232		m	max. 15	max. 1000	max. 30
Number of diagnostics bytes			1	1	1
Number of parameter bytes			4	4	4
<b>Base modules</b>					
Without C connection, for transmitter supply			4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS	4-wire XN-S4x-SBBS

**Notes**

The figures for nominal current from the supply terminal apply when there is no sensor/transmitter current.



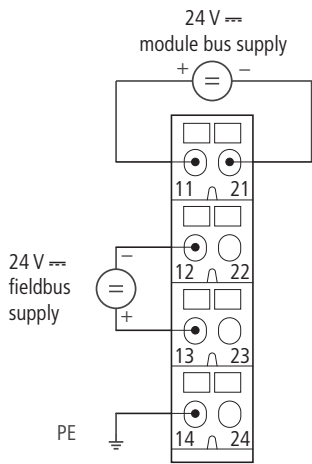




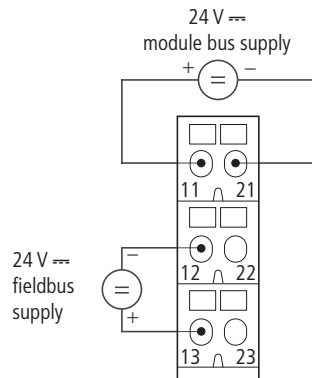
		XNE-1SWIRE
<b>Supply</b>		
Module bus voltage		4.75...5.25 V
Current module bus		60 mA
Voltage field		18...30 V
Current field (LIN phases on full load)		600 mA
Supply of contactors		18...30 V DC
Supply current of contactors		3 A
<b>SWIRE interface</b>		
Number of SWIRE phase leads		1
Max. number of XNE-1SWIRE modules per XN station		3
Max. number of SWIRE nodes per line		16
Number of diagnostics bits		4
Data per SWIRE node		max. 4I / 4O
Supply of SWIRE nodes (short-circuit proof)		17 V DC
Max. supply current of all LIN nodes (short-circuit proof)		500 mA
<b>Insulation</b>		
Potential isolation (module bus ↔ U <sub>SW</sub> / U <sub>AUX</sub> ↔ U <sub>L</sub> )	V <sub>rms</sub>	500
Potential isolation (U <sub>SW</sub> ↔ U <sub>AUX</sub> )	V <sub>rms</sub>	None
<b>Climatic conditions</b>		
Ambient temperature		0...55°C
Storage temperature		-25...85°C
Air humidity (non condensation)		5...95%
Protection type		IP20

**Bus refreshing module**

XN-P4x-SBBC with gateway supply  
XN-P4x-SBBC-B without gateway supply

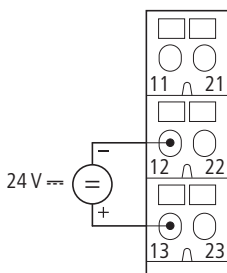


XN-P3x-SBB with gateway supply  
XN-P3x-SBB-C without gateway supply

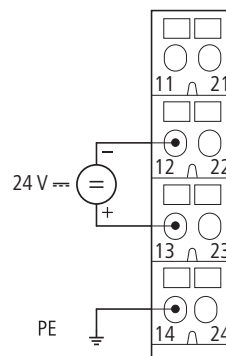


**Power feeding module**

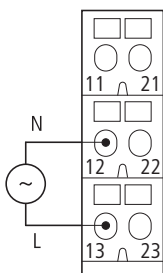
XN-P3x-SBB for XN-PF-24VDC-D



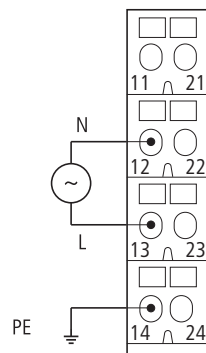
XN-P4x-SBBC for XN-PF-24VDC-D



XN-P3x-SBB for XN-PF-120/230VAC-D

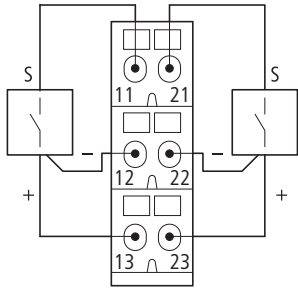


XN-P4x-SBBC for XN-PF-120/230VAC-D

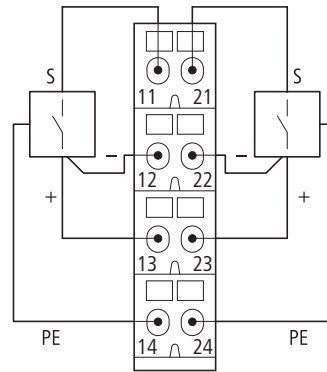


Digital input modules

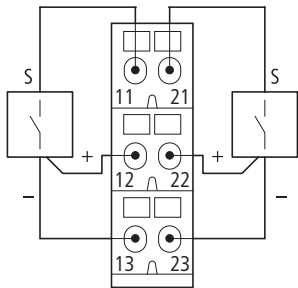
XN-S3x-SBB for XN-2DI-24VDC-P



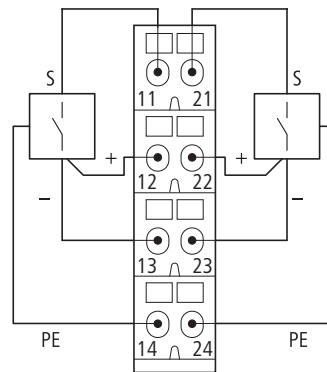
XN-S4x-SBBC for XN-2DI-24VDC-P



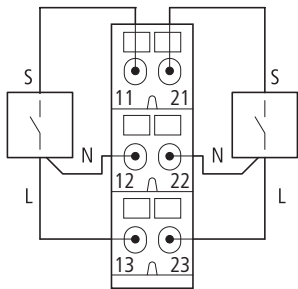
XN-S3x-SBB for XN-2DI-24VDC-N



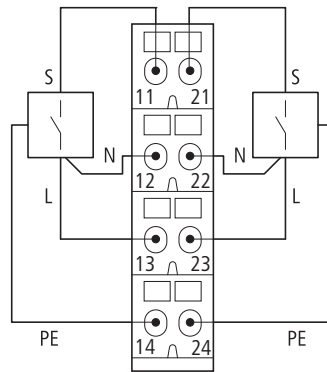
XN-S4x-SBBC for XN-2DI-24VDC-N



XN-S3x-SBB for XN-2DI-120/230VAC-P



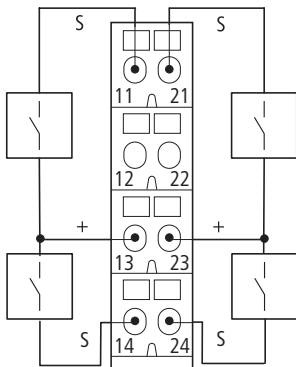
XN-S4x-SBBC for XN-2DI-120/230VAC-P



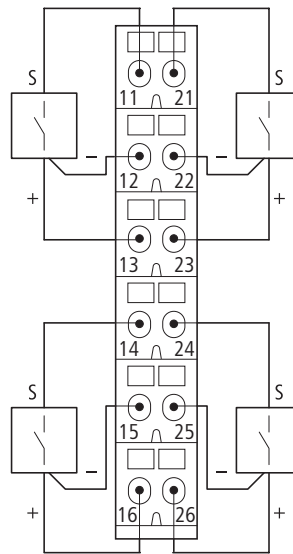
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Digital input modules

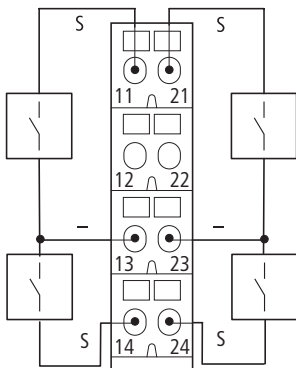
XN-54x-SBBS for XN-4DI-24VDC-P



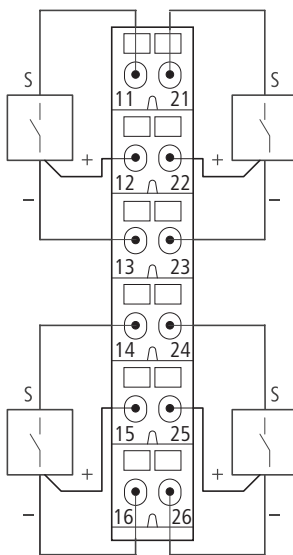
XN-56x-SBBSBB for XN-4DI-24VDC-P



XN-54x-SBBS for XN-4DI-24VDC-N

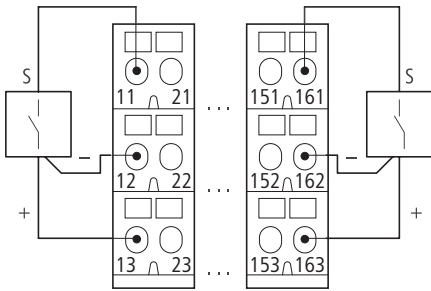


XN-56x-SBBSBB for XN-4DI-24VDC-N

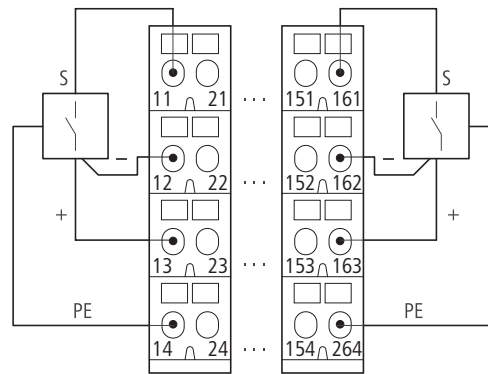


Digital input modules

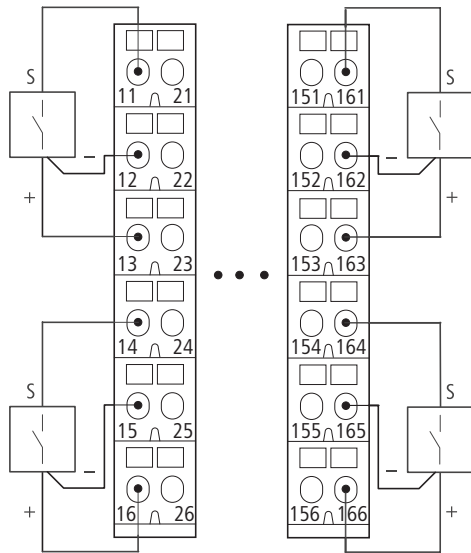
XN-B3x-SBB for XN-16DI-24VDC-P



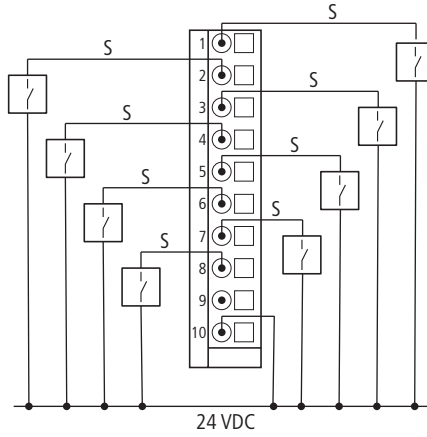
XN-B4x-SBBC for XN-16DI-24VDC-P



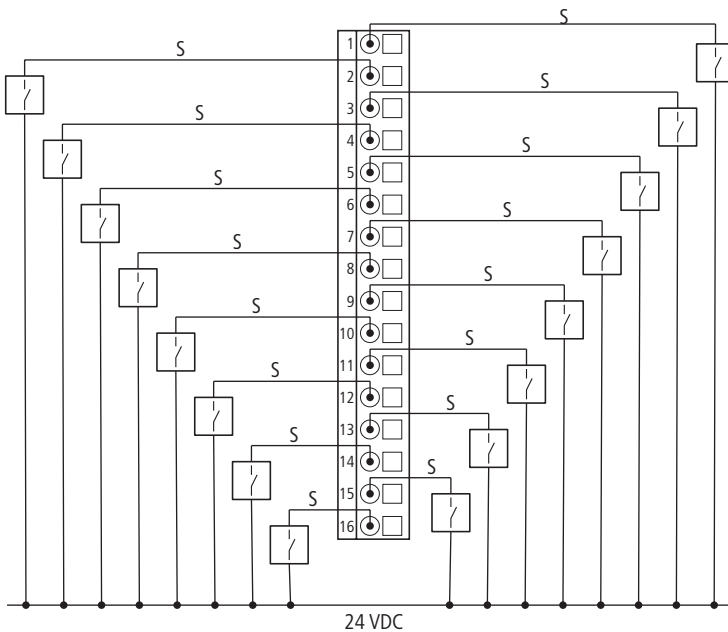
XN-B6x-SBBSBB for XN-32DI-24VDC-P



XNE-8DI-24VDC-P



XNE-16DI-24VDC-P



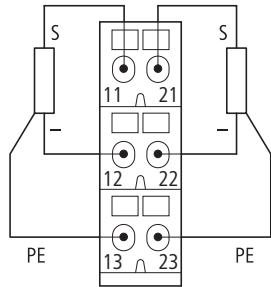
Remote I/O XI/ON



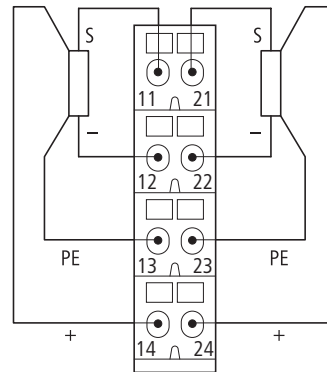


Digital output modules

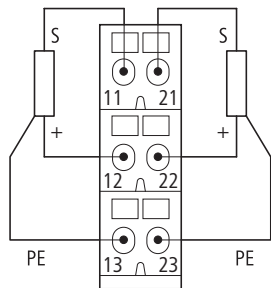
XN-S3x-SBC for  
XN-2DO-24VDC-0.5A-P  
XN-2DO-24VDC-2A-P



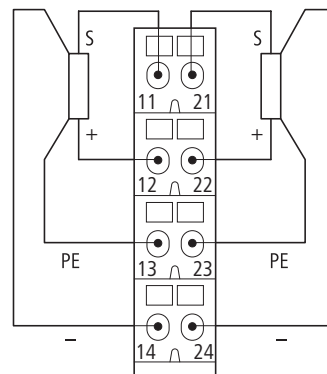
XN-S4x-SBCS for  
XN-2DO-24VDC-0.5A-P  
XN-2DO-24VDC-2A-P



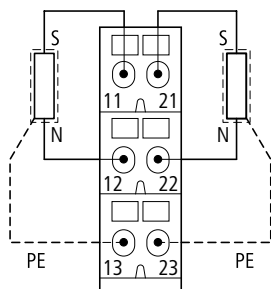
XN-S3x-SBC for XN-2DO-24VDC-0.5A-N



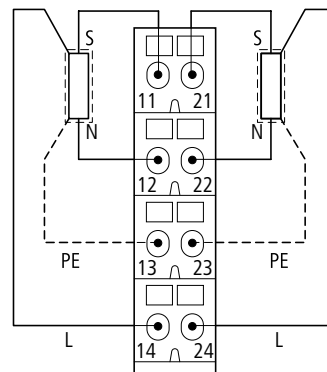
XN-S4x-SBCS for XN-2DO-24VDC-0.5A-N



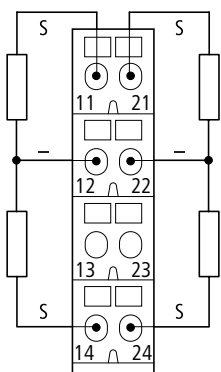
XN-S3x-SBC for XN-2DO-120/230VAC-0.5A



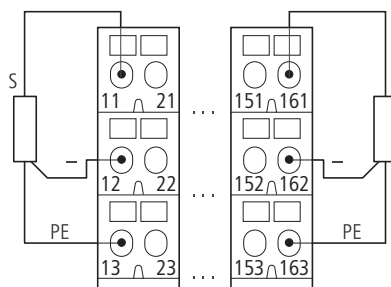
XN-S4x-SBCS for XN-2DO-120/230VAC-0.5A



XN-S4x-SBCS for XN-4DO-24VDC-0.5A-P

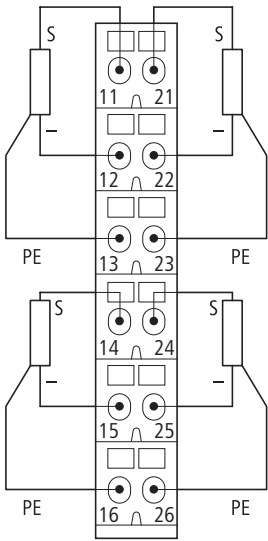


XN-B3x-SBC for XN-16DO-24VDC-0.5A-P

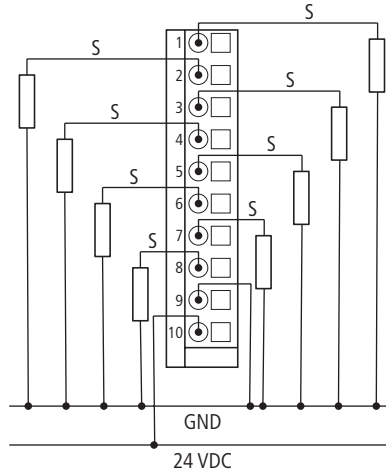


Digital output modules

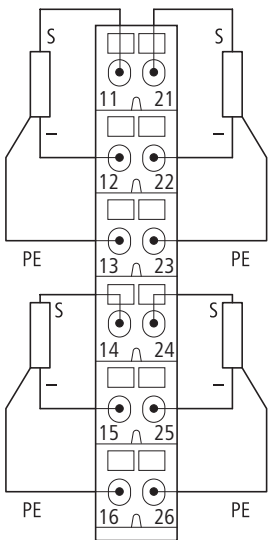
XN-S6x-SBCS for XN-4DO-24VDC-0.5A-P



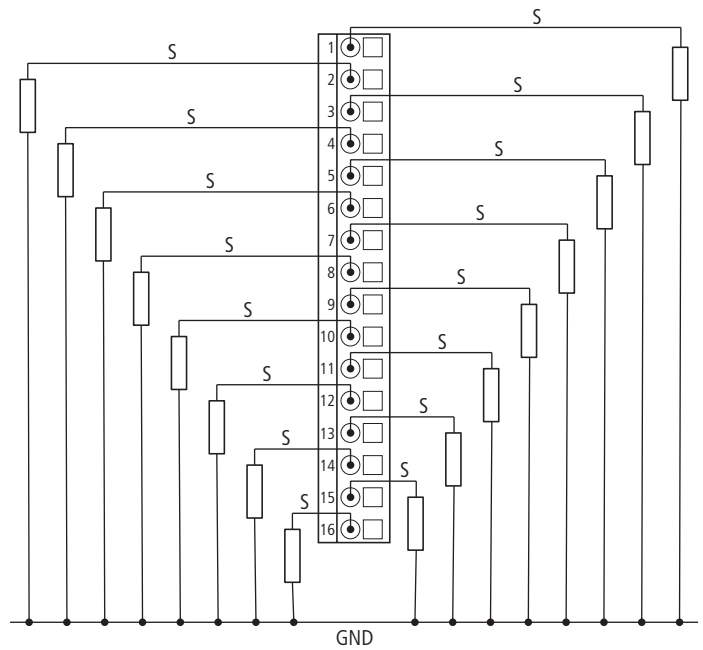
XNE-8DO-24VDC-0.5A-P



XN-B6x-SBCSBC for XN-32DO-24VDC-0.5A-P



XNE-16DO-24VDC-0.5A-P



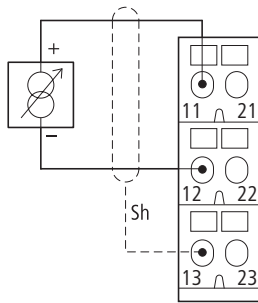
Remote I/O XI/ON



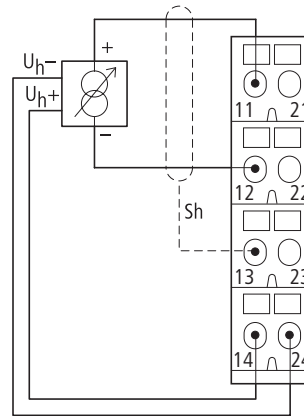
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Analog input modules

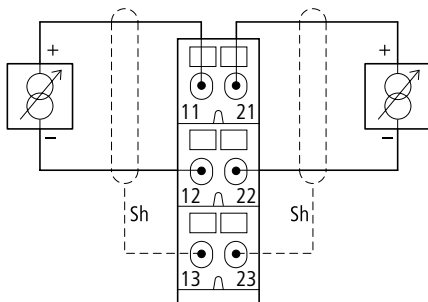
XN-S3x-SBB for XN-1AI-I(0/4...20MA)  
XN-S3x-SBB for XN-1AI-U(-10/0...+10V)  
Analog sensor/transmitter without transmitter supply



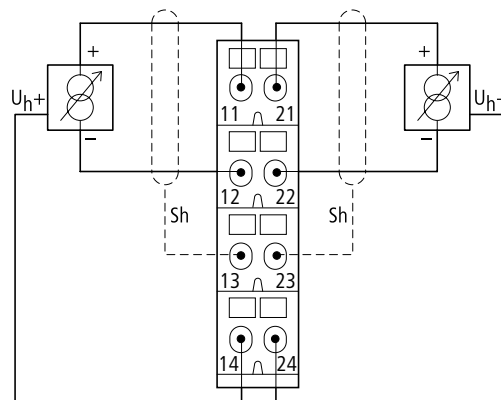
XN-S4x-SBBS for XN-1AI-I(0/4...20MA)  
XN-S4x-SBBS for XN-1AI-U(-10/0...+10V)  
Analog sensor/transmitter with floating transmitter supply



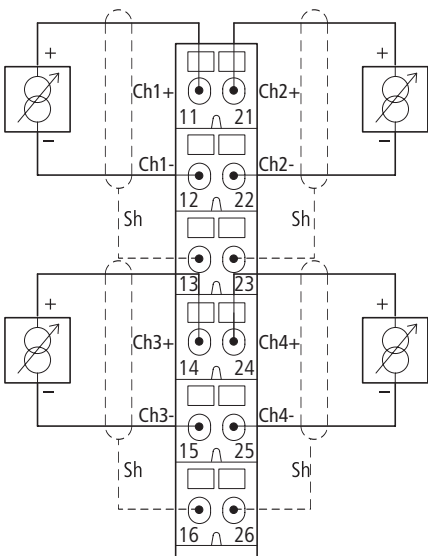
XN-S3x-SBB for XN-2AI-I(0/4...20MA), XN-2AI-V(-10/0...+10VDC)  
Analog sensor/transmitter without transmitter supply



XN-S4x-SBBS for XN-2AI-I(0/4...20MA), XN-2AI-VC(-10/0...+10VDC),  
Analog sensor/transmitter with non-floating transmitter supply

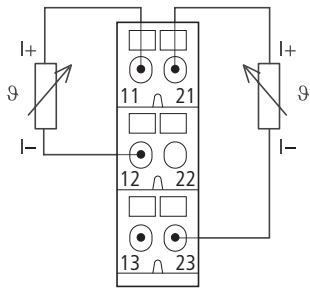


XN-S6x-SBCSBC for XN-4AI-U/I  
Analog sensor/transmitter without transmitter supply

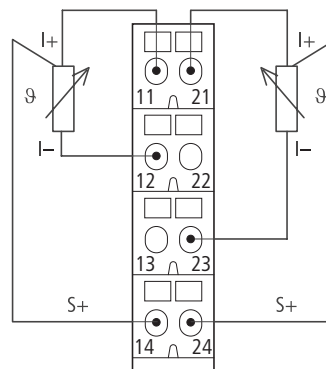


Analog input modules

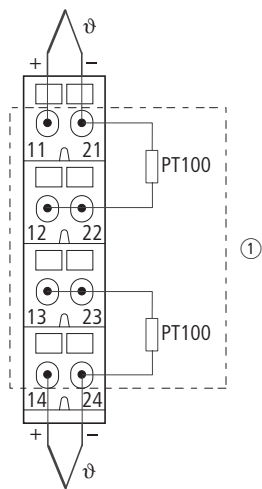
XN-S3x-SBB, for XN-2AI-PT/Ni-2/3  
2-wire connection



XN-S4x-SBBS, for XN-2AI-PT/Ni-2/3  
3-wire connection



XN-S4x-SBBS-CJ for XN-2AI-Thermo

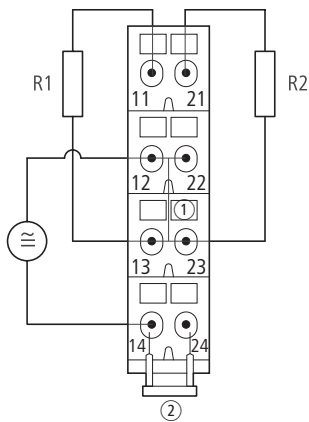


a Cold junction compensation in base module

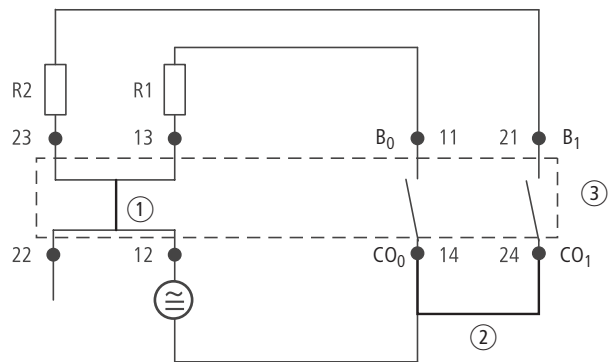


Relay modules

XN-S4x-SBBS with externally applied supply and common potential link for XN-2DO-R-NC

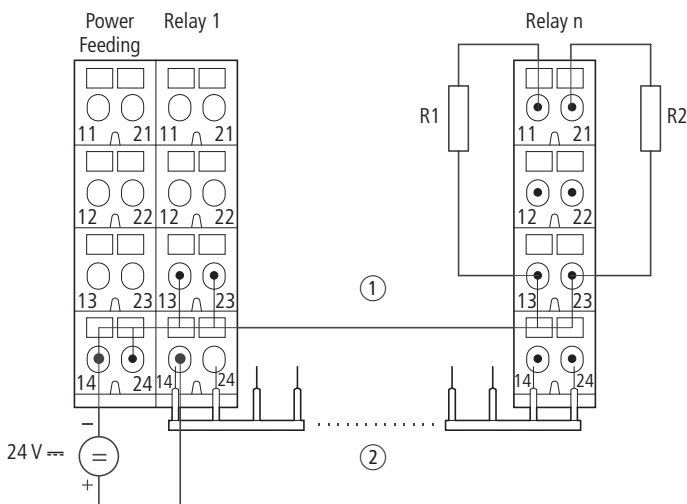


Module circuit XN-S4x-SBBS for XN-2DO-R-NC



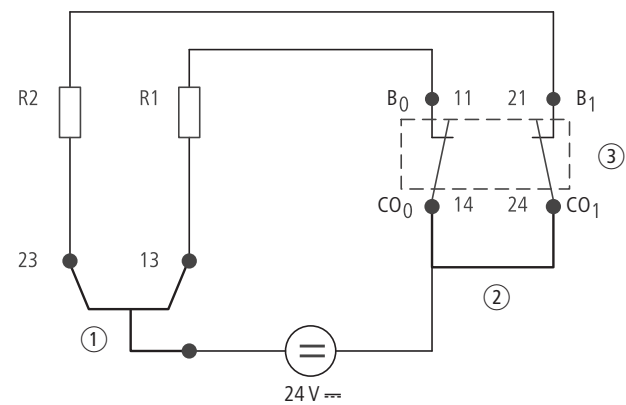
- a Linked in the electronics
- b Cross-link via QVR in the base module
- c Electronic module

XN-S4x-SBCS supply via C-rail and common potential link for XN-2DO-R-NC



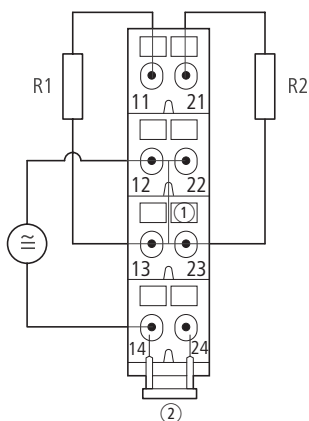
- a Supply via C-rail
- b Max. 8 relay modules

Module circuit XN-S4x-SBCS for XN-2DO-R-NC

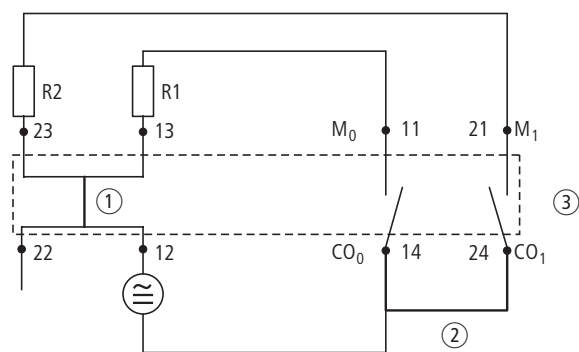


- a C-rail
- b Cross-link via QVR in the base module
- c Electronic module

XN-S4x-SBBS with externally applied supply and common potential link for XN-2DO-R-NO



Module circuit XN-S4x-SBBS for XN-2DO-R-NO



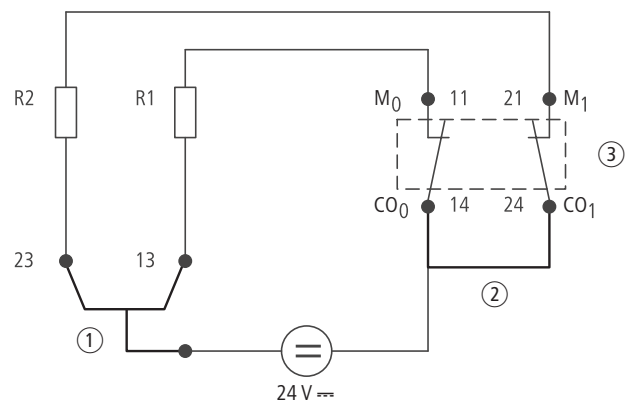
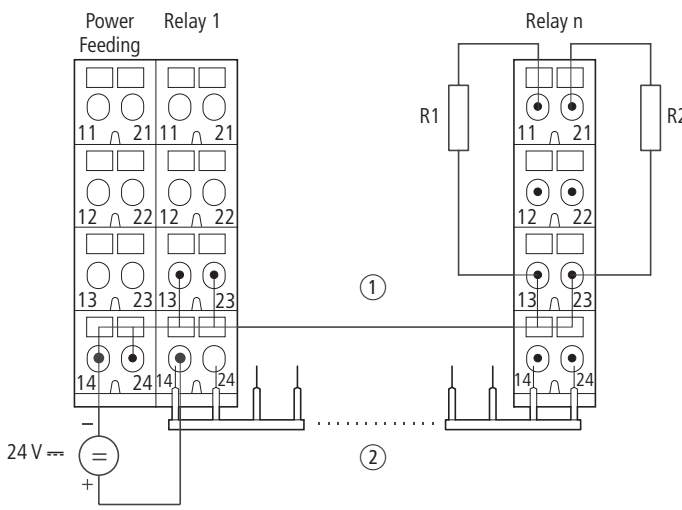
- a Linked in the electronics
- b Cross-link via QVR in the base module
- c Electronic module



Relay modules

XN-S4x-SBCS supply via C-rail and common potential link for XN-2DO-R-NO

Module circuit XN-S4x-SBCS for XN-2DO-R-NO

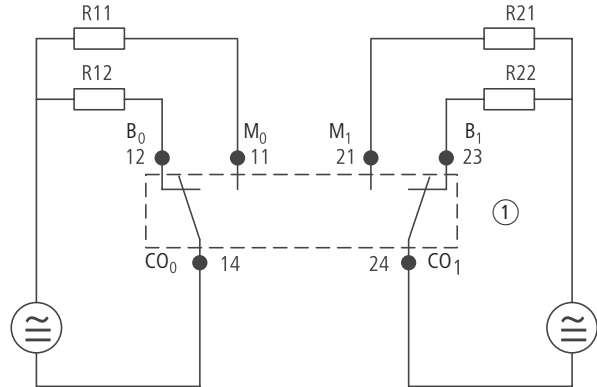
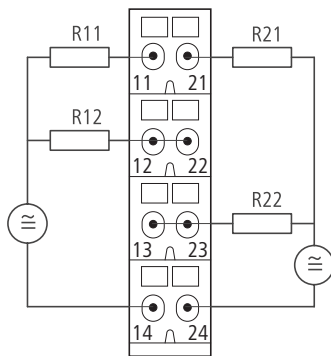


- a Supply via C-rail
- b Max. 8 relay modules

- a C-rail
- b Cross-link via QVR in the base module
- c Electronic module

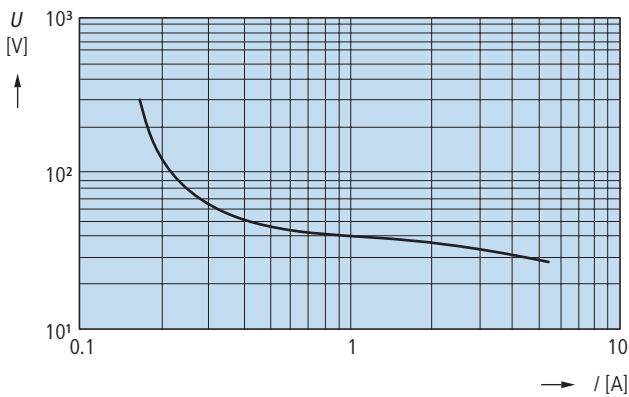
Module circuit XN-S4x-SBBS for XN-2DO-R-CO

Module circuit XN-S4x-SBBS for XN-2DO-R-CO



- a Electronic module

Load limit curve

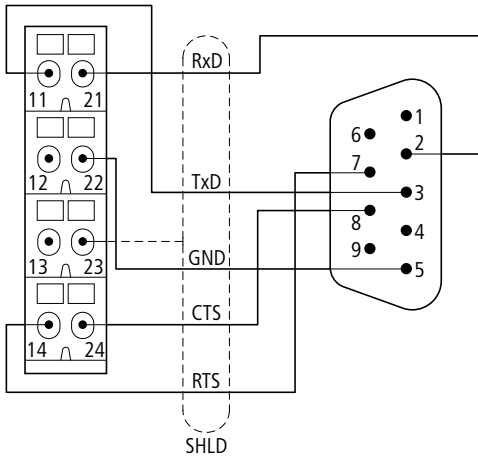


Definition:  
After 1000 switching cycles, no arc with a duration >10ms shall occur.

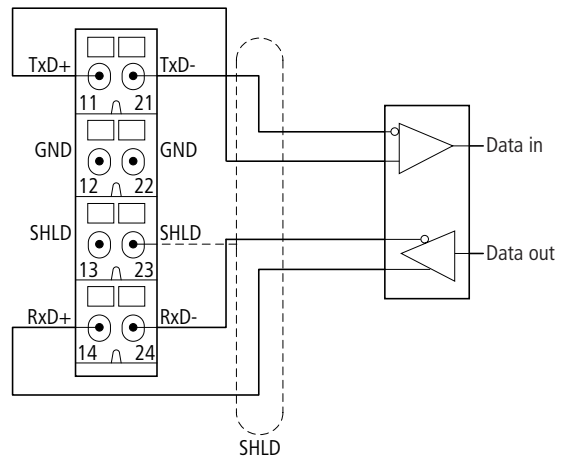


Serial interfaces

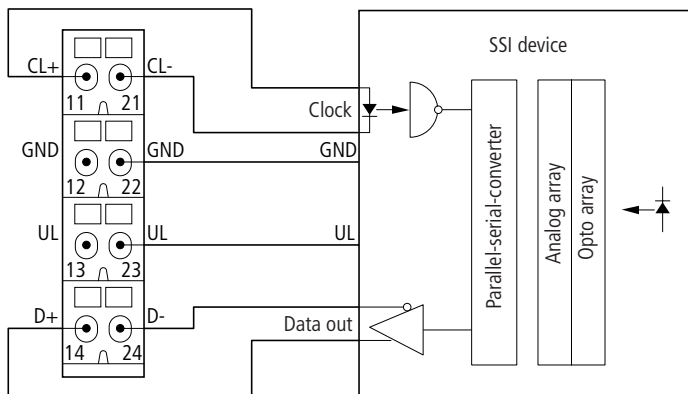
XN-S4x-SBBS for XN-1RS232 and Submin-D connector



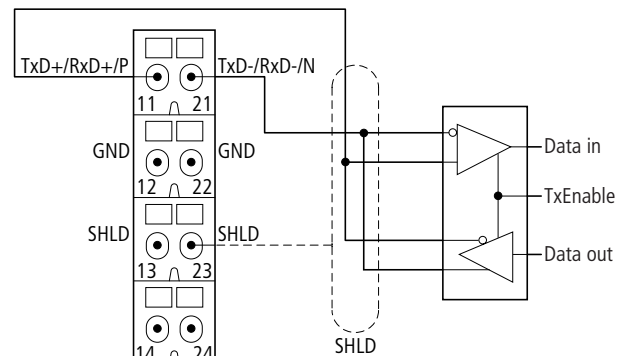
XN-S4x-SBBS for XN-1RS485/422 in RS422 mode



XN-S4x-SBBS for XN-1SSI on an SSI rotary encoder

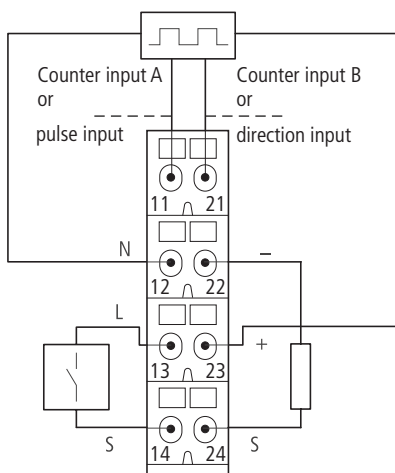


XN-S4x-SBBS for XN-1RS485/422 in RS485 mode

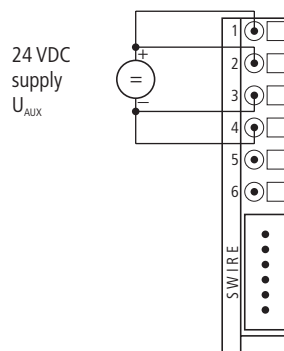


Technology module/counters

XN-S4x-SBBS for XN-1CNT-24VDC



XNE-1SWIRE

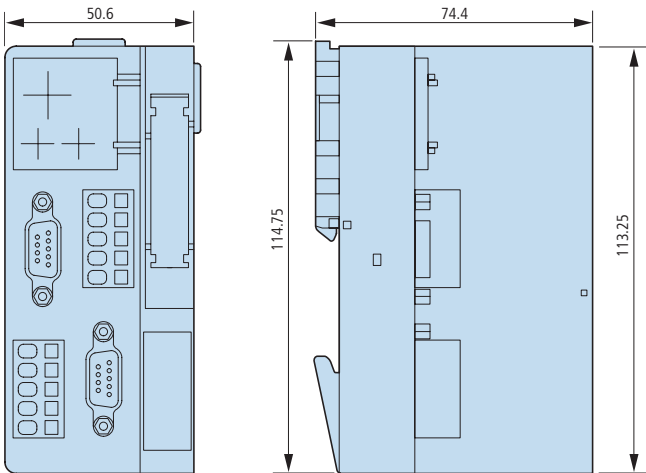


**Gateways**

XN-GWBR-PBDP  
XN-GWBR-CANOPEN  
XN-GWBR-DNET  
XN-GWBR-MODBUS-TCP

XN-GW-PDBP-1.5MB  
XN-GW-PDBP-12MB  
XN-GW-PDBP-12MB-STD  
XN-GW-CANOPEN  
XN-GW-DNET

XN-PLC-CANOPEN



**Note:**  
The connectors / terminals vary according to version.

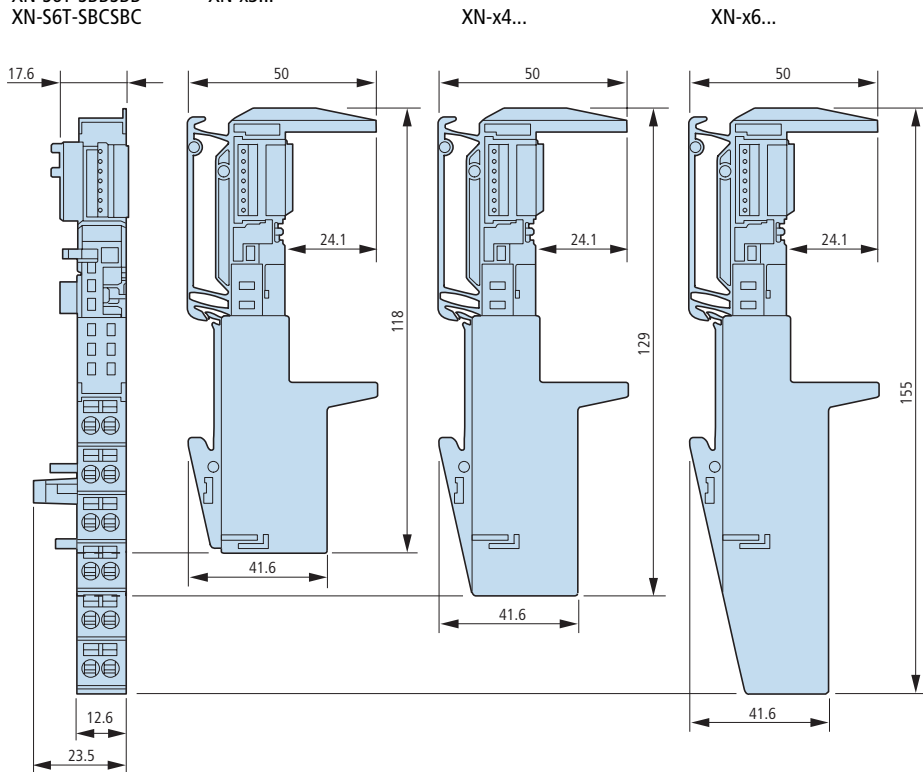


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Base modules

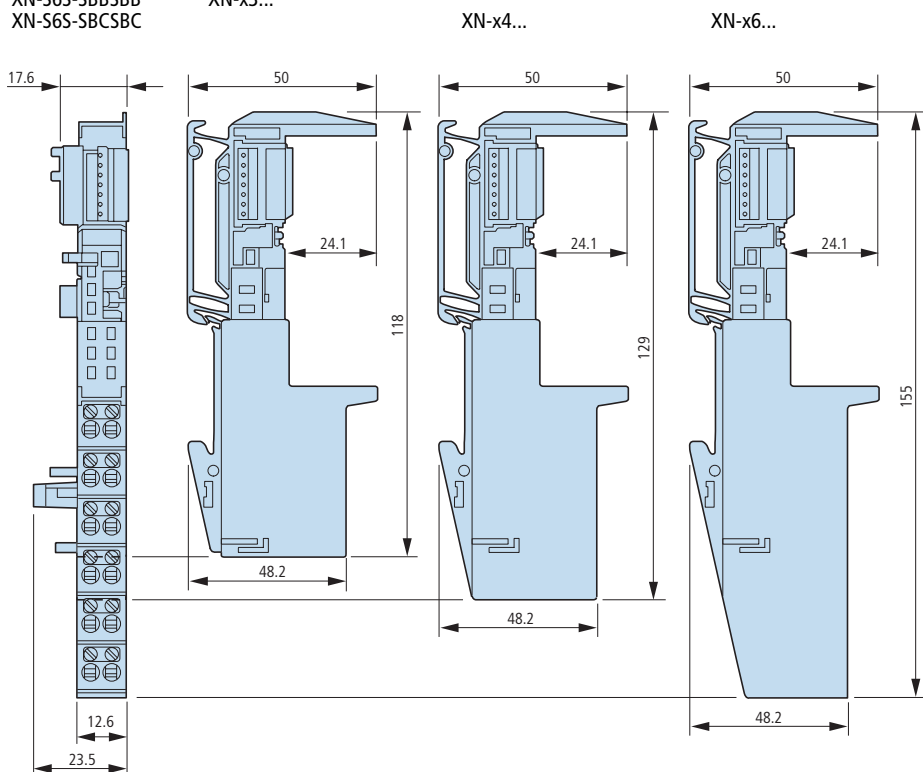
Spring-loaded

- |               |                |
|---------------|----------------|
| XN-S3T-SBB    | XN-P3T-SBB     |
| XN-S3T-SBC    | XN-P4T-SBBC    |
| XN-S4T-SBBC   | XN-P4T-SBBC-B  |
| XN-S4T-SBBS   | XN-S4T-SBBS-CJ |
| XN-S4T-SBCS   |                |
| XN-S6T-SBBSBB | XN-x3...       |
| XN-S6T-SBCSBC |                |



Screw terminal

- |               |                |
|---------------|----------------|
| XN-S3S-SBB    | XN-P3S-SBB     |
| XN-S3S-SBC    | XN-P4S-SBBC    |
| XN-S4S-SBBC   | XN-P4S-SBBC-B  |
| XN-S4S-SBBS   | XN-S4S-SBBS-CJ |
| XN-S4S-SBCS   |                |
| XN-S6S-SBBSBB | XN-x3...       |
| XN-S6S-SBCSBC |                |



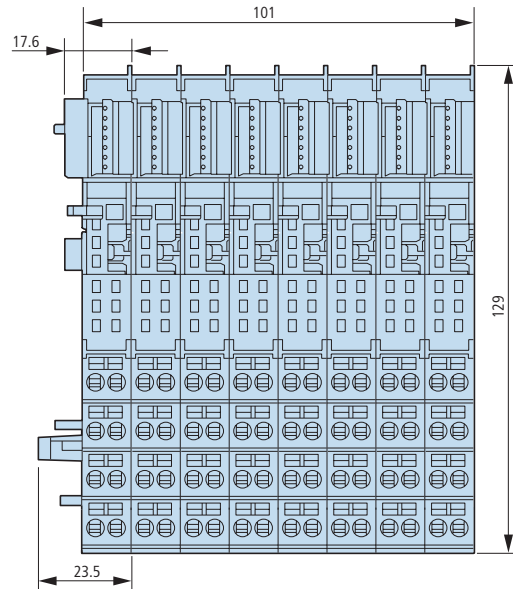
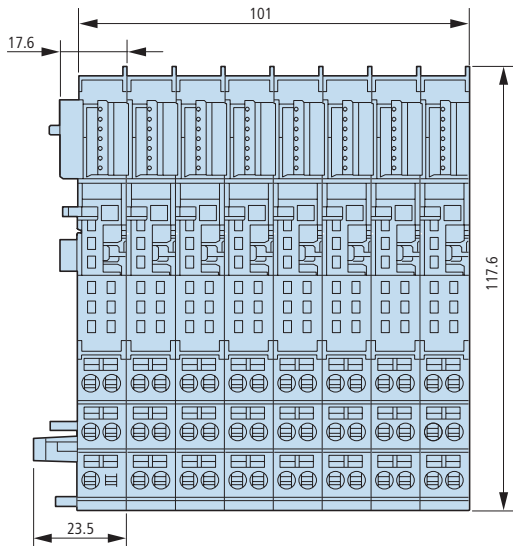
**Base modules as block modules**

Spring-loaded 2/3-wire  
XN-B3T-SBB  
XN-B3T-SBC

Screw terminal 2/3-wire  
XN-B3S-SBB  
XN-B3S-SBC

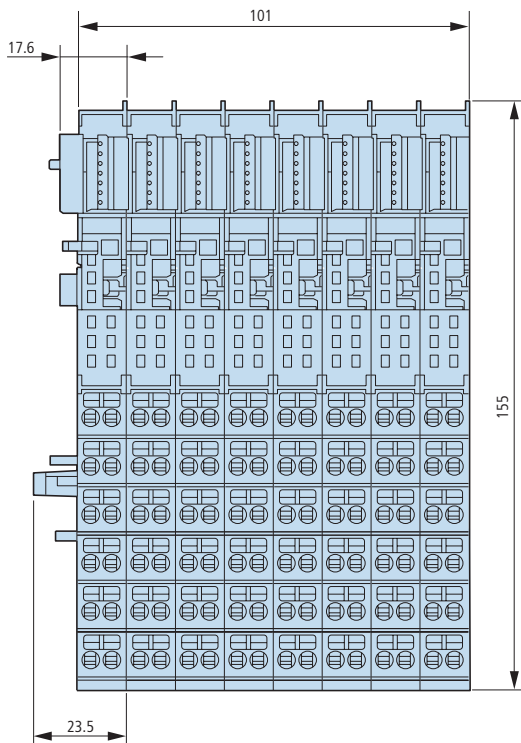
Spring-loaded 4-wire  
XN-B4T-SBBC

Screw terminal 4-wire  
XN-B4S-SBBC



Spring-loaded 2/3-wire  
XN-B6T-SBCSBC

Screw terminal 2/3-wire  
XN-B6S-SBCSBC



Remote I/O XI/ON



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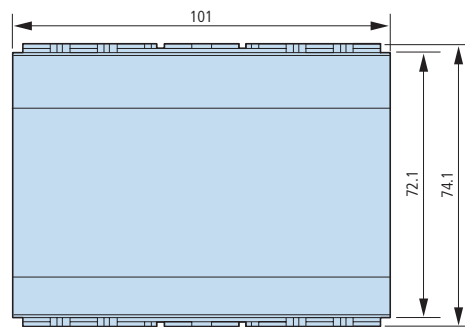
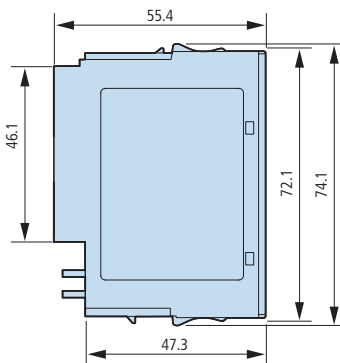
**Electronic modules**

XN-BR-24VDC-D  
 XN-PF-24VDC-D  
 XN-PF-120/230VAC-D  
 XN-2DI-24VDC-P  
 XN-2DI-24VDC-N  
 XN-2DI-120/230VAC  
 XN-4DI-24VDC-P  
 XN-4DI-24VDC-N  
 XN-2DO-24VDC-2A-P  
 XN-2DO-24VDC-0.5A-P  
 XN-2DO-24VDC-0.5A-N  
 XN-4DO-24VDC-0.5A-P

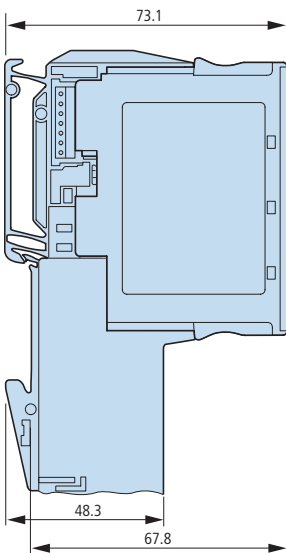
XN-2DO-R-CO  
 XN-2DO-R-NC  
 XN-2DO-R-NO  
 XN-1AI-I(0/4...20MA)  
 XN-2AI-I(0/4...20MA)  
 XN-1AI-U(-10/0...+10VDC)  
 XN-2AI-U(-10/0...+10VDC)  
 XN-2AI-PT/NI-2/3  
 XN-2AI-THERMO-PI  
 XN-4AI-U/I  
 XN-1AO-I(0/4...20MA)  
 XN-2AO-I(0/4...20MA)  
 XN-2AO-U(-10/0...+10VDC)  
 XN-1CNT-24VDC  
 XN-1RS-232  
 XN-1RS485/422  
 XN-1SSI

**Electronic modules in block design**

XN-16DI-24VDC-P  
 XN-32DI-24VDC-P  
 XN-16DO-24VDC-0.5A-P  
 XN-32DO-24VDC-0.5A-P

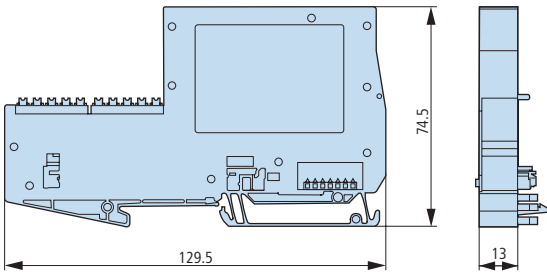


**XI/ON module complete**

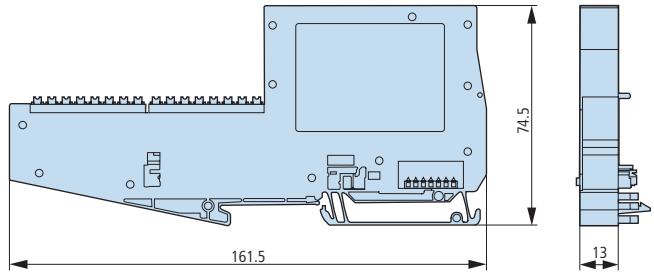


**Electronic modules Eco**

XNE-8DO-24VDC-0.5A-P  
XNE-8DI-24VDC-0.5A-P

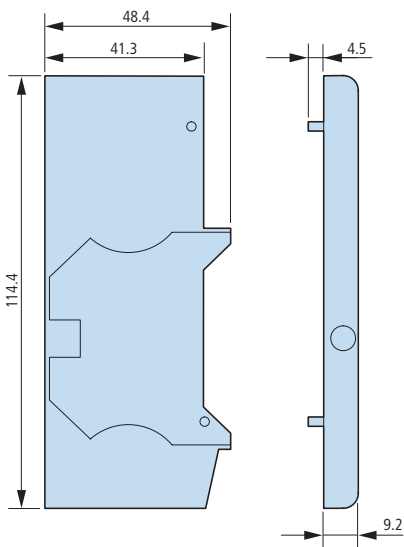


XNE-16DO-24VDC-0.5A-P  
XNE-16DI-24VDC-0.5A-P



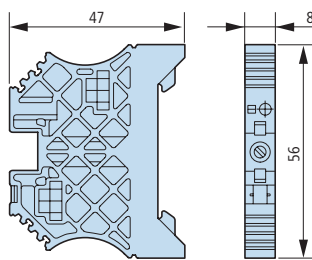
**End plate**

XN-ABPL

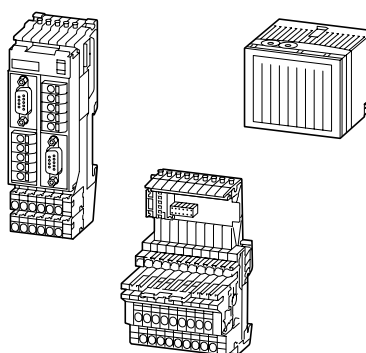


**End bracket**

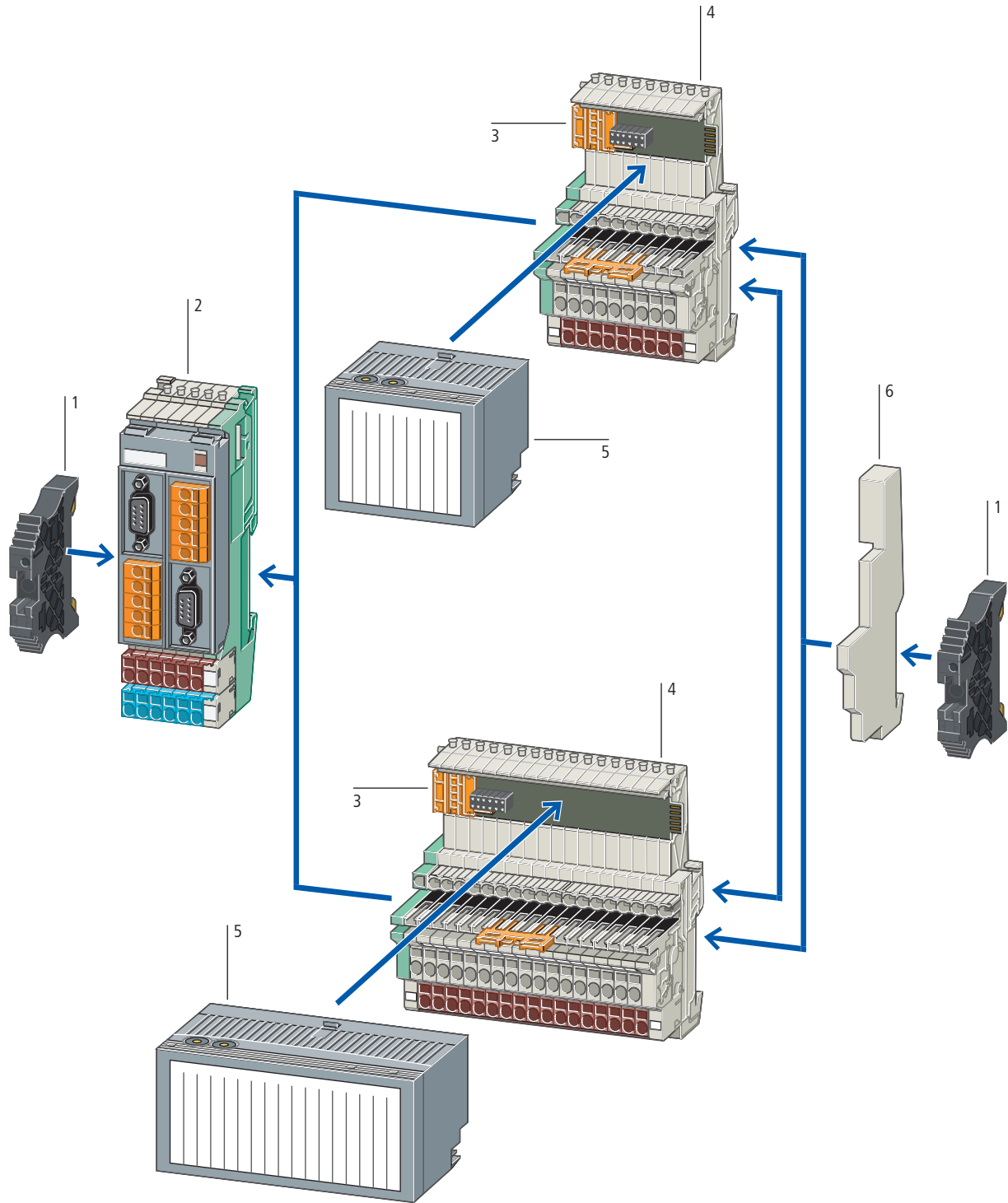
XN-WEW-35/2-SW







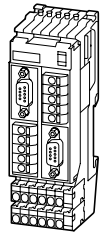
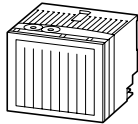
	Page
<b>System overview</b>	
CANopen	3/2
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PROFIBUS-DP eco	3/35
<b>Selection guide</b>	
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PROFIBUS-DP	3/19
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PROFIBUS-DP	3/24
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CANopen bridge	2	Base modules	4	Accessories	
→ Page 3/4		→ Page 3/5		End bracket WEW-35/2	6
				End plate ZAP-MA/25	1
Sliding bus link	3	Electronic modules	5	→ Page 3/44	
		→ Page 3/4			

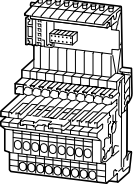
	2-wire connection								3-wire connection								4-wire connection							
	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/8-S/S/+/+	ZSB-1.5/16-S/S/+/+	ZSB-1.5/8-S/-	ZSB-1.5/16-S/-	ZSB-1.5/16-S/S/-/-	ZSB-1.5/8-S/S	ZSB-1.5/16-S/S	ZSB-1.5/16-S/S/+/+/-	ZSB-1.5/16-S/S/PE	ZSB-1.5/8-S/+/+	ZSB-1.5/16-S/+/+	ZSB-1.5/8-S/+/+/-	ZSB-1.5/16-S/+/+/-	ZSB-1.5/8-S/+/+/-/PE	ZSB-1.5/16-S/+/+/-/PE	ZSB-1.5/16-S/S/+/+/-/PE	ZSB-1.5/8-S/+/+/-/PE	ZSB-1.5/16-S/S/+/+/-/PE	ZSB-1.5/8-S/+/+/-/PE/EI	ZSB-1.5/16-S/S/+/+/-/PE/EI	ZSB-1.5/16-S/S/PE-PT100	
<b>Digital input</b>																								
CAN-8DI/P	●																							
CAN-16DI/P		●																						
CAN-16DI/P-2x8			●																					
CAN-32DI/P				●																				
<b>Digital output</b>																								
CAN-4DO/2.0A-PK					●																			
CAN-8DO/0.5A-PK					●																			
CAN-16DO/0.5A-PK						●																		
CAN-16DO/0.5A-PK-2x8																								
CAN-32DO/0.5A-P-2x16																								
<b>Digital relay modules</b>																								
CAN-8DO/R-NO																								
CAN-16DO/R-NO																								
<b>Analog input</b>																								
CAN-4AI/UI																								
CAN-4AI/PT100																								
CAN-4AI/THERMO																								
<b>Analog output</b>																								
CAN-4AO/UI																								
<b>Combi modules</b>																								
CAN-4DI/4DO/0.5A-PK																								
CAN-24DI/8DO/0.5A-PK																								
CAN-3AI/1AO-UI																								



	Inputs	Outputs	Description	For use with	Type Order No.	Price See price sheet	Std. pack
	Number	Number					
<b>Bridges</b>							
A maximum of 10 I/O modules can be connected per bridge							
	–	–	CAN connection to ISO 11 898: 2 × SUB-D, 9-pin Bus connection for direct wiring: 2 × spring-loaded terminals type LMZF	–	<b>CAN-BRIDGE</b> 85 51 224177		1 off
							
<b>Electronic modules</b>							
Plugged onto the base modules							
							
Digital input	8	–	Positive switching	ZSB-1.5/8-S/+ ZSB-1.5/8-S/+/- ZSB-1.5/8-S/+/-/PE	<b>CAN-8DI/P</b> 85 51 224179		1 off
	16	–	Positive switching	ZSB-1.5/16-S/+ ZSB-1.5/16-S/+/- ZSB-1.5/16-S/+/-/PE	<b>CAN-16DI/P</b> 85 51 224180		
	2 × 8	–	Positive switching, 2 channels per terminal	ZSB-1.5/8-S/S/+/+ ZSB-1.5/8-S/S/+/+/-	<b>CAN-16DI/P-2X8</b> 85 51 224181		
	2 × 16	–	Positive switching, 2 channels per terminal	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/+/-	<b>CAN-32DI/P-2X16</b> 85 51 224182		
Analog input	4	–	Input range, voltage -10/0...+10 V Input range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE	<b>CAN-4AI/UI</b> 85 51 224194		
	4	–	PT100, 2, 3, 4-wire	ZSB-1.5/16-S/S/PE-PT100	<b>CAN-PT100</b> 85 51 224197		
	4	–	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	<b>CAN-THERMO</b> 85 51 224196		
Digital output	–	4	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	<b>CAN-4DO/2.0A-PK</b> 85 51 224183		
	–	8	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	<b>CAN-8DO/0.5A-PK</b> 85 51 224184		
	–	16	Positive switching, short-circuit proof	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	<b>CAN-16DO/0.5A-PK</b> 85 51 224185		
	–	2 × 8	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/8-S/S/PE/PE/-/-	<b>CAN-16DO/0.5A-P-2X8</b> 85 51 224189		
	–	2 × 16	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/16-S/S/-/- ZSB-1.5/16-S/S/P/P/-/-	<b>CAN-32DO/0.5A-P-2X16</b> 85 51 224186		
	–	8	8-way relay, make contact	ZSB-1.5/8-S/S ZSB-1.5/8-S/S/-/PE	<b>CAN-8DO/R-NO</b> 85 51 224187		
	–	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	<b>CAN-16DO/R-NO</b> 85 51 224188		
Analog output	–	4	Output range, voltage -10/0...+10 V Output range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE+UI	<b>CAN-4AO/UI</b> 85 51 224195		
Combi modules	4	4	Positive switching, digital input/ output, short-circuit proof	ZSB-1.5/8-S/+/-/PE-EI	<b>CAN-4DI/4DO/0.5A-PK</b> 85 51 224191		
	24	8	Positive switching, digital input/ output, short-circuit proof	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/+/- ZSB-1.5/16-S/S/+/+/-/PE	<b>CAN-24DI/8DO/0.5A-PK</b> 85 51 224190		
Combi modules	3	1	Input / output range, voltage -10/0...+10 V Input / output range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE+UI	<b>CAN-3AI/1AO-UI</b> 85 51 224192		

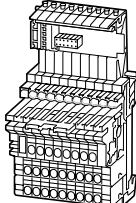
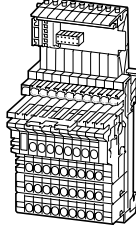


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Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
<b>Base modules</b>					
For connection to electronic module; rail-mounted					
2-wire connection  	CANopen: CAN-32DI/P-2X16	ZSB-1.5/16-S/S/+/+ 85 51 224051		1 off	-
	CANopen: CAN-32DO/0.5A-P-2X16	ZSB-1.5/16-S/S/-/- 85 51 224059			-
	CANopen: CAN-8DI/P	ZSB-1.5/8-S/+ 85 51 224045			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-24DI/8DO/0.5A-PK	ZSB-1.5/16-S/S/+/+ 85 51 224063			-
	CANopen: CAN-8DO/R-NO	ZSB-1.5/8-S/S 85 51 224061			-
	CANopen: CAN-16DI/P	ZSB-1.5/16-S/+ 85 51 224048			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-16DI/P-2x8	ZSB-1.5/8-S/S/+/+ 85 51 224049			-
	CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	ZSB-1.5/8-S/- 85 51 224055			-
	CANopen: CAN-16DO/R-NO	ZSB-1.5/16-S/S 85 51 224062			-
	CANopen: CAN-16DO/0.5A-PK	ZSB-1.5/16-S/- 85 51 224056			-





Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes
<b>Base modules</b>					
3-wire connection  	CANopen: CAN-16DO/0.5A-PK	<b>ZSB-1.5/16-S/-/PE</b> 85 51 224054		1 off	–
	CANopen: CAN-16DI/P	<b>ZSB-1.5/16-S/+/-</b> 85 51 224047			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DI/P	<b>ZSB-1.5/8-S/+/-</b> 85 51 224044			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-4AI/UI CANopen: CAN-4AO/UI CANopen: CAN-3AI/1AO-UI	<b>ZSB-1.5/16-S/S/PE</b> 85 51 224040			Cross-link (ZQV) for setting individual channels in delivery package
	CANopen: CAN-16DI/P-2x8	<b>ZSB-1.5/8-S/S/+/-/-</b> 85 51 224050			–
	CANopen: CAN-4DO/2.0A-PK CANopen: CAN-8DO/0.5A-PK	<b>ZSB-1.5/8-S/-/PE</b> 85 51 224053			–
	CANopen: CAN-32DI/P-2X16	<b>ZSB-1.5/16-S/S/+/-/-</b> 85 51 224052			–
	CANopen: CAN-32DO/0.5A-P-2X16	<b>ZSB-1.5/16-S/S/P/P/-</b> 85 51 224060			–
	CANopen: CAN-16DO/0.5A-P-2X8	<b>ZSB-1.5/8-S/S/PE/PE/-</b> 85 51 224058			–
	CANopen: CAN-24DI/8DO/0.5A-PK	<b>ZSB-1.5/16-S/S/+/-/-</b> 85 51 224064			–
	CANopen: CAN-THERMO	<b>ZSB-1.5/16-S/S/PE-TF</b> 85 51 224075			Cold junction compensation and linearization Accuracy figures take into account linearity, hysteresis and cold-junction compensation error at T <sub>u</sub> = 23 °C A cable break is reliably detected Cross-link (ZQV) for setting individual channels in delivery package
4-wire connection  	CANopen: CAN-24DI/8DO/0.5A-PK	<b>ZSB-1.5/16-S/S/+P/+/-</b> 85 51 224065			–
	CANopen: CAN-16DI/P	<b>ZSB-1.5/16-S/+/-/PE</b> 85 51 224046			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-8DO/R-NO	<b>ZSB-1.5/8-S/S/-/PE</b> 85 51 224069			–
	CANopen: CAN-8DI/P	<b>ZSB-1.5/8-S/+/-/PE</b> 85 51 224043			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-16DO/R-NO	<b>ZSB-1.5/16-S/S/-/PE</b> 85 51 224070			–
	CANopen: CAN-4DI/4DO/0.5A-PK	<b>ZSB-1.5/8-S/+/-/PE-EI</b> 85 51 224071			Also suitable for Bero ® 2-wire initiator
	CANopen: CAN-4AO/UI CANopen: CAN-3AI/1AO-UI	<b>ZSB-1.5/16-S/S/PE-UI</b> 85 51 224074			Cross-link (ZQV) for setting individual channels in delivery package
PT100 2, 3, 4-wire connection and PT100 mixed operation	CANopen: CAN-PT100	<b>ZSB-1.5/16-S/S/PE-PT100</b> 85 51 224076			Cross-link (ZQV) for setting individual channels in delivery package



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			WINbloc CANopen
<b>General</b>			
Standards			IEC/EN 61131
Operating voltage <sup>1)</sup>		V DC	24
System configuration		V DC	18 ... 30
Rated operating current <sup>1)</sup>	$I_e$	mA	40 for digital modules 70 for analog modules
Ambient temperature			
Operation		°C	0 ... 55
Storage		°C	-20/85
Relative air humidity, non-condensing (IEC/EN 60068-2-30)		%	15 ... 95
Electromagnetic compatibility (EMC)			
Immunity			As per EN 50082-1 and IEC/EN 61000-6-2
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)			
Air discharge		kV	8
Contact discharge		kV	4
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m	10
Burst pulses (IEC/EN 61000-4-4, level 3)		kV	2
RFI suppression (EN 55011) <sup>2)</sup>			10 V, requirements as per EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2
Degree of protection (IEC/EN 60529)			IP20
Vibration resistance (IEC/EN 60068-2-6)			Yes
Shock resistance (IEC 60068-2-27)			20 m/s <sup>2</sup> (2 g) to IEC 60068-2-27
Repetitive shock resistance (IEC/EN 60068-2-29)			Yes
Approvals			UL

**Notes**

- 1) Through bridge
- 2) Individual permit required for residential areas (residential, business/commercial).

			Base modules
<b>Base modules</b>			
Standards			VDE 0611 Part 1/8.92 IEC/EN 60947-7-1
Rated voltage		V	250
Rated current	$I_e$	A	17.5 A $\triangle$ continuous current via distribution strip ZVL
Conductor cross-section		mm <sup>2</sup>	1.5
Rated impulse withstand voltage	$U_{imp}$	kV	4
Pollution degree			3
Connections in TOP direction			Spring-loaded
Stripping length		mm	8
Terminal capacity		mm <sup>2</sup>	0.13 ... 2.5
Solid		mm <sup>2</sup>	0.5 ... 2.5
Flexible		mm <sup>2</sup>	0.5 ... 1.5
Flexible with ferrule <sup>3)</sup>		mm <sup>2</sup>	0.5 ... 1.5
Plug gauge IEC/EN 60 947-1			A2

**Notes**

- 3) Ferrules (gas-tight crimp) to DIN 46228-1

			CAN-BRIDGE
Operating voltage		V DC	24
Operating current		mA	< 60
Data transmission rate/distance			10 Kbit/s ... 1.0 Mbit/s
Weight			116 g





		CAN-8DI/P	CAN-16DI/P	CAN-16DI/P-2X8	CAN-32DI/P-2X16
<b>Digital input modules</b>					
Inputs as per standard		IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1
Status '1'					
High signal	$U_H$	11 V DC ... 30 V DC	11 V DC ... 30 V DC	11 V DC ... 30 V DC	15 V DC ... 30 V DC
High signal	$I_H$	2 mA ... 4.5 mA	2 mA ... 4.5 mA	2 mA ... 3.5 mA	2 mA ... 3.5 mA
Status '0'					
Low signal	$U_L$	-30 V DC ... 5 V DC	-30 V DC ... 5 V DC	-30 V DC ... 5 V DC	-30 V DC ... 5 V DC
Input delay		Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms			
Weight		167 g ± 15%	313 g ± 15%	167 g ± 15%	313 g ± 15%

		CAN-4AI/UI	CAN-4AI/PT100	CAN-4AI/THERMO
<b>Analog input modules</b>				
Operating voltage	V DC	24	24	24
Permissible range	V DC	18 ... 30	18 ... 30	18 ... 30
Field current (without load)		85 mA	85 mA	85 mA
Input resistance		$R_i \leq 125 \Omega$ , $R_u = 100 \text{ k}\Omega$	–	–
Limit frequency (-3 db)	Hz	50	–	–
Resistance transmitter		–	0 ... 409.5 $\Omega$	–
Offset error		–	± 0.4 $\Omega$	± 7 °C
Linearity	%	–	–	± 0.05
Temperature coefficient		≤ 360 ppm of full-scale value per °C	± 0.03% of measuring range/K	± 0.03% of measuring range/K
Basic error limit at 23 °C		< 0.1% of full-scale value	-200 ... +400 °C: max. ± 1 K, normally ± 0.5 K +400 ... +850 °C: max. ± 1.5 K	–
Conversion time		25 $\mu\text{s}$	–	45 $\mu\text{s}$
Cycle time	ms	–	–	–
Sensor current		–	< 1.5 mA	–
RFI suppression		–	–	60, 50 Hz
Weight		313 g ± 15%	313 g ± 15%	313 g ± 15%

		CAN-4DO/2.0A-PK	CAN-8DO/0.5A-PK	CAN-16DO/0.5A-PK	CAN-16DO/0.5A-P2X8	CAN-32DO/0.5A-P2X16
<b>Digital output modules</b>						
Operating voltage	V DC	24	24	24	24	24
Permissible range	V DC	18 ... 30	18 ... 30	18 ... 30	18 ... 30	18 ... 30
Potential isolation		Operating voltage – field voltage: 500 $V_{\text{rms}}$ /min				
Field current (without load)		≤ 20 mA	≤ 35 mA	70 mA	–	–
Output current	A	≤ 2	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Output delay		≈ 3 ms, $R_L \leq 250 \Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$	≈ 3 ms, $R_L \leq 1 \text{ k}\Omega$
Utilization factor	g	100	100	100	50	50
Lamp load	$R_{LL}$	W	≤ 10	≤ 2	–	–
Fuse protection		–	–	–	630 mA/F per channel	630 mA/F per channel
Weight		167 g ± 15%	167 g ± 15%	313 g ± 15%	167 g ± 15%	313 g ± 15%

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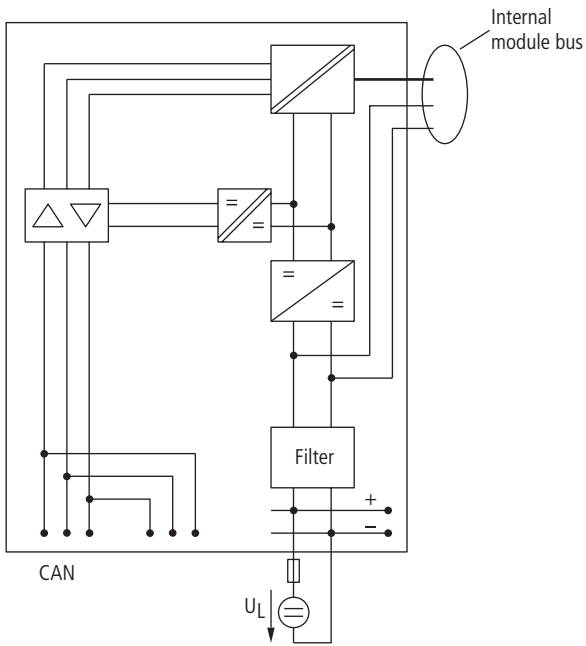
			CAN-8DO/R-NO	CAN-16DO/R-NO
<b>Relay modules</b>				
Operating voltage	V DC		24	24
Permissible range	V DC		18...30	18...30
Potential isolation			Modbus – output (optocoupler/relay) 2 kV <sub>rms</sub> /min, Modbus – auxiliary voltage (optocoupler) 500 V <sub>rms</sub> /min	
Field current (without load)			≤ 35 mA	≤ 70 mA
Nominal load voltage			110 V DC/250 V AC	110 V DC/250 V AC
Continuous current			Max. current per output: 2 A, AC 1 Max. total current per group of 4: 6 A, AC 1 Max. contact current: 60 W/500 VA Min. contact current: 100 μA	Max. current per output: 1 A, AC 1 Max. total current per group of 4: 4 A, AC 1 Max. contact current: 60 W/500 VA Min. contact current: 100 μA
Lifespan, mechanical	Operations		2 × 10 <sup>7</sup>	2 × 10 <sup>7</sup>
Lifespan, electrical	Operations		10 <sup>5</sup> , at 250 V AC/2 A/AC	10 <sup>5</sup> , at 250 V AC/2 A/AC
Insulation test voltage, contact/coil	kV		1	1
Creepage and clearance distances			3 mm between relay pairs	3 mm between relay pairs
Switching frequency			20 min <sup>-1</sup> at nominal load	20 min <sup>-1</sup> at nominal load
Weight			167 g ± 15%	313 g ± 15%

			CAN-4AO/UI	CAN-3AI/1AO-UI
<b>Analog output modules</b>				
Operating voltage	V DC		24	24
Permissible range	V DC		18...30	18...30
Field current (without load)			85 mA	Input: 70 mA, output: ≤ 35 mA
Load resistance			$R_u \leq 600 \Omega$	$R_i \leq 125 \Omega, R_u \geq 100k\Omega$
Linearity	%		0.5	Input: ≤ 0.5, output: ± 0.5
Basic error limit at 23 °C			< 0.8% of full-scale value	Input: ≤ 0.1% of full-scale value Output: ≤ 0.8% of full-scale value
Transmission frequency	Hz		≤ 50	Input: ≤ 50, output: ≤ 50
Temperature coefficient			300 ppm of full scale value per °C	Input: ≤ 360 ppm of full-scale value Output: 300 ppm of full-scale value
Conversion time			5 μs	Input: 25 μs, output: 5 μs
Weight			313 g ± 15%	313 g ± 15%
<b>Analog combi modules</b>				
Operating voltage	V DC		24	24
Permissible range	V DC		18...30	18...30
Field current (without load)				Input: ≤ 0.5, output: ± 0.5
Input resistance				Input: ≤ 0.1% of full-scale value Output: ≤ 0.8% of full-scale value
Linearity	%			Input: ≤ 50, output: ≤ 50
Basic error limit at 23 °C				Input: ≤ 360 ppm of full-scale value Output: 300 ppm of full-scale value
Limit frequency (-3 db)	Hz			Input: 25 μs, output: 5 μs
Temperature coefficient				$R_u \geq 1 k\Omega, R_i \leq 400 \Omega$
Conversion time				313 g ± 15%
Load resistance				
Weight				

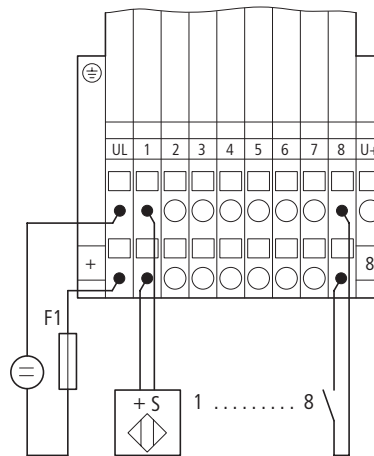
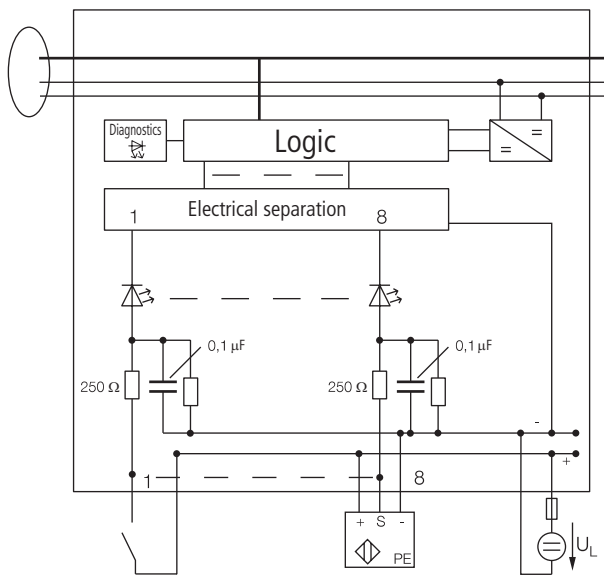
			CAN-4DI/4DO/0.5A-PK	CAN-24DI/8DO/0.5A-PK
<b>Combi modules</b>				
Operating voltage	V DC		24	24
Permissible range	V DC		18...30	18...30
Input delay			Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms	
Potential isolation			Operating voltage – field voltage: 500 V <sub>rms</sub> /min	Operating voltage – field voltage: 500 V <sub>rms</sub> /min
Inputs/outputs as per standard			Inputs: EN 61131-2, Type 1 Outputs: EN 61131	Inputs: EN 61131-2, Type 1
Field current (without load)			≤ 20 mA	≤ 35 mA
Status '1'				
High signal	$U_H$		11 V DC... 30 V DC	15 V DC... 30 V DC
High signal	$I_H$		2 mA... 4 mA	2 mA... 4 mA
Status '0'				
Low signal	$U_L$		-30 V DC... 5 V DC	-30 V DC... 5 V DC
Lamp load	$R_{LL}$	W	≤ 2	≤ 2
Utilization factor	g	%	100	100
Output delay			≈ 1 ms, DO $R_L \leq 1 k\Omega$	≈ 3 ms, DO $R_L \leq 1 k\Omega$
Output current		A	≤ 0.5	≤ 0.5
Weight			167 g ± 15%	313 g ± 15%



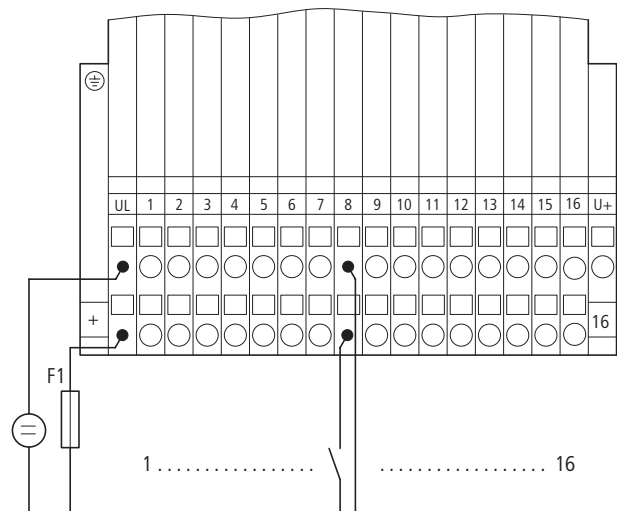
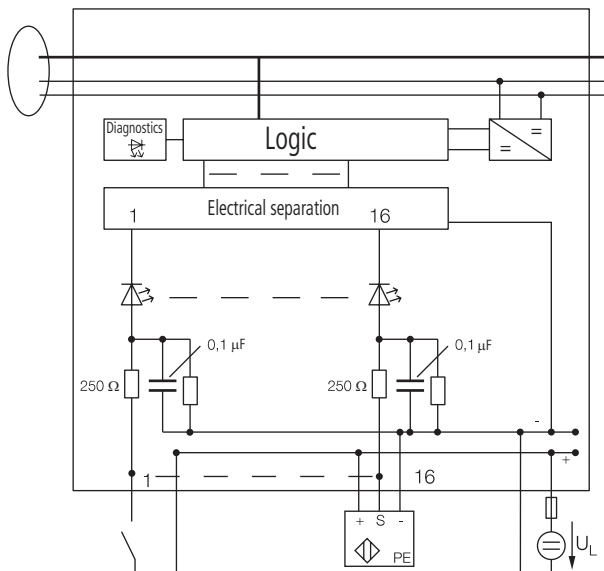
CAN-BRIDGE



CAN-8DI/P

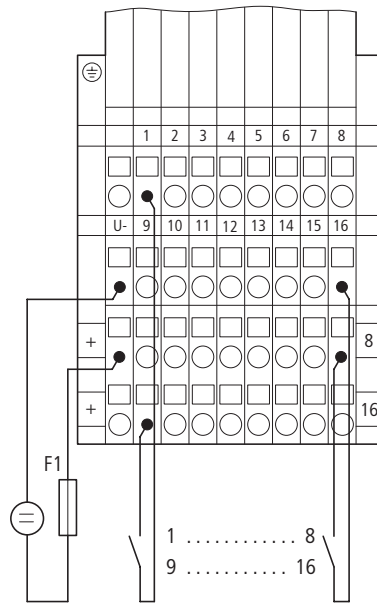
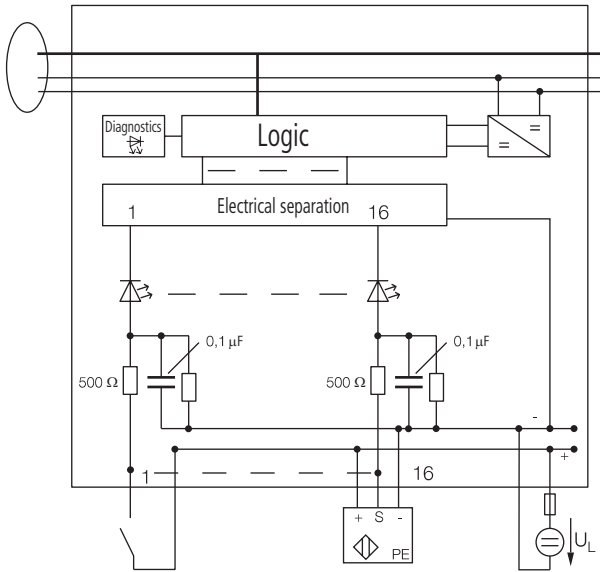


CAN-16DI/P

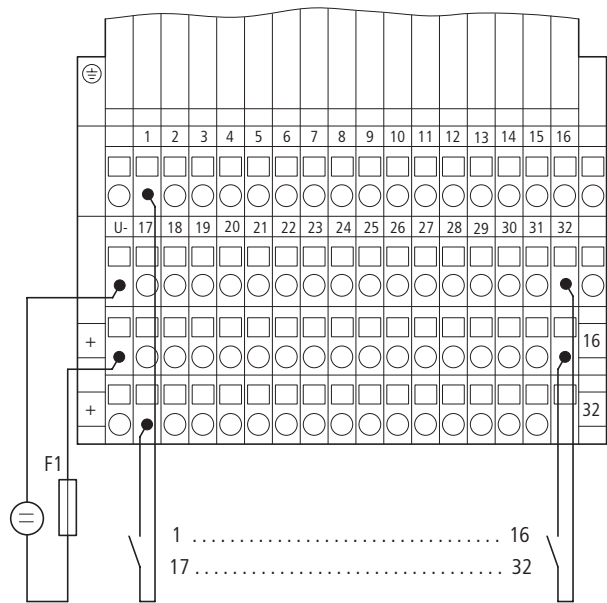
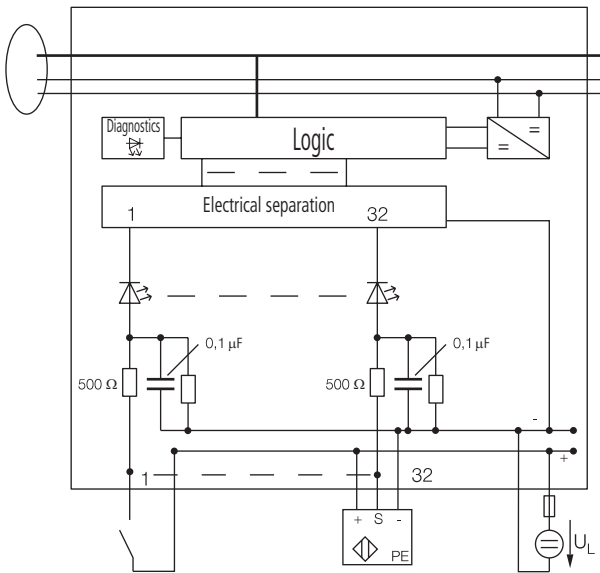


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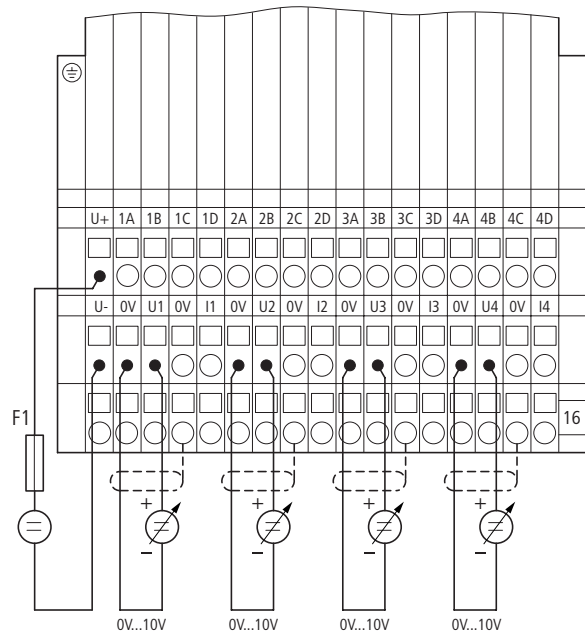
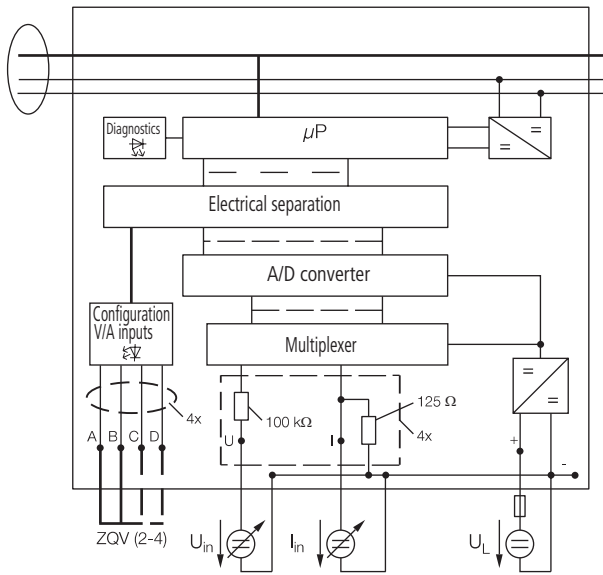
CAN-16DI/P-2X8



CAN-32DI/P-2X16

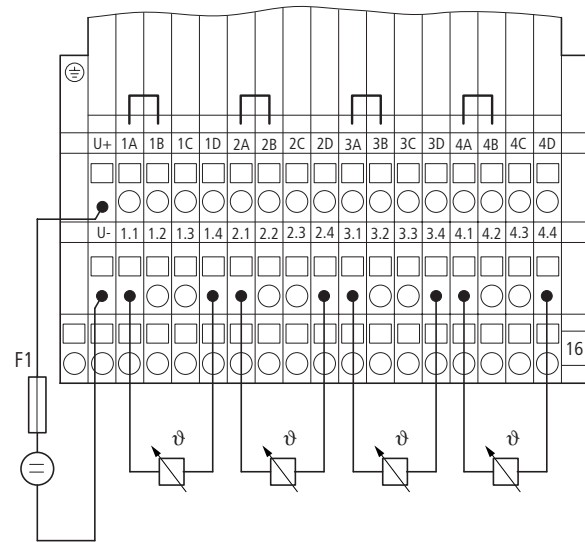
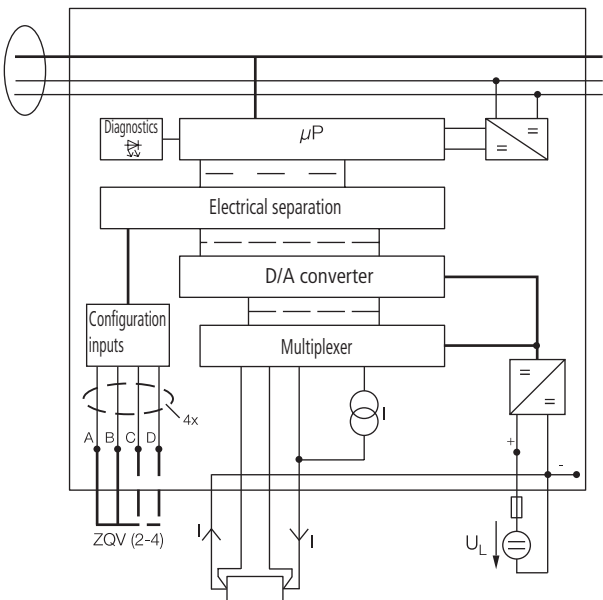


CAN-4AI/UI



Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V	No jumper															
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			

CAN-PT100



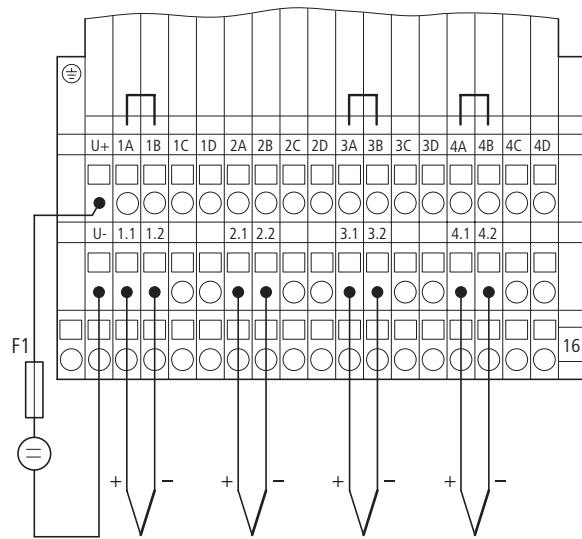
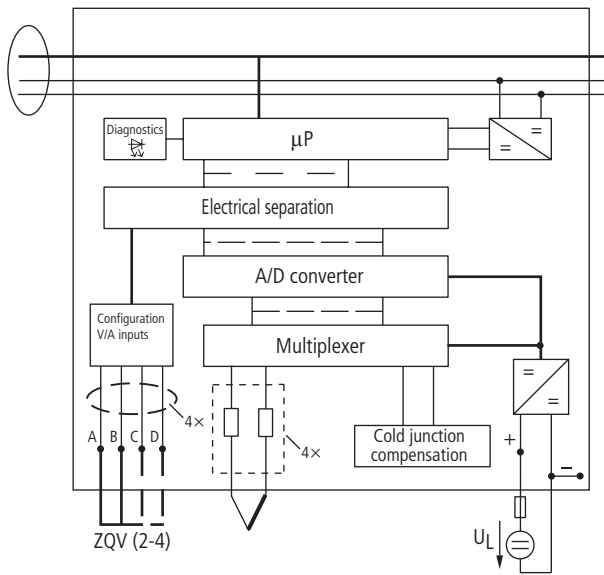
Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
4 AI Ohm	No jumper															
4 AI 2-cond.	┌───┐				┌───┐				┌───┐				┌───┐			
4 AI 3-cond.	┌───┐				┌───┐				┌───┐				┌───┐			
4 AI 4-cond.	┌───┐				┌───┐				┌───┐				┌───┐			





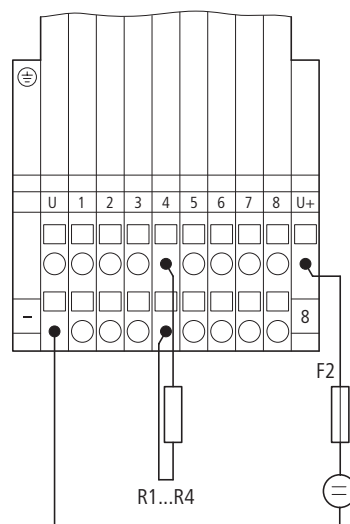
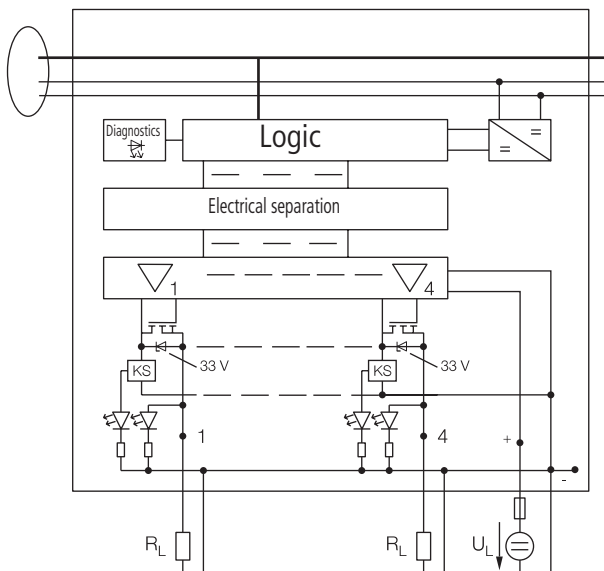
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CAN-THERMO

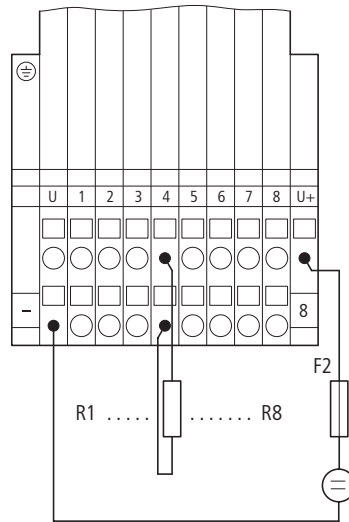
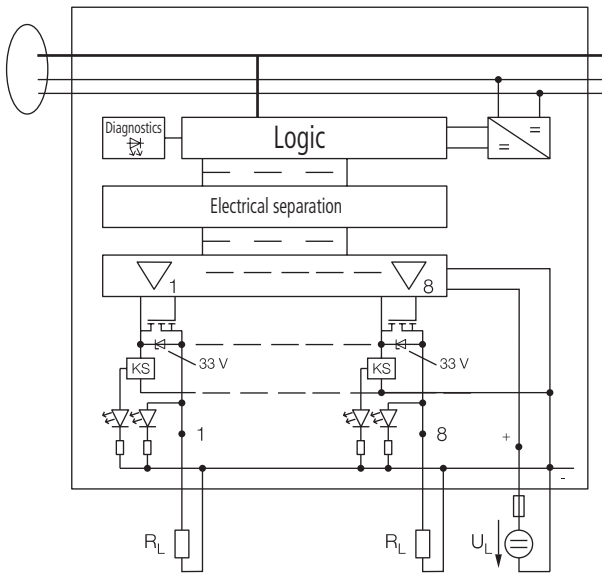


	CH1 IN				CH2 IN				CH3 IN				CH4 IN			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
K	No jumper															
J	[Jumper]															
R	[Jumper]															
S	[Jumper]															
T					[Jumper]											
N	[Jumper]				[Jumper]											
E	[Jumper]				[Jumper]											
B	[Jumper]				[Jumper]											
-80...+80mV					[Jumper]											
50 Hz filtering																
60 Hz filtering									[Jumper]							
Wire break on													[Jumper]			
Wire break off													[Jumper]			

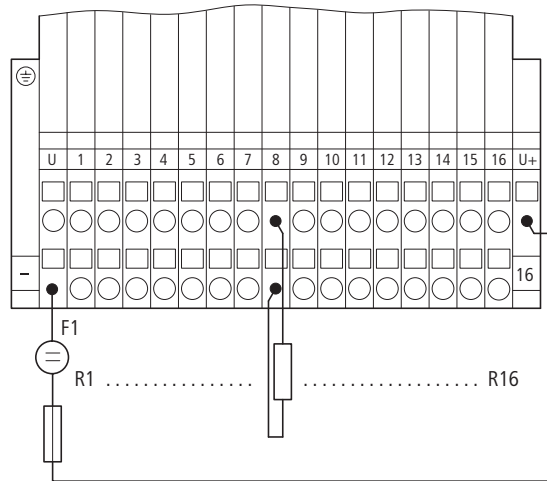
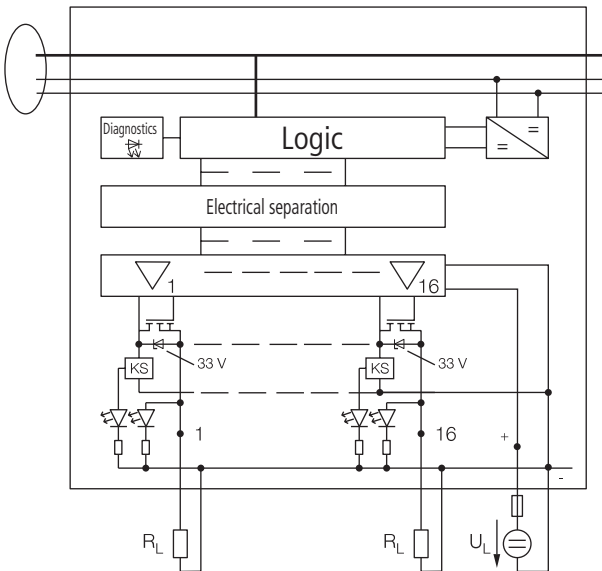
CAN-4DO/2.0A-PK



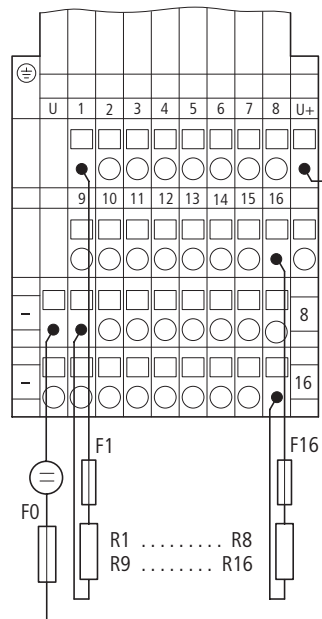
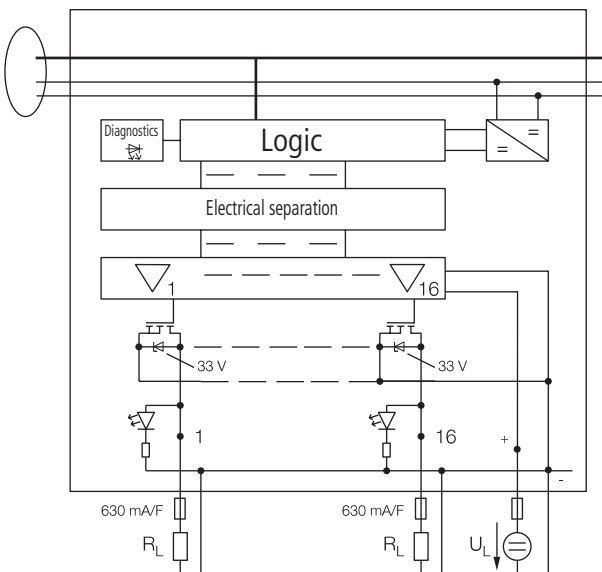
DP-8DO/0.5A-PK



CAN-16DO/0.5A-PK

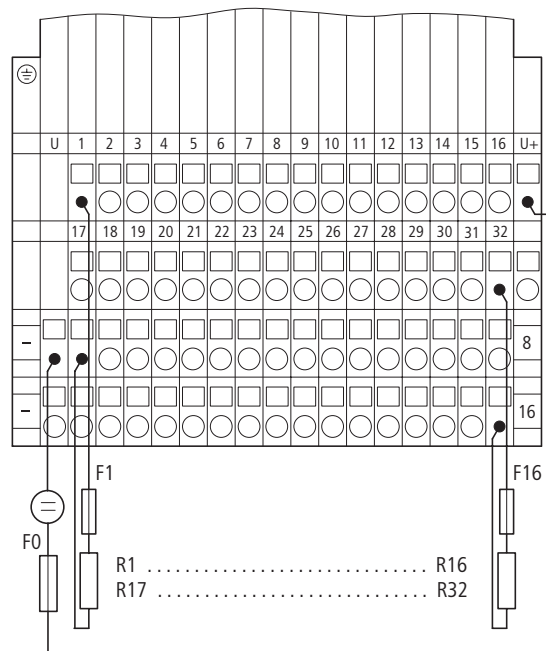
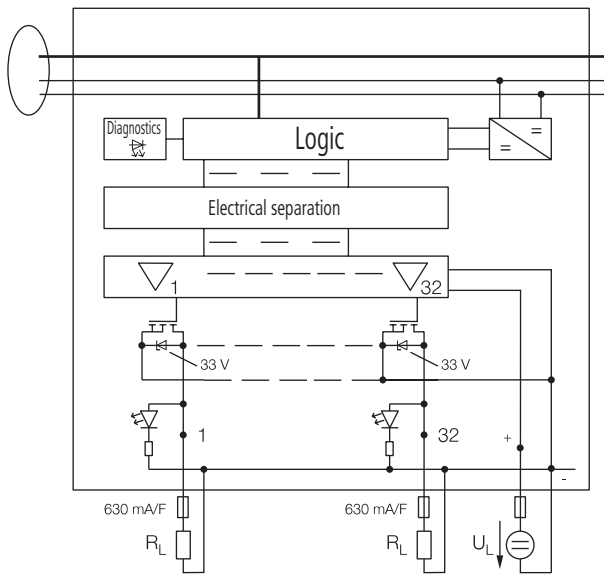


CAN-16DO/0.5A-P-2X8

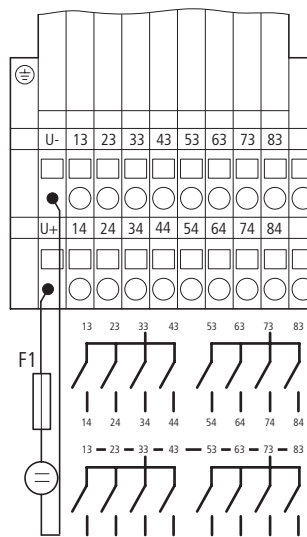
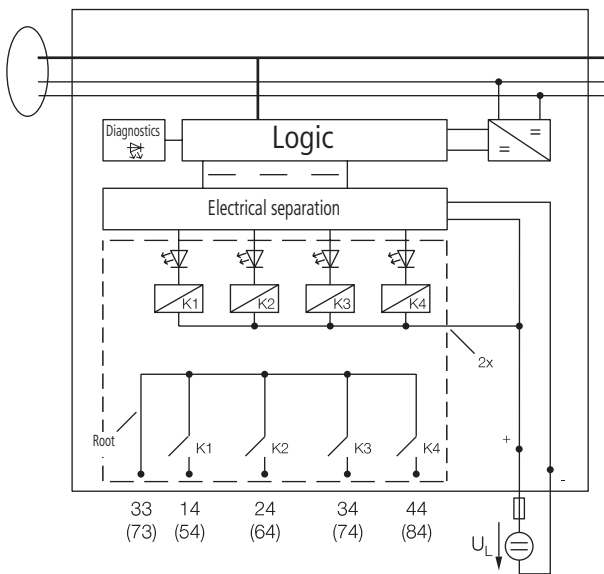


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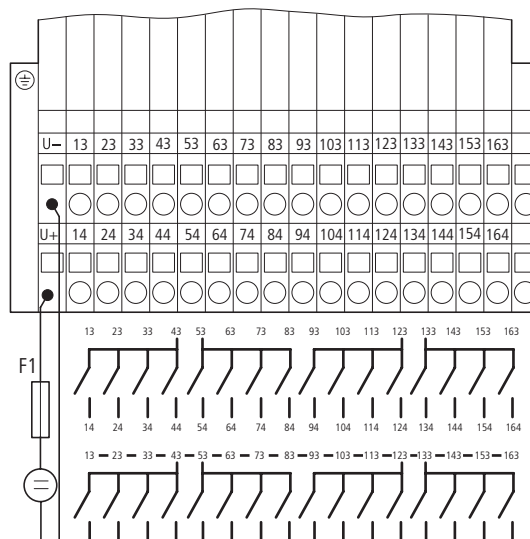
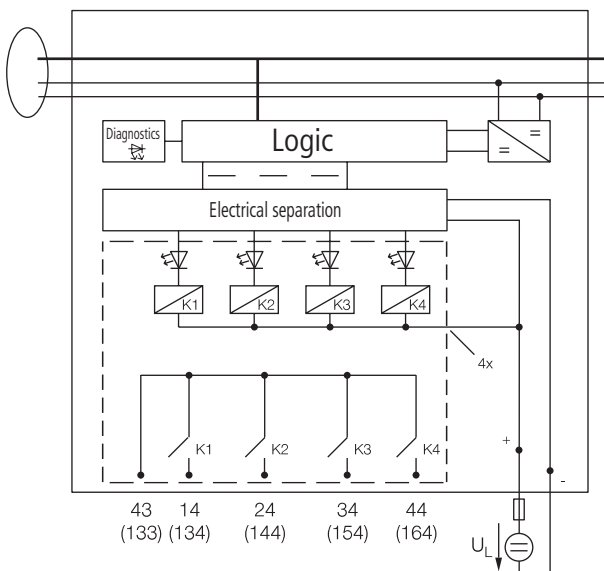
**CAN-32DO/0.5A-P-2X16**



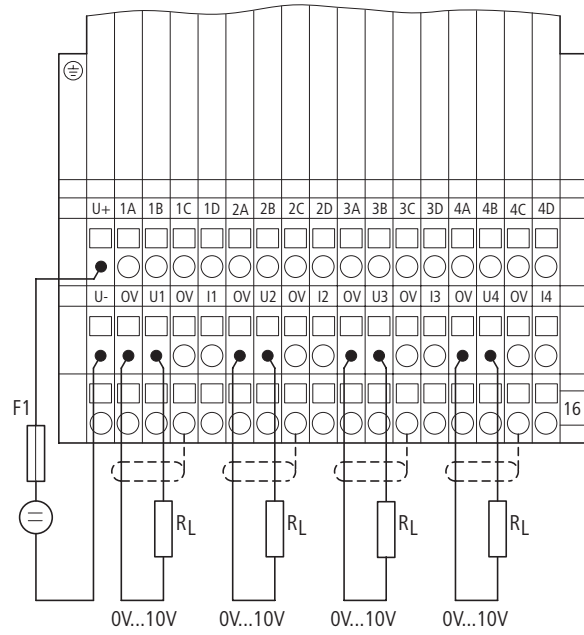
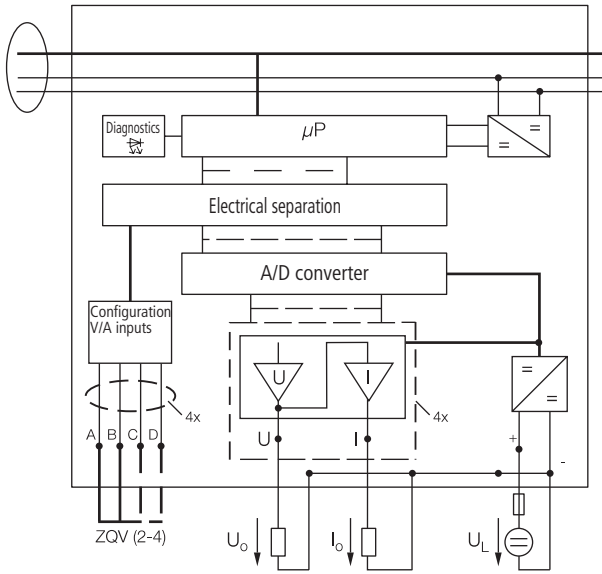
**CAN-8DO/R-NO**



**CAN-16DO/R-NO**

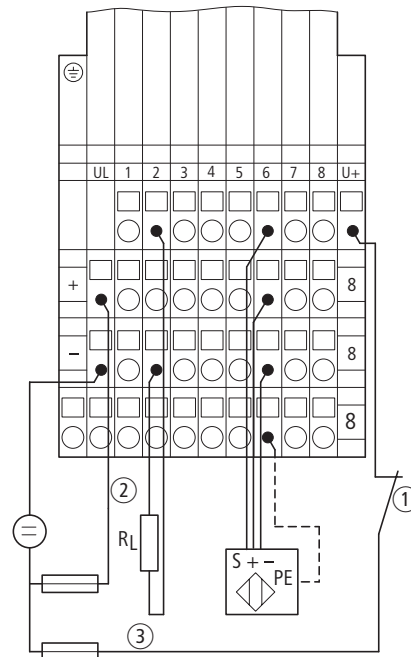
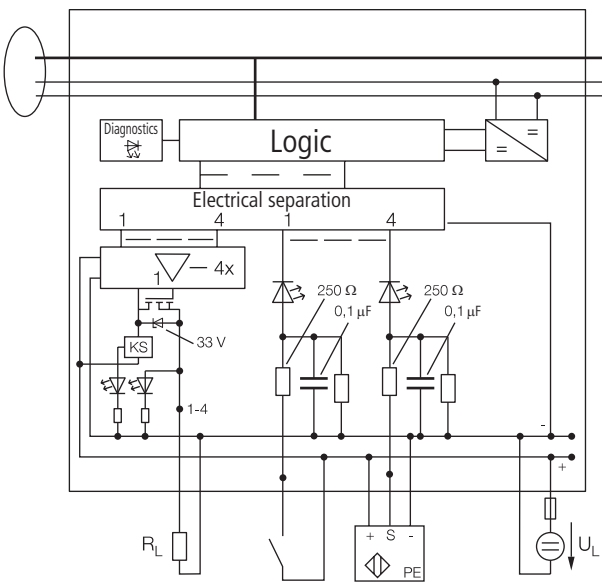


CAN-4AO/UI



Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V	No jumper															
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			

CAN-4DI/4DO/0.5A-PK

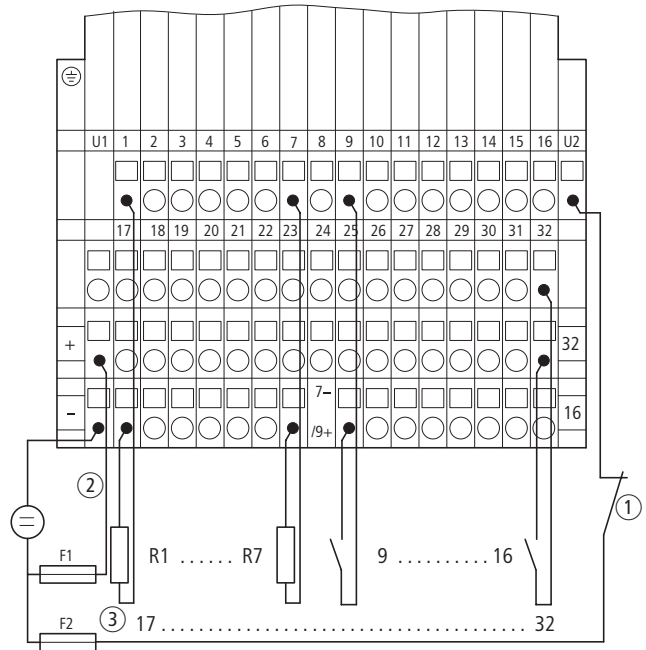
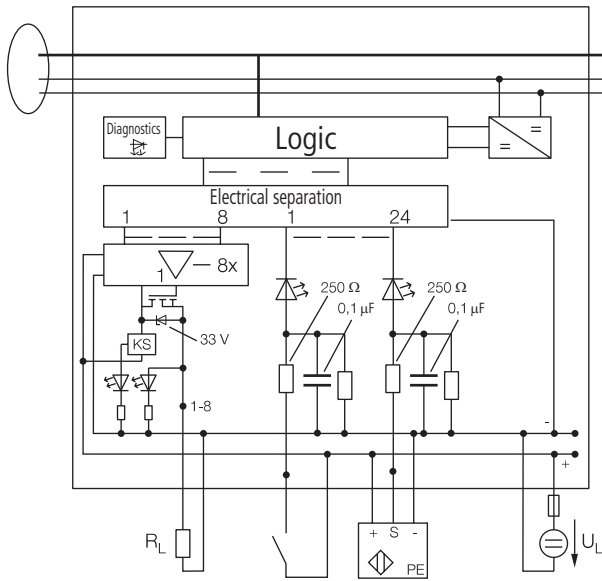


- a External disconnection of all outputs
- b Supply of inputs
- c Supply of outputs



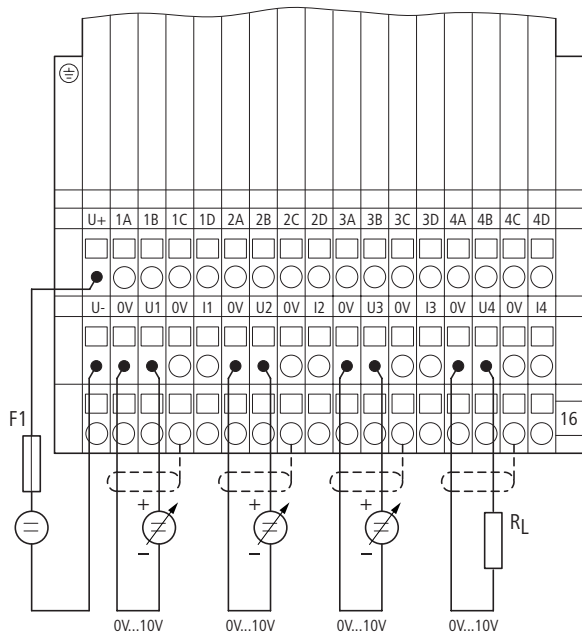
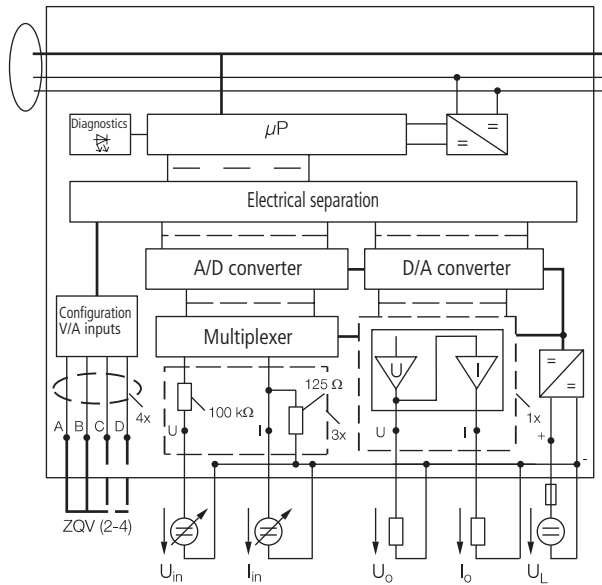
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CAN-24DI/8DO/0.5A-PK



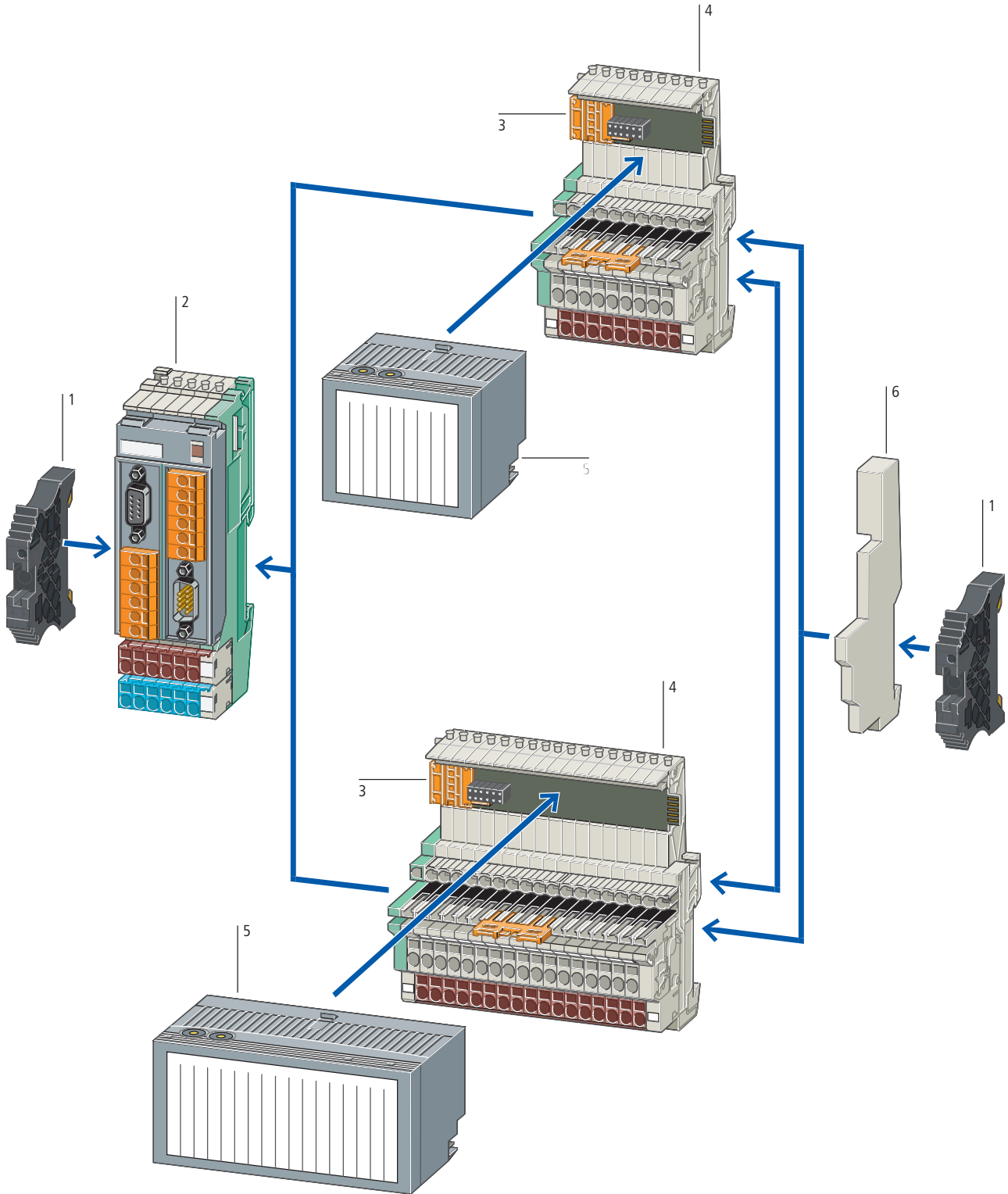
- a External disconnection of all outputs
- b Supply of inputs
- c Supply of outputs

CAN-3AI/1AO-UI



	CH1			CH2			CH3			CH4						
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V	No jumper															
-10...+10V	┌───┐			┌───┐			┌───┐			┌───┐						
0...20mA	┌───┐			┌───┐			┌───┐			┌───┐						
4...20mA	┌───┐			┌───┐			┌───┐			┌───┐						





PROFIBUS-DP bridges	2	Base modules	4	Accessories	
→ Page 3/20		→ Page 3/22		End plate ZAP-MA/25	6
				End bracket WEW-35/2	1
Sliding bus link	3	Electronic modules	5	→ Page 3/44	
		→ Page 3/20			

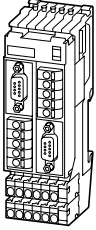
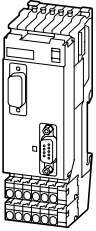
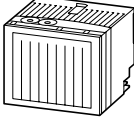


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	2-wire connection										3-wire connection										4-wire connection											
	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/8-S/S/+	ZSB-1.5/16-S/S/+	ZSB-1.5/8-S/-	ZSB-1.5/16-S/-	ZSB-1.5/16-S/S/-	ZSB-1.5/8-S/S	ZSB-1.5/16-S/S	ZSB-1.5/16-S/S/+	ZSB-1.5/16-S/-250V	ZSB-1.5/16-S/S/PE	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/8-S/S/+	ZSB-1.5/16-S/S/+	ZSB-1.5/16-S/S/+	ZSB-1.5/8-S/S/PE/-	ZSB-1.5/16-S/S/PE/-	ZSB-1.5/16-S/S/+	ZSB-1.5/16-S/S/PE-Z	ZSB-1.5/16-S/S/PE-TF	ZSB-1.5/8-S/S/+	ZSB-1.5/8-S/+	ZSB-1.5/16-S/+	ZSB-1.5/16-S/S/+	ZSB-1.5/8-S/S/PE	ZSB-1.5/16-S/S/PE	ZSB-1.5/16-S/S/PE	ZSB-1.5/16-S/S/PE+UI	ZSB-1.5/16-S/S/PE-PT100	
<b>Digital input</b>																																
DP-8DI/P	●												●																			
DP-16DI/P		●												●																		
DP-16DI/P-2X8			●												●																	
DP-32DI/P-2X16				●												●																
DP-8DI/N					●																											
DP-8DI/230VAC										●																						
<b>Digital output</b>																																
DP-4DO/2.0A-PK					●													●														
DP-8DO/0.5A-PK					●													●														
DP-16DO/0.5A-PK						●												●														
DP-16DO/0.5A-PK-2x8							●												●													
DP-32DO/0.5A-P-2x16								●												●												
<b>Digital relay modules</b>																																
DP-8DO/R-NO								●																								
DP-16DO/R-NO									●																							
DP-8DO/R-CO																																
<b>Analog input</b>																																
DP-4AI/UI														●																		
DP-4AI/PT100																																
DP-4AI/THERMO																																
<b>Analog output</b>																																
DP-4AO/UI														●																		
<b>Technology modules</b>																																
DP-1CNT/24V																																
<b>Combi modules</b>																																
DP-8DI/8DO/0.5A-PK																																
DP-24DI/8DO/0.5A-PK																																
DP-3AI/1AO-UI														●																		

Remote I/O WINbloc  
PROFIBUS-DP



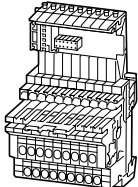
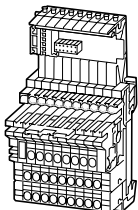
	Inputs Number	Outputs Number	Description	For use with	Type Order No.	Price See price sheet	Std. pack
<b>Bridges</b>							
A maximum of 10 I/O modules can be connected per bridge							
	-	-	PROFIBUS DP connection as per DIN 19 245: 2 × SUB-D, 9-pin Bus connection for direct wiring: 2 × spring-loaded terminals type LMZF Transmission rate: up to 1.5 Mbit/s	-	<b>DP-Bridge</b> 85 51 224006		1 off
	-	-	PROFIBUS DP connection as per DIN 19 245: 2 × SUB-D, 9-pin  Transmission rate: up to 12 Mbit/s	-	<b>DP-BRIDGE/12MB</b> 85 51 224007		
<b>Electronic modules</b> Plugged onto the base modules							
							
Digital input	8	-	Positive switching	ZSB-1.5/8-S/+ ZSB-1.5/8-S/+/- ZSB-1.5/8-S/+/-/PE	<b>DP-8DI/P</b> 85 51 224008		1 off
	16	-	Positive switching	ZSB-1.5/16-S/+ ZSB-1.5/16-S/+/- ZSB-1.5/16-S/+/-/PE	<b>DP-16DI/P</b> 85 51 224009		
	2 × 8	-	Positive switching, 2 channels per terminal	ZSB-1.5/8-S/S/+/+ ZSB-1.5/8-S/S/+/+/-/-	<b>DP-16DI/P-2X8</b> 85 51 224010		
	2 × 16	-	Positive switching, 2 channels per terminal	ZSB-1.5/16-S/S/+/+ ZSB-1.5/16-S/S/+/+/-/-	<b>DP-32DI/P-2X16</b> 85 51 224011		
	8	-	Negative switching	ZSB-1.5/8-S/-	<b>DP-8DI/N</b> 85 51 224013		
	8	-	230 V AC, 50 Hz	ZSB-1.5/16-S/-250V	<b>DP-8DI/230VAC</b> 85 51 224012		
Digital output	-	4	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	<b>DP-4DO/2.0A-PK</b> 85 51 224015		
	-	8	Positive switching, short-circuit proof	ZSB-1.5/8-S/- ZSB-1.5/8-S/-/PE	<b>DP-8DO/0.5A-PK</b> 85 51 224017		
	-	16	Positive switching, short-circuit proof	ZSB-1.5/16-S/- ZSB-1.5/16-S/-/PE	<b>DP-16DO/0.5A-PK</b> 85 51 224020		
	-	2 × 8	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/8-S/S/PE/PE/-/-	<b>DP-16DO/0.5A-P-2X8</b> 85 51 224018		
	-	2 × 16	Positive switching, not short-circuit proof, 2 channels per terminal	ZSB-1.5/16-S/S/-/- ZSB-1.5/16-S/S/P/P/-/-	<b>DP-32DO/0.5A-P-2X16</b> 85 51 224021		



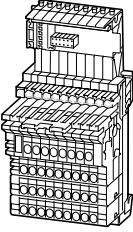
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	Inputs	Outputs	Description	For use with	Type Order No.	Price  See price sheet	Std. pack
	Number	Number					
<b>Electronic modules</b>							
Combi modules	8	4	2 A, positive switching, digital input/output, short-circuit proof	–	<b>DP-8DI/4DO/2.0A-PK</b> 85 51 224027		1 off
	8	8	Positive switching, digital input/output, short-circuit proof	ZSB-1.5/8-S/S/+/-/-	<b>DP-8DI/8DO/0.5A-PK</b> 85 51 224025		
	24	8	Positive switching, digital input/output, short-circuit proof	ZSB-1.5/16-S/S/+/-/+ ZSB-1.5/16-S/S/+/-/+/- ZSB-1.5/16-S/S/+P/+/-/-	<b>DP-24DI/8DO/0.5A-PK</b> 85 51 224023		
Counter module	–	–	1 channel, up/down, 25 kHz	ZSB-1.5/16-S/-/PE-Z	<b>DP-1CNT/24V</b> 85 51 224028		
Analog input	4	–	Input range voltage -10/0...+10 V	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	<b>DP-4AI/UI</b> 85 51 224030		
	4	–	PT100, 2, 3, 4-wire	ZSB-1.5/16-S/S/PE- PT100	<b>DP-4AI/PT100</b> 85 51 224031		
	4	–	Thermo K, J, R, S, T, N, E, B	ZSB-1.5/16-S/S/PE-TF	<b>DP-4AI/THERMO</b> 85 51 224032		
Analog output	–	4	Output range voltage -10/0...+10 V Output range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	<b>DP-4AO/UI</b> 85 51 224033		
Relay module	–	8	8-way relay, make contact	ZSB-1.5/8-S/S ZSB-1.5/8-S/S/-/PE	<b>DP-8DO/R-NO</b> 85 51 224016		
	–	16	16-way relay, make contact	ZSB-1.5/16-S/S ZSB-1.5/16-S/S/-/PE	<b>DP-16DO/R-NO</b> 85 51 224019		
	–	8	8-way relay, changeover contact isolated	–	<b>DP8DO/R-CO</b> 85 51 224022		
Combi modules	3	1	Input / output range, voltage -10/0...+10 V Input / output range, current 0/4...20 mA	ZSB-1.5/16-S/S/PE ZSB-1.5/16-S/S/PE-+UI	<b>DP-3AI/1AO-UI</b> 85 51 224311		



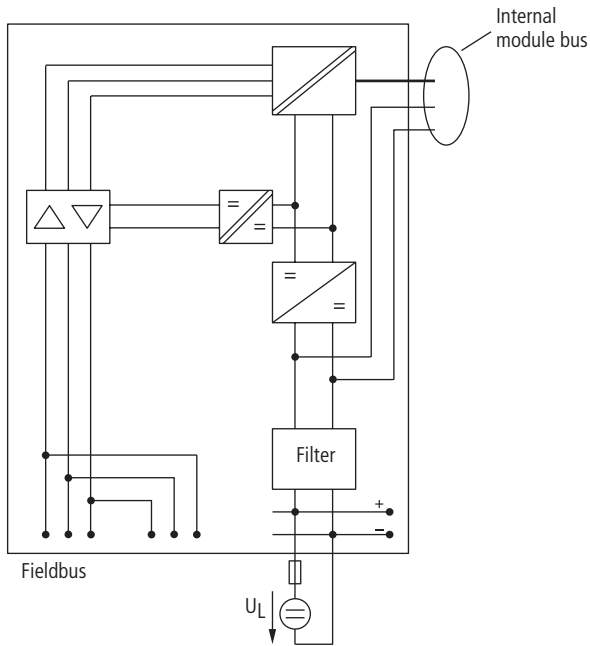
Connection types	For use with	Type Order No.	Price See price sheet	Std. pack	Notes	
<b>Base modules</b> For connection to electronic module; rail-mounted						
	2-wire connection	PROFIBUS: DP-24DI/8DO/0.5A-PK	<b>ZSB-1.5/16-S/S/+/-+</b> 85 51 224063	1 off	–	
		PROFIBUS: DP-16DO/R-NO	<b>ZSB-1.5/16-S/S</b> 85 51 224062		–	
		PROFIBUS: DP-8DI/P	<b>ZSB-1.5/8-S/+</b> 85 51 224045		Also suitable for Bero ® 2-wire initiator	
		PROFIBUS: DP-8DI/115V AC PROFIBUS: DP-8DI/230V AC	<b>ZSB-1.5/16-S/-250V</b> 85 51 224096		–	
		PROFIBUS: DP-8DO/R-NO	<b>ZSB-1.5/8-S/S</b> 85 51 224061		–	
		PROFIBUS: DP-16DI/P	<b>ZSB-1.5/16-S/+</b> 85 51 224048		Also suitable for Bero ® 2-wire initiator	
		PROFIBUS: DP-16DI/P-2X8	<b>ZSB-1.5/8-S/S/+/-+</b> 85 51 224049		–	
		PROFIBUS: DP-32DI/P-2X16	<b>ZSB-1.5/16-S/S/+/-+</b> 85 51 224051		–	
		PROFIBUS: DP-32DO/0.5A-P-2X16	<b>ZSB-1.5/16-S/S/-/-</b> 85 51 224059		–	
		PROFIBUS: DP-8DI/N PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	<b>ZSB-1.5/8-S/-</b> 85 51 224055		–	
		PROFIBUS: DP-16DO/0.5A-PK	<b>ZSB-1.5/16-S/-</b> 85 51 224056		–	
		3-wire connection	PROFIBUS: DP-16DI/P		<b>ZSB-1.5/16-S/+/-</b> 85 51 224047	Also suitable for Bero ® 2-wire initiator
			PROFIBUS: DP-16DI/P-2X8		<b>ZSB-1.5/8-S/S/+/-/-</b> 85 51 224050	–
			PROFIBUS: DP-8DI/P		<b>ZSB-1.5/8-S/+/-</b> 85 51 224044	Also suitable for Bero ® 2-wire initiator
		PROFIBUS: DP-16DO/0.5A-P-2X8	<b>ZSB-1.5/8-S/S/PE/PE/-/-</b> 85 51 224058	–		
		PROFIBUS: DP-16DO/0.5A-PK	<b>ZSB-1.5/16-S/-/PE</b> 85 51 224054	–		
		PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	<b>ZSB-1.5/16-S/S/PE</b> 85 51 224040	Cross-link (ZQV) for setting individual channels in delivery package		

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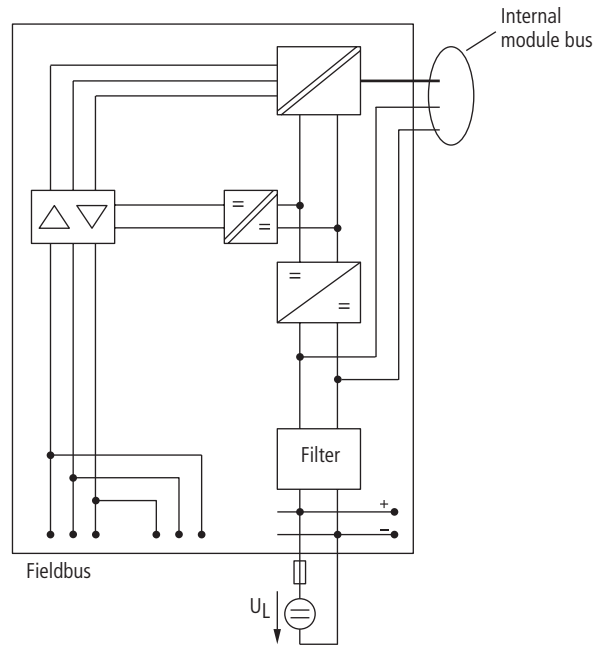
Connection types	For use with	Type Order No.	Price	Std. pack	Notes
<b>Base modules</b>					
4-wire connection  	PROFIBUS: DP-4DO/2.0A-PK PROFIBUS: DP-8DO/0.5A-PK	<b>ZSB-1.5/8-S/-/PE</b> 85 51 224053		1 off	–
	PROFIBUS: DP-32DI/P-2X16	<b>ZSB-1.5/16-S/S/+/-/+/-</b> 85 51 224052			–
	PROFIBUS: DP-32DO/0.5A-P-2X16	<b>ZSB-1.5/16-S/S/P/P/-/</b> 224060			–
	PROFIBUS: DP-24DI/8DO/0.5A-PK	<b>ZSB-1.5/16-S/S/+/-/+/-</b> 85 51 224064			–
	PROFIBUS: DP-1CNT/24V	<b>ZSB-1.5/16-S/-/PE-Z</b> 85 51 224073			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-8DI/8DO/0.5A-PK	<b>ZSB-1.5/8-S/S/+/-/</b> 85 51 224086			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-4AI/THERMO	<b>ZSB-1.5/16-S/S/PE-TF</b> 85 51 224075			Cold junction compensation and linearization Accuracy figures take into account linearity, hysteresis and cold-junction compensation error at $T_u = 23\text{ °C}$ A cable break is reliably detected. Cross-link (ZQV) for setting individual channels in delivery package.
	PROFIBUS: DP-24DI/8DO/0.5A-PK	<b>ZSB-1.5/16-S/S/+P/+/-/</b> 85 51 224065			–
	PROFIBUS: DP-16DO/R-NO	<b>ZSB-1.5/16-S/S/-/PE</b> 85 51 224070			–
	PROFIBUS: DP-8DO/R-NO	<b>ZSB-1.5/8-S/S/-/PE</b> 85 51 224069			–
	PROFIBUS: DP-4AI/UI PROFIBUS: DP-4AO/UI PROFIBUS: DP-3AI/1AO-UI	<b>ZSB-1.5/16-S/S/PE-+UI</b> 85 51 224074			Cross-link (ZQV) for setting individual channels in delivery package
	PROFIBUS: DP-8DI/P	<b>ZSB-1.5/8-S/+/-/PE</b> 85 51 224043			Also suitable for Bero ® 2-wire initiator
	PROFIBUS: DP-16DI/P	<b>ZSB-1.5/16-S/+/-/PE</b> 85 51 224046			Also suitable for Bero ® 2-wire initiator
	PT100 2, 3, 4-wire connection and PT100 mixed operation	PROFIBUS: DP-4AI/PT100	<b>ZSB-1.5/16-S/S/PE-PT100</b> 85 51 224076		



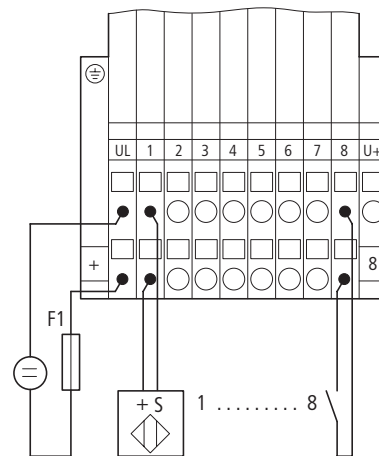
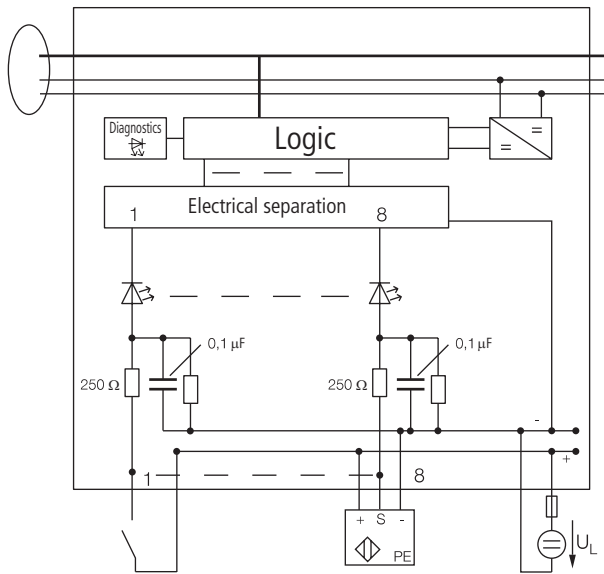
DP-BRIDGE



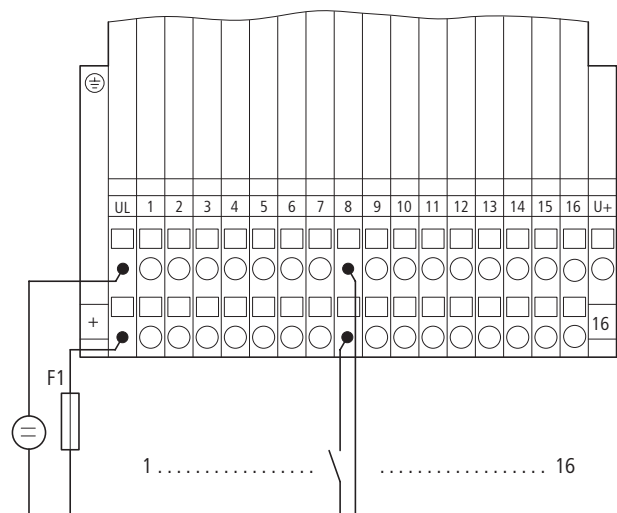
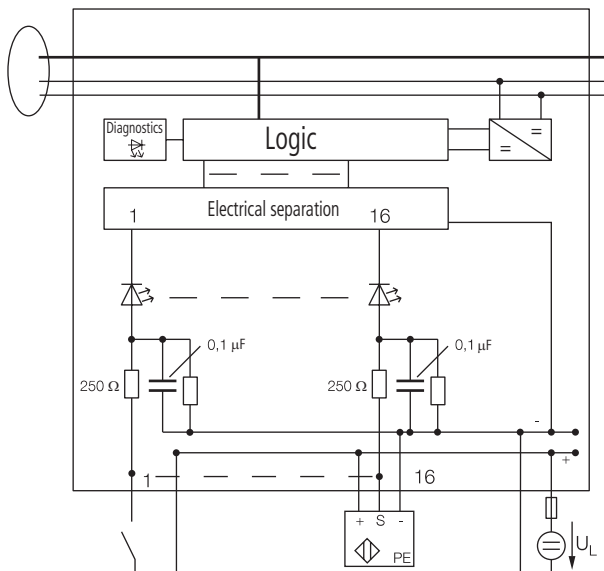
DP-BRIDGE/12MB



DP-8DI/P



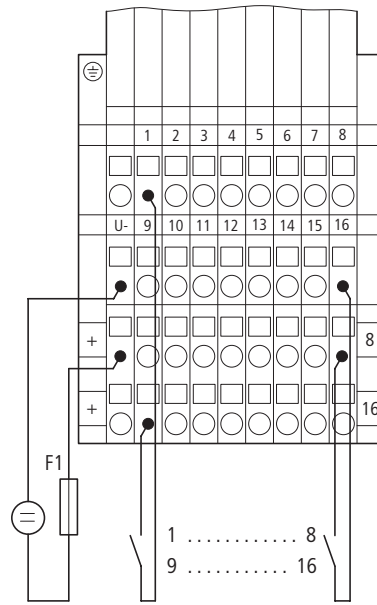
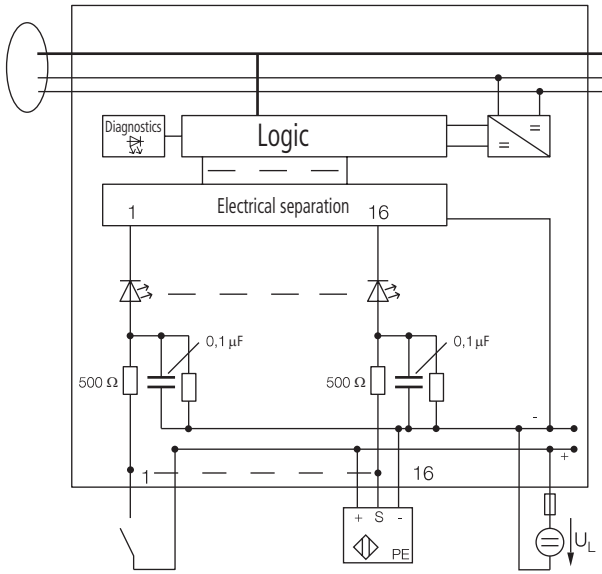
DP-16DI/P



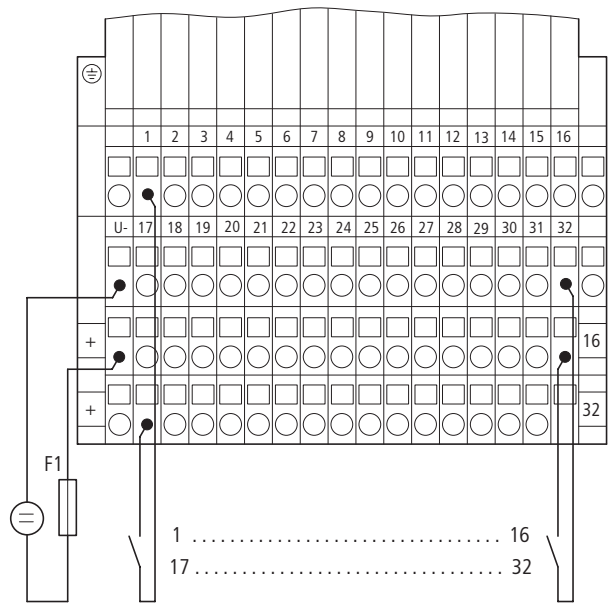
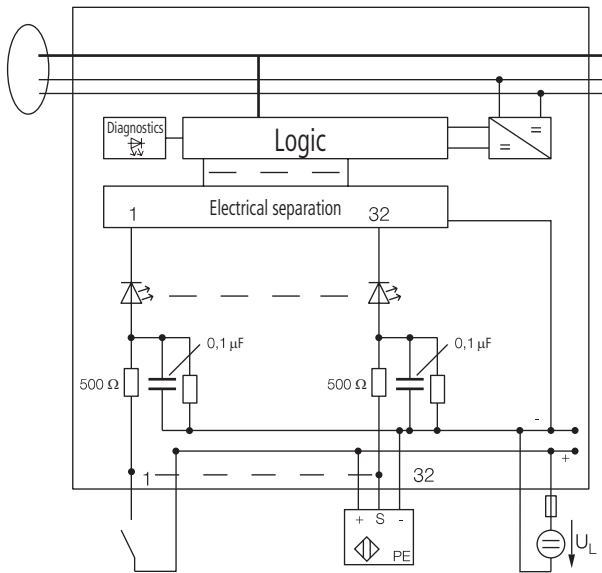


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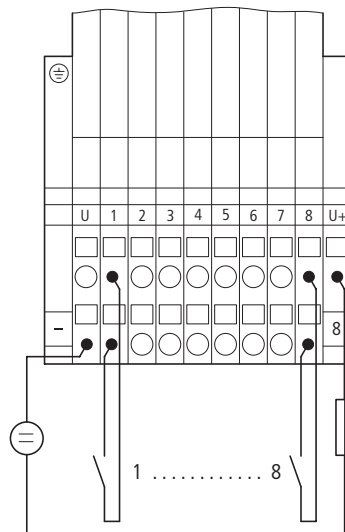
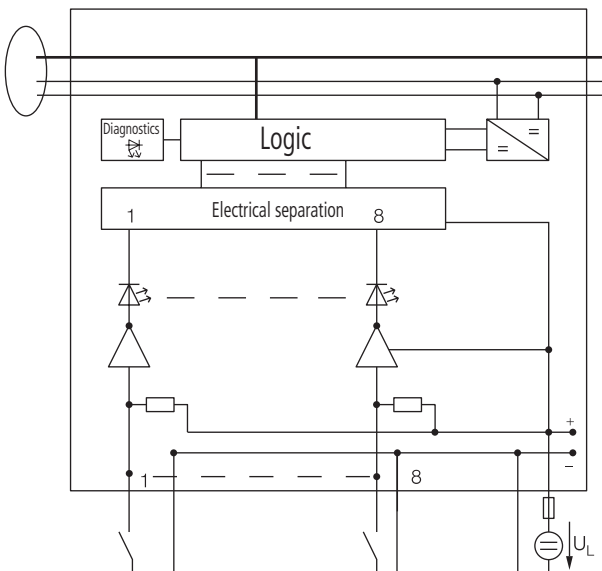
DP-16DI/P-2X8



DP-32DI/P-2X16



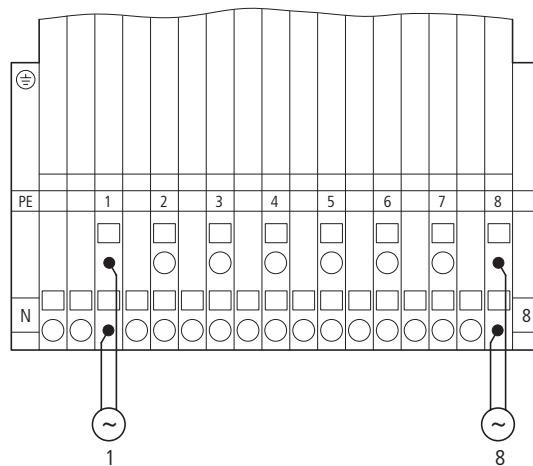
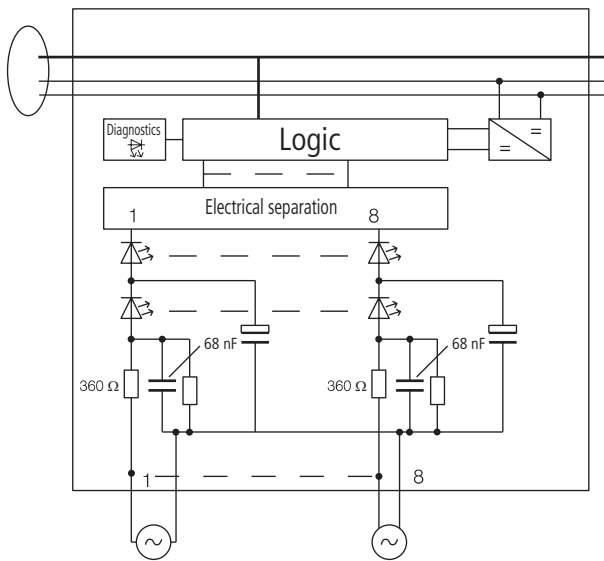
DP-8DI/N



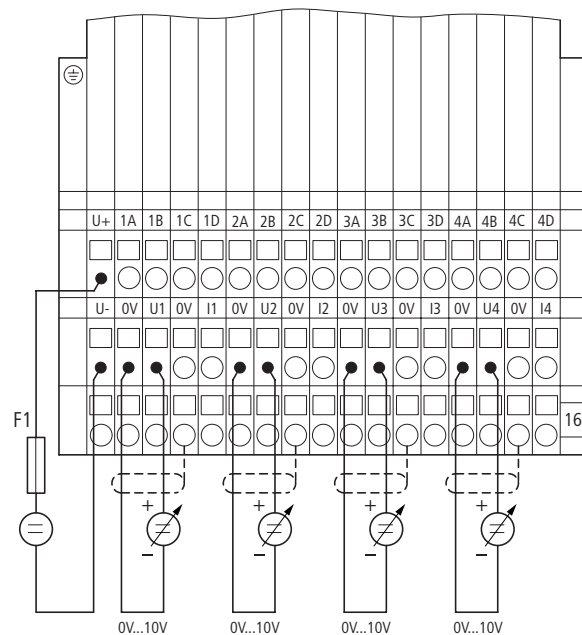
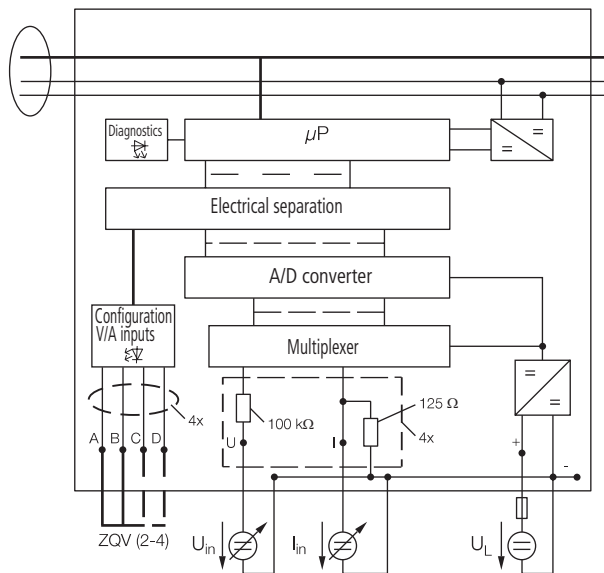
Remote I/O WINbloc  
PROFIBUS-DP



DP-8DI/230VAC



DP-4AI/UI

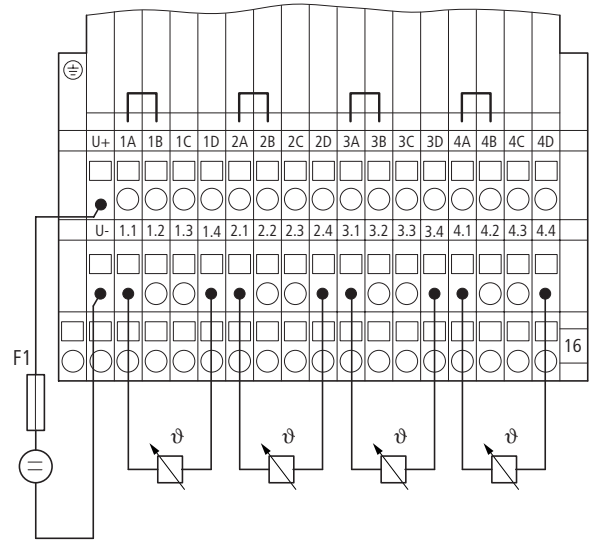
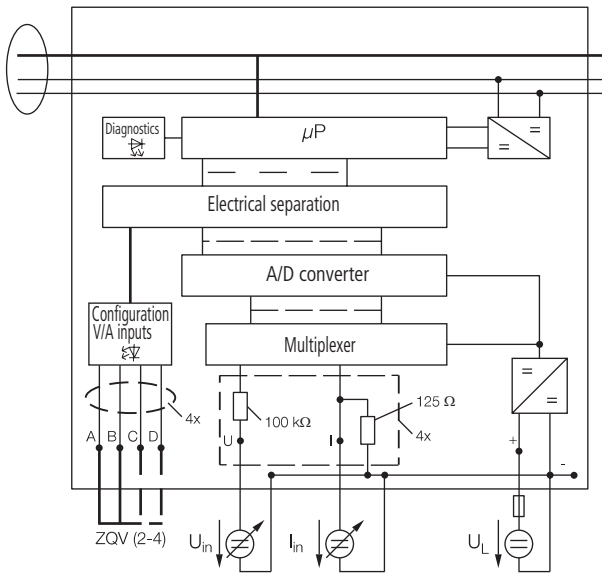


	CH1				CH2				CH3				CH4			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V					No jumper											
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			



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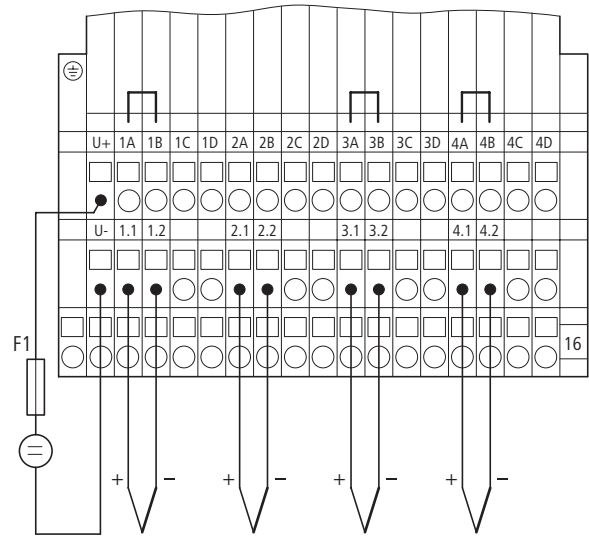
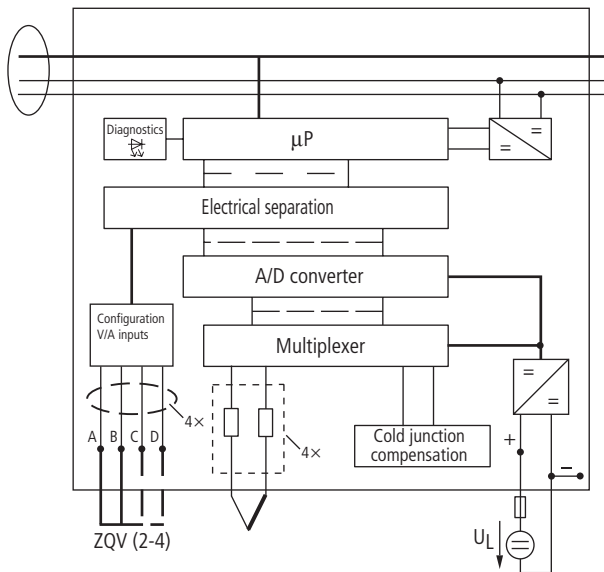
DP-4AI/PT100



Range	CH1				CH2				CH3				CH4			
	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
4 AI Ohm					No jumper											
4 AI 2-cond.	┌───┐				┌───┐				┌───┐				┌───┐			
4 AI 3-cond.	┌───┐				┌───┐					┌───┐					┌───┐	
4 AI 4-cond.	┌───┐				┌───┐				┌───┐				┌───┐			

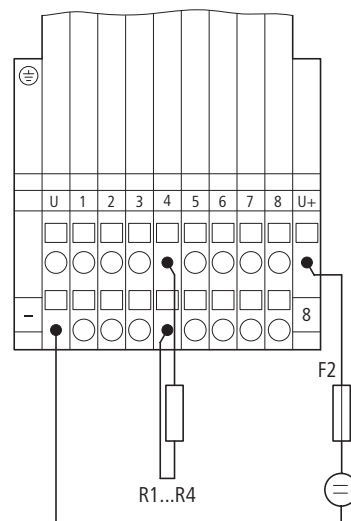
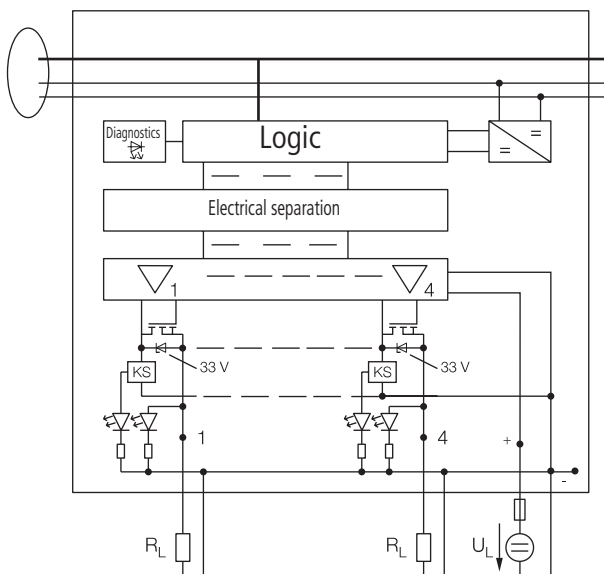


DP-4AI/THERMO



	CH1 IN				CH2 IN				CH3 IN				CH4 IN			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
K	No jumper															
J	[Jumper]															
R	[Jumper]															
S	[Jumper]															
T					[Jumper]											
N	[Jumper]				[Jumper]											
E	[Jumper]				[Jumper]											
B	[Jumper]				[Jumper]											
-80...+80mV					[Jumper]											
50 Hz filtering																
60 Hz filtering													[Jumper]			
Wire break on																
Wire break off													[Jumper]			

DP-4DO/2.0A-PK

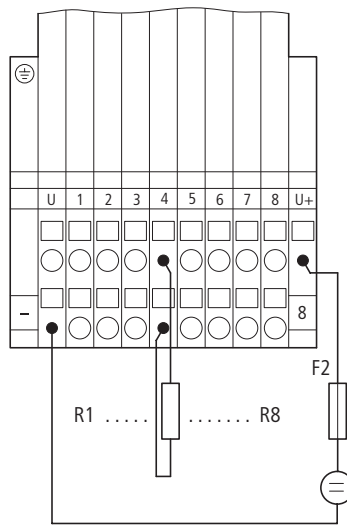
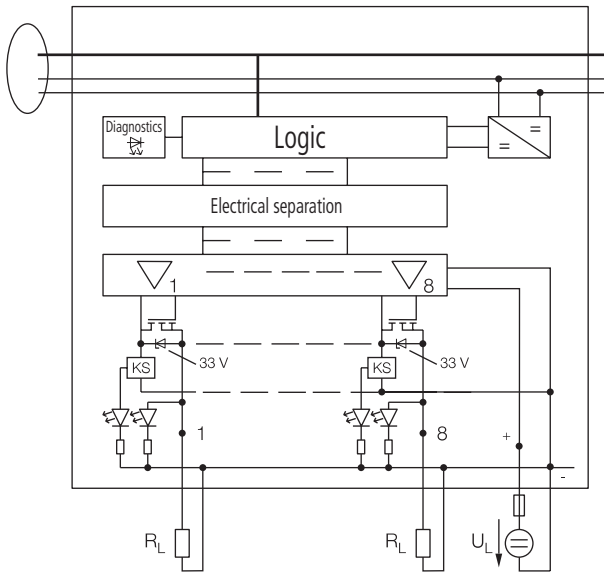


Remote I/O WINbloc  
PROFIBUS-DP

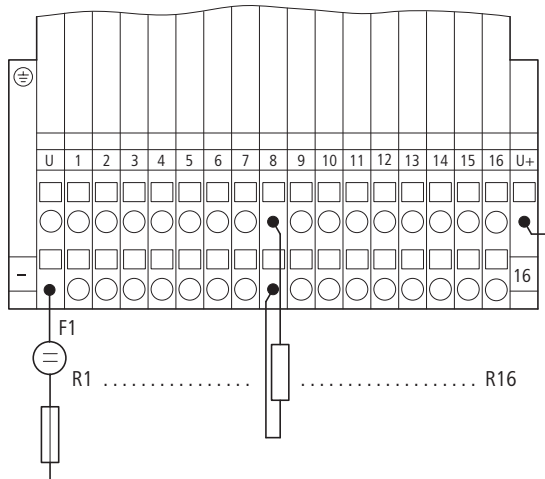
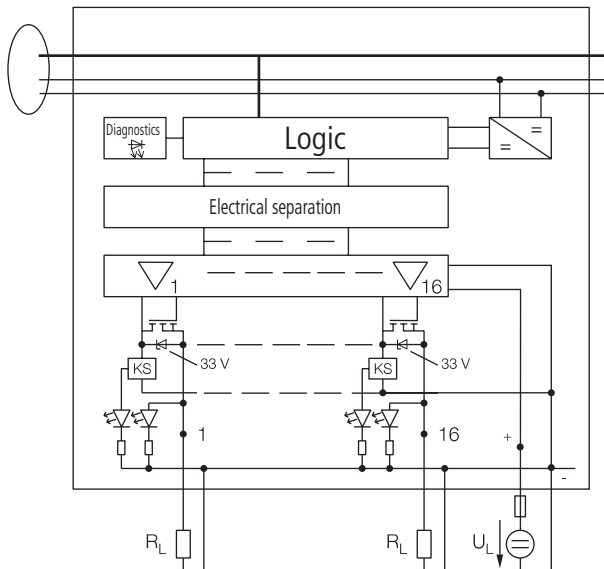


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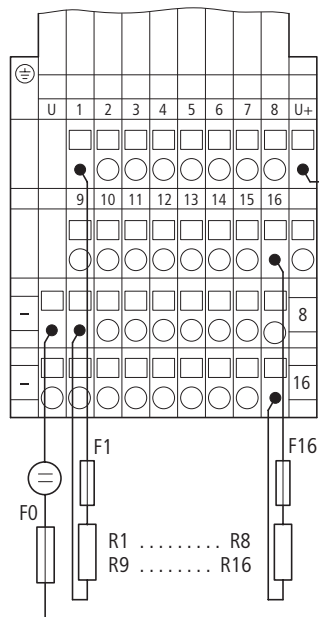
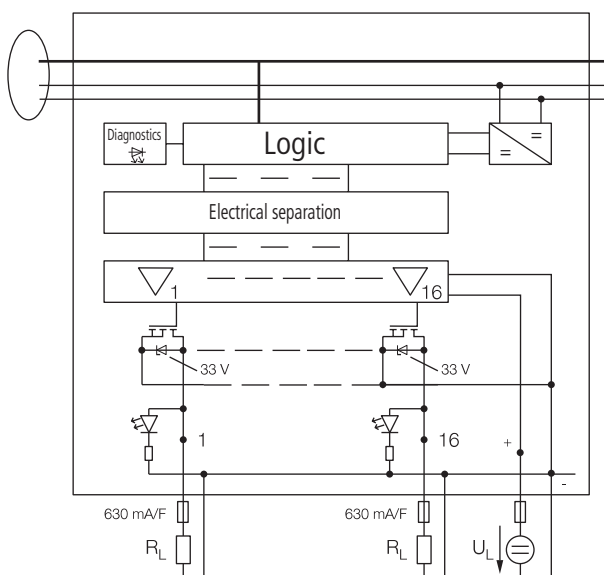
DP-8DO/0.5A-PK



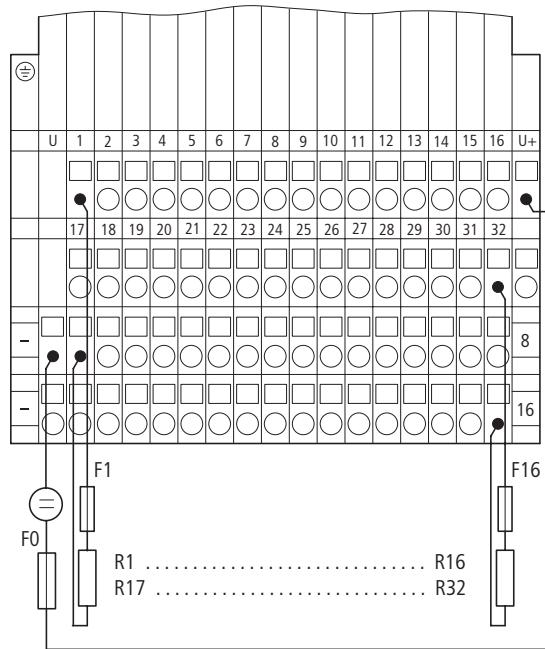
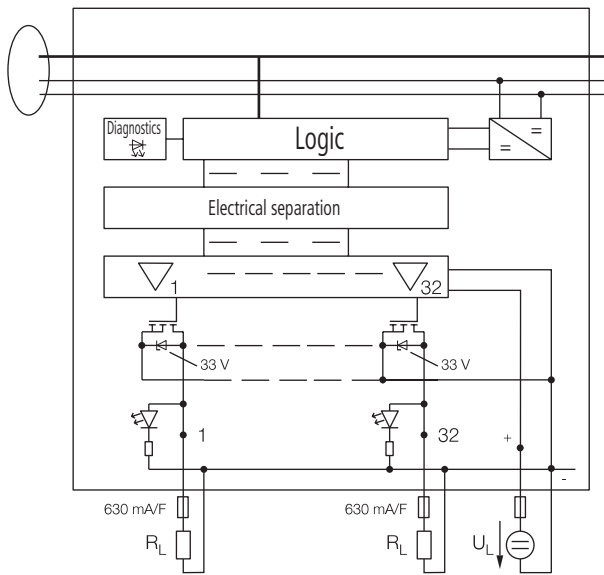
DP-16DO/0.5A-PK



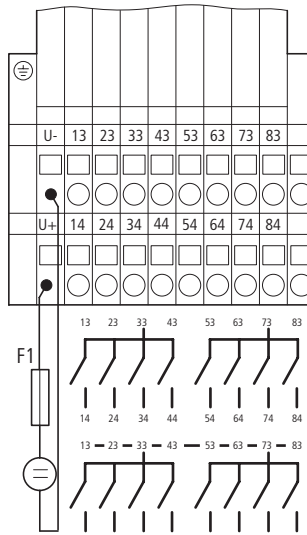
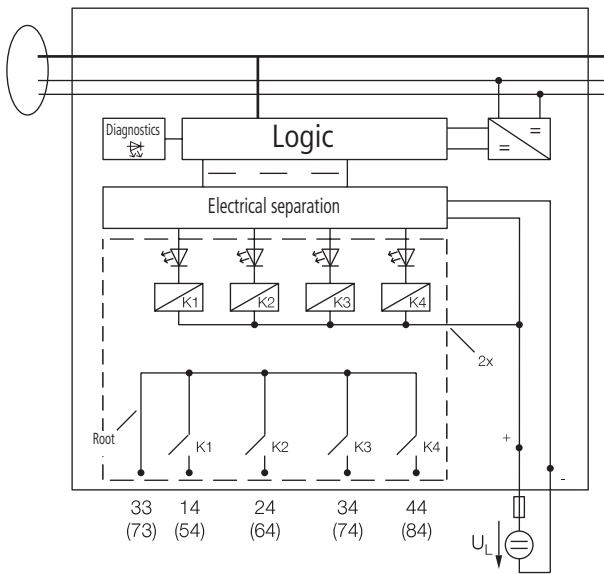
DP-16DO/0.5A-PK-2X8



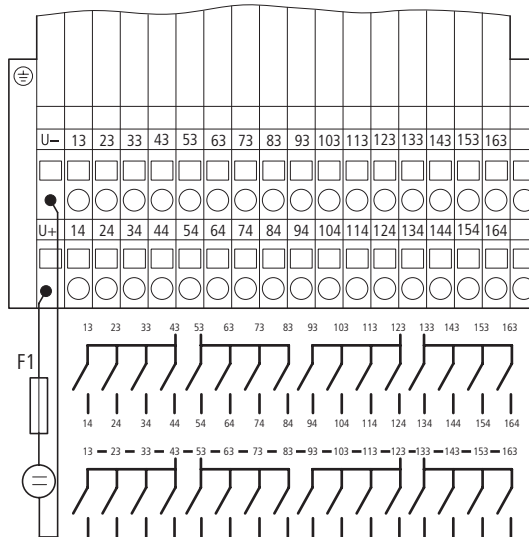
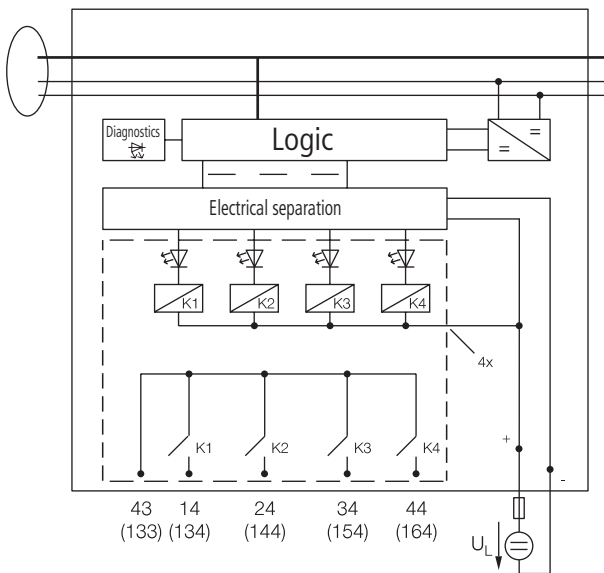
DP-32DO/0.5A-P-2X16



DP-8DO/R-NO



DP-16DO/R-NO

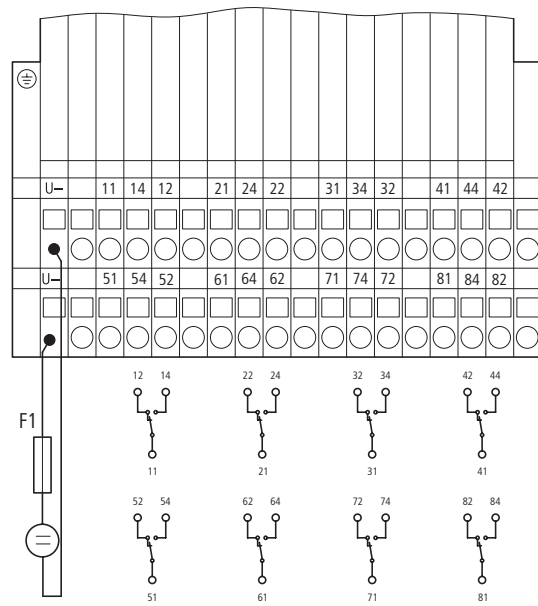
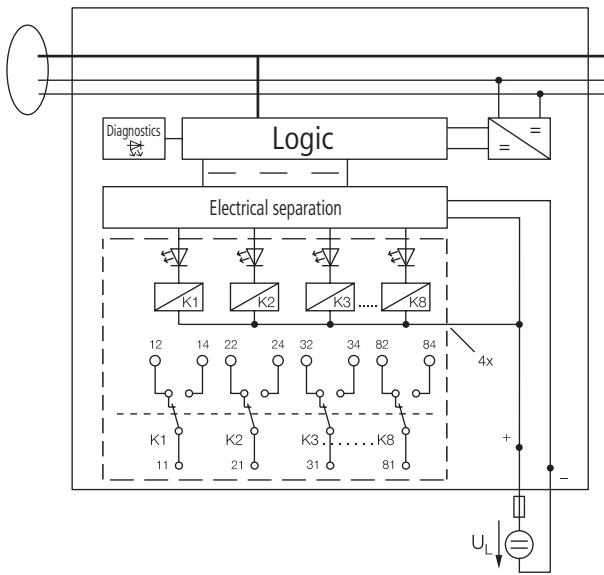


Remote I/O WINbloc  
PROFIBUS-DP

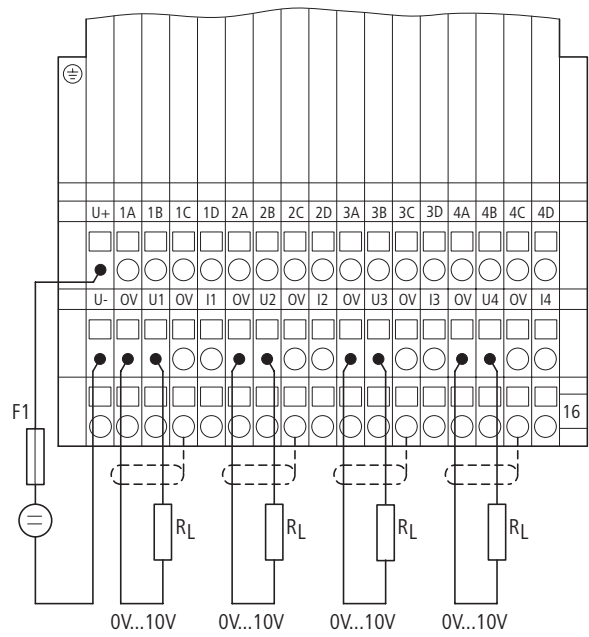
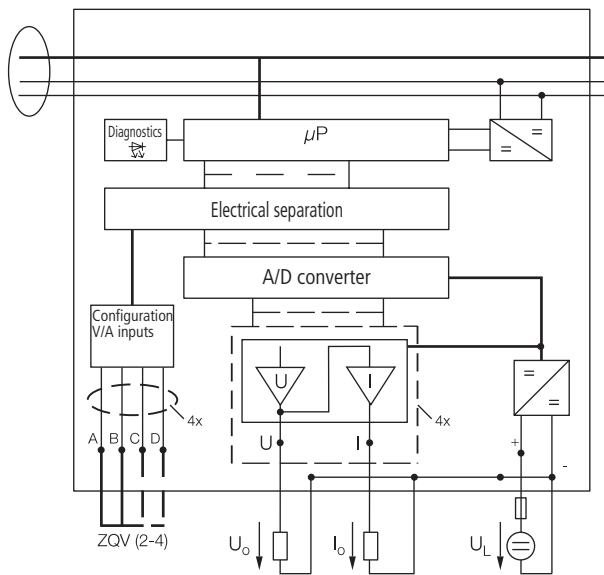


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DP-8DO/R-CO



DP-4AO/UI

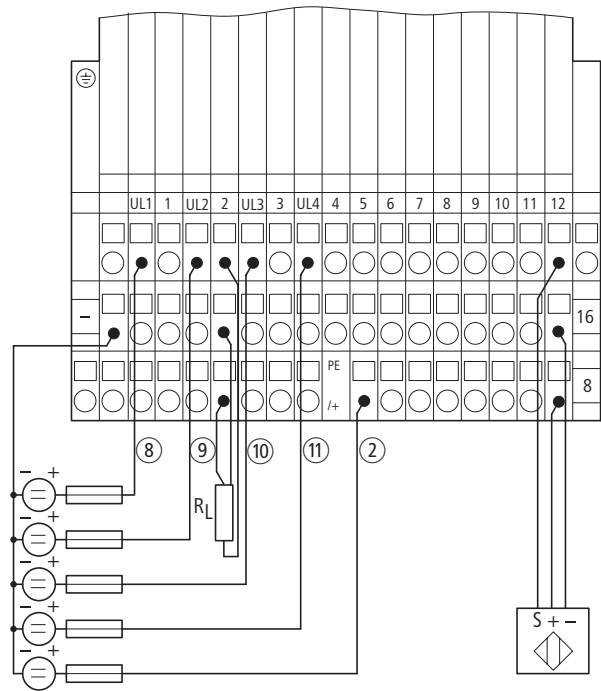
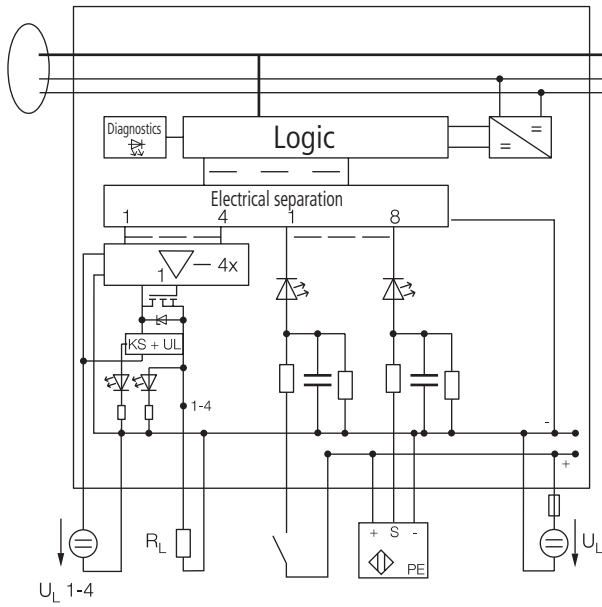


	CH1			CH2			CH3			CH4						
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V					No jumper											
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			



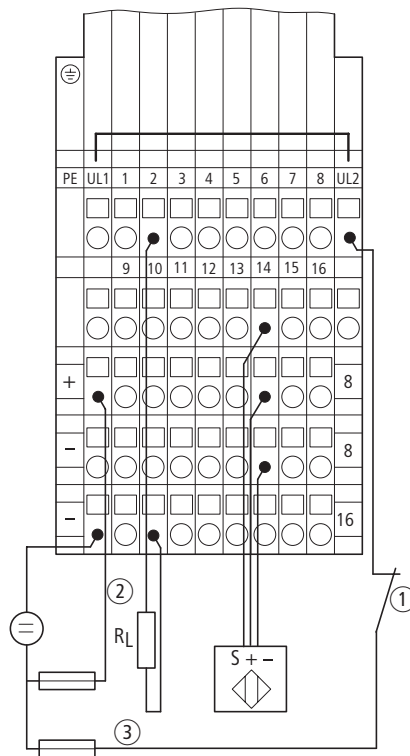
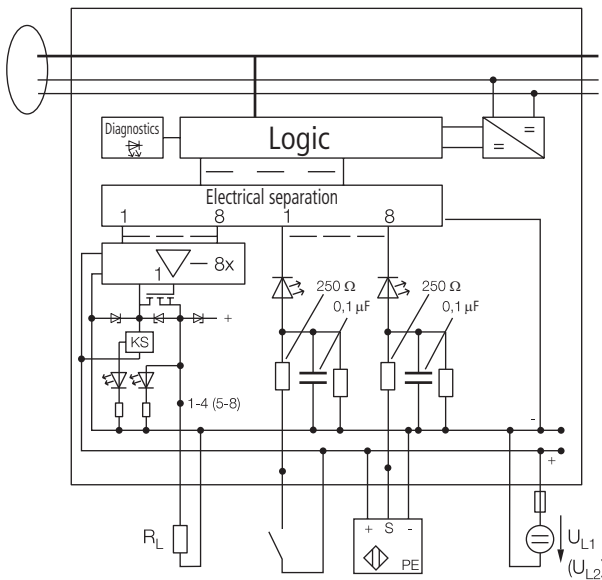


DP-8DI/4DO/2.0A-PK



- Supply of inputs  
 ⑧ Supply of output channel 1  
 ⑨ Supply of output channel 2  
 ⑩ Supply of output channel 3  
 ⑪ Supply of output channel 4

DP-8DI/8DO/0.5A-PK



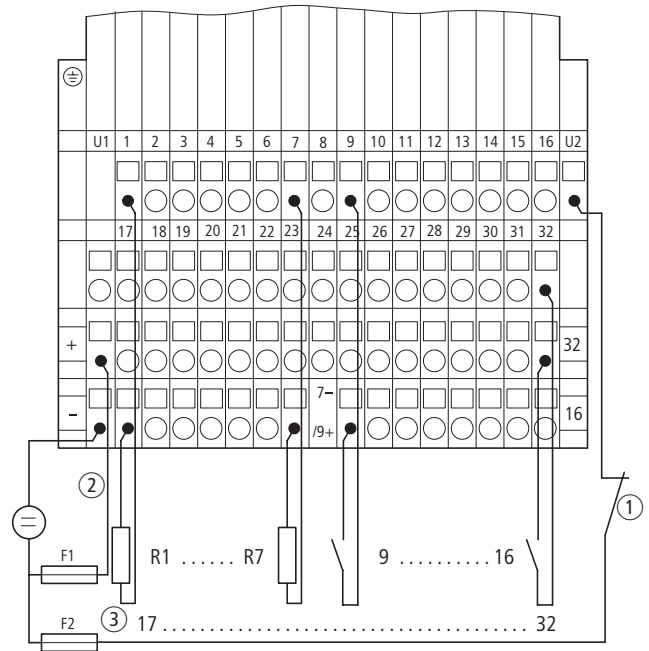
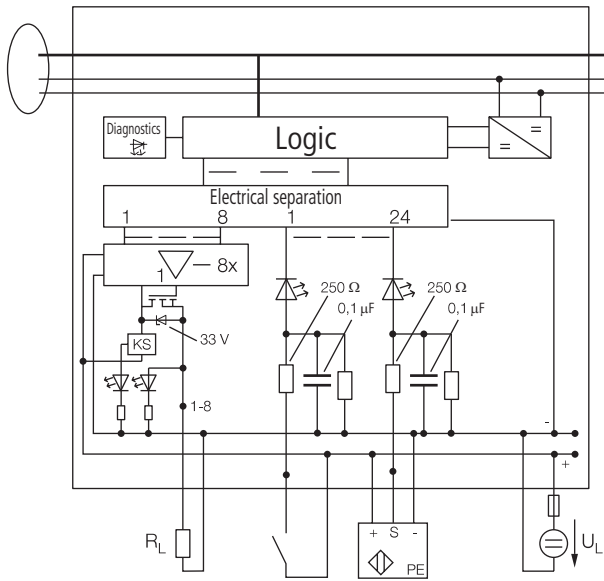
- a External disconnection of all outputs  
 b Supply of inputs  
 c Supply of outputs

Remote I/O WINbloc  
PROFIBUS-DP



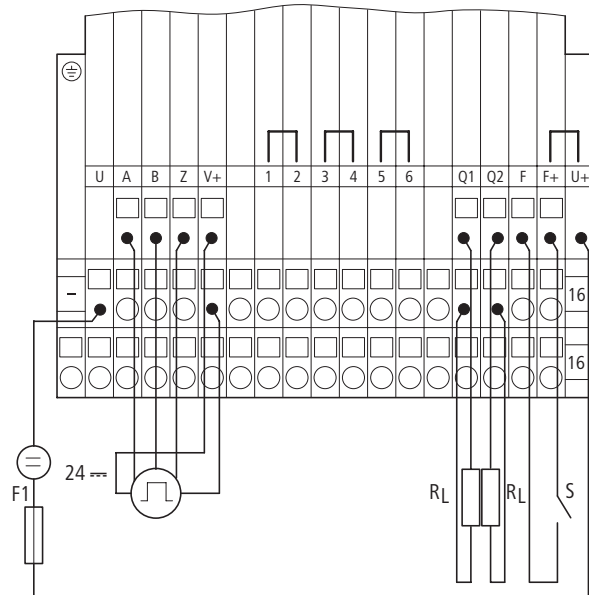
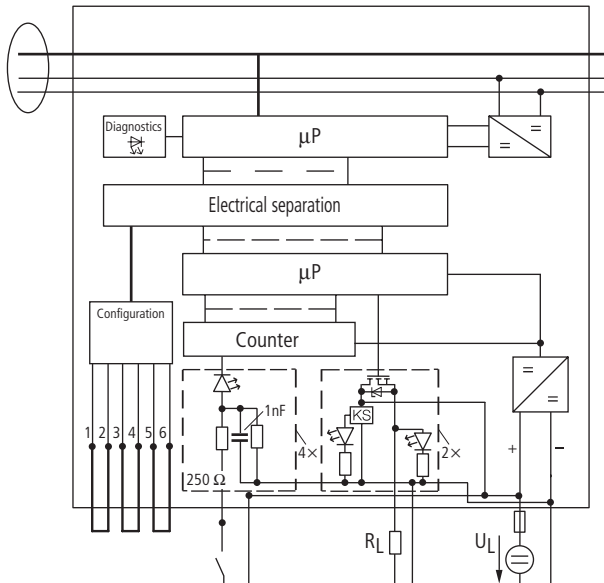
Document M001685-01, 2006/2007

DP-24DI/8DO/0.5A-PK

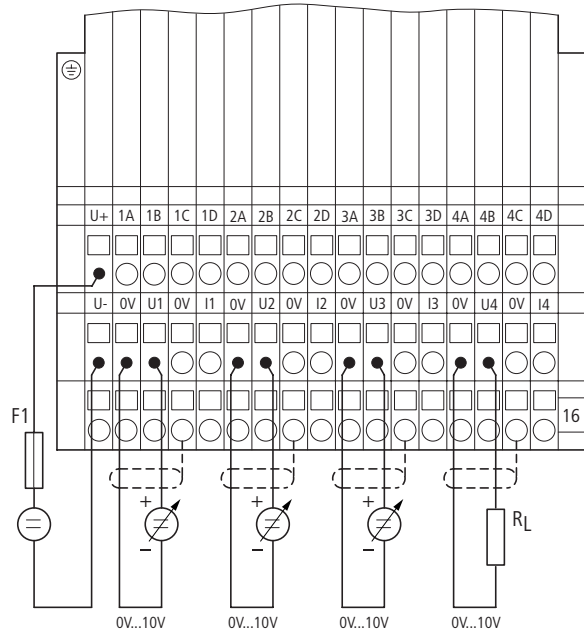
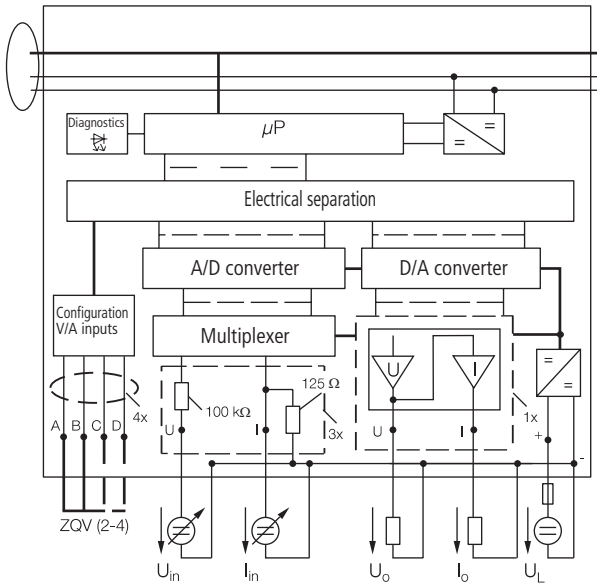


- a External disconnection of all outputs
- b Supply of inputs
- c Supply of outputs

DP-1CNT/24V

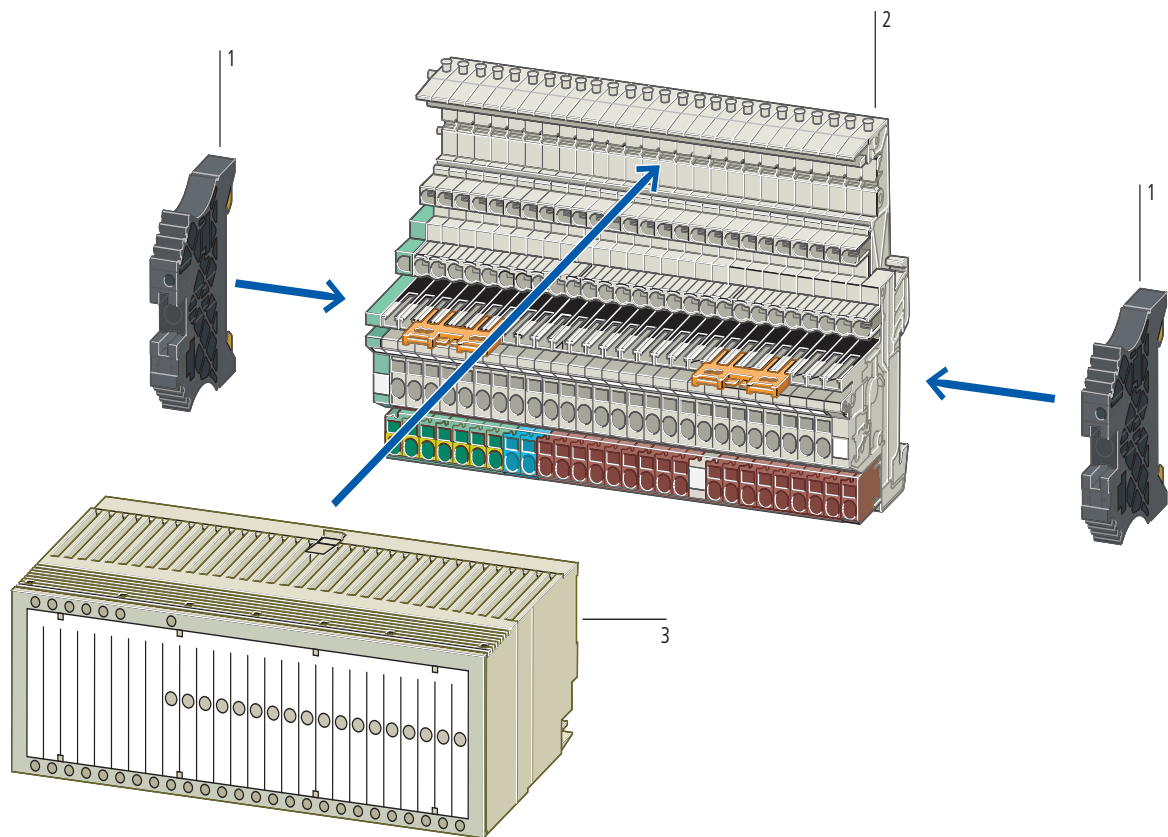


DP-3AI/1AO-UI



	CH1				CH2				CH3				CH4			
Range	1A	1B	1C	1D	2A	2B	2C	2D	3A	3B	3C	3D	4A	4B	4C	4D
0...10V					No jumper											
-10...+10V	┌───┐				┌───┐				┌───┐				┌───┐			
0...20mA	┌───┐				┌───┐				┌───┐				┌───┐			
4...20mA	┌───┐				┌───┐				┌───┐				┌───┐			





Electronic modules 5

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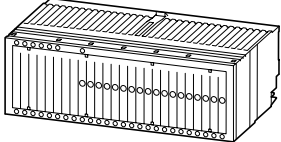
Base modules 2

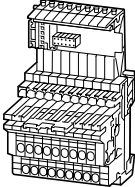
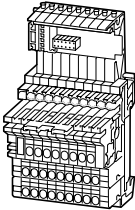
→ Page 3/36

Accessories 1

End bracket WEW-35/2

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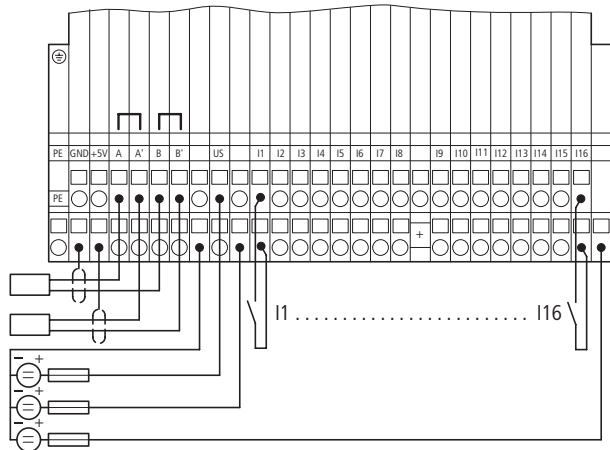
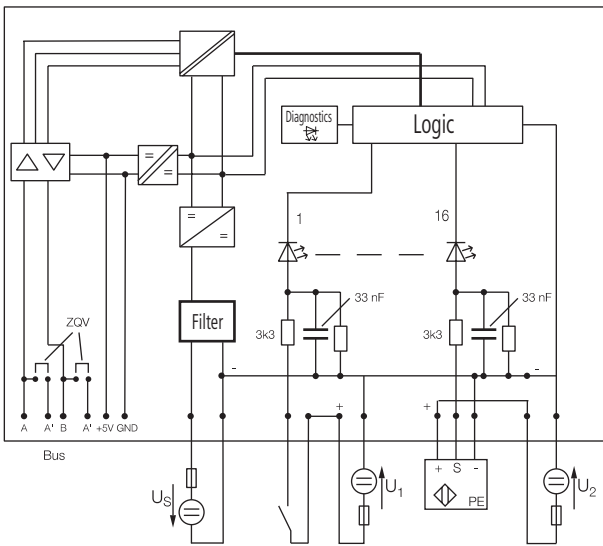
Inputs	Outputs	Description	For use with	Type Order No.	Price	Std. pack
Number	Number				See price sheet	
<b>Electronic modules</b> Plugged onto the base modules						
						
Digital input	16	–	Positive switching	ZSBE-1.5/25-S/PE-+ ZSBE-1.5/25-S/-/PE+	<b>DP-16DI/P-ECO</b> 85 51 224035	1 off
	32	–	Positive switching	ZSBE-1.5/25-S/S/+-+/PE+ ZSBE-1.5/25-2S/-/PE-/2+	<b>DP-32DI/P-ECO</b> 85 51 224037	
Digital output	–	16	Positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/PE-	<b>DP-16DO/0.5A-PK-ECO</b> 85 51 224036	
	–	32	Positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/S/+-/PE	<b>DP-32DO/0.5A-PK-ECO</b> 85 51 224038	
Combi modules	16	16	Digital inputs/outputs, positive switching, short-circuit proof, bitwise provision of field voltage	ZSBE-1.5/25-S/S/-/PE-/+	<b>DP-16DI-P/16DO/0.5A-PK-ECO</b> 85 51 224039	

Connection types	For use with	Type Order No.	Price	Std. pack
			See price sheet	
<b>Base modules</b> For connection to electronic module; rail-mounted				
2-wire connection 	PROFIBUS eco: DP-16DO/0.5A-PK-ECO	<b>ZSBE-1.5/25-S/PE-</b> 85 51 224079		1 off
	PROFIBUS eco: DP-16DI/P-ECO	<b>ZSBE-1.5/25-S/PE-+</b> 85 51 224080		
	PROFIBUS eco: DP-32DO/0.5A-PK-ECO	<b>ZSBE-1.5/25-S/S/+-/PE-</b> 85 51 224082		
	PROFIBUS eco: DP-32DI/P-ECO	<b>ZSBE-1.5/25-S/S/+-+/PE+</b> 85 51 224083		
3-wire connection 	PROFIBUS eco: DP-16DI/P-ECO	<b>ZSBE-1.5/25-S/-/PE+</b> 85 51 224081		
	PROFIBUS eco: DP-32DI/P-ECO	<b>ZSBE-1.5/25-2S/-/PE-/2+</b> 85 51 224084		
Input 3-wire connection, Output 2-wire connection	PROFIBUS eco: DP-16DI-P/16DO/0.5A-PK-ECO	<b>ZSBE-1.5/25-S/S/-/PE-/+</b> 85 51 224078		

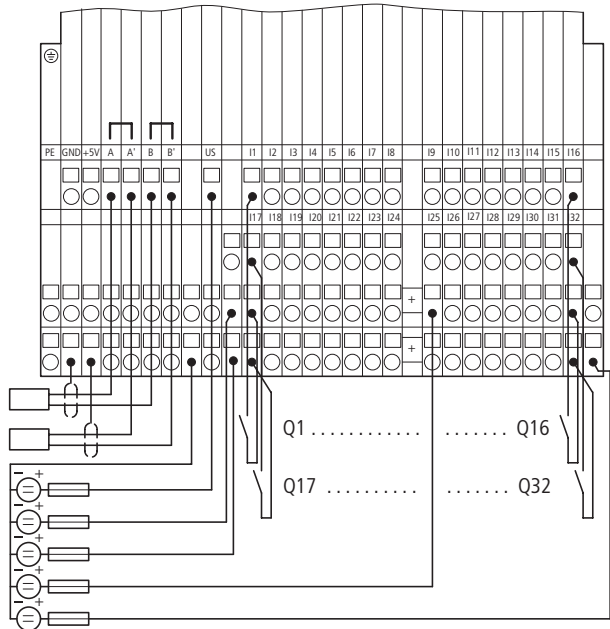
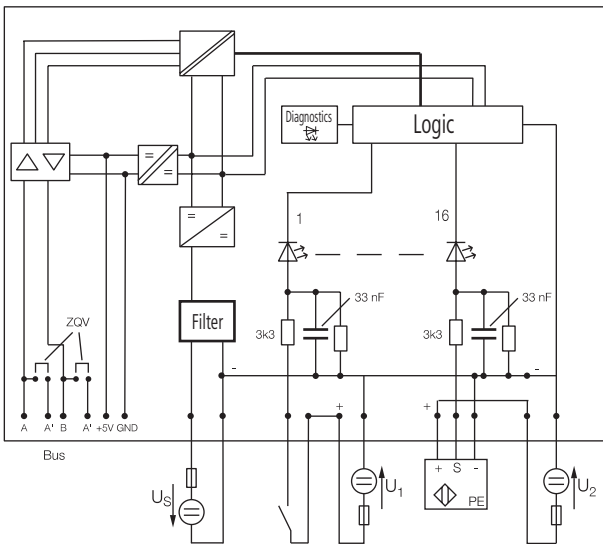


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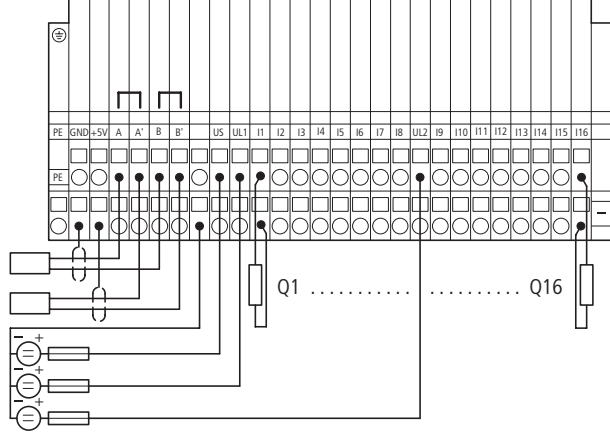
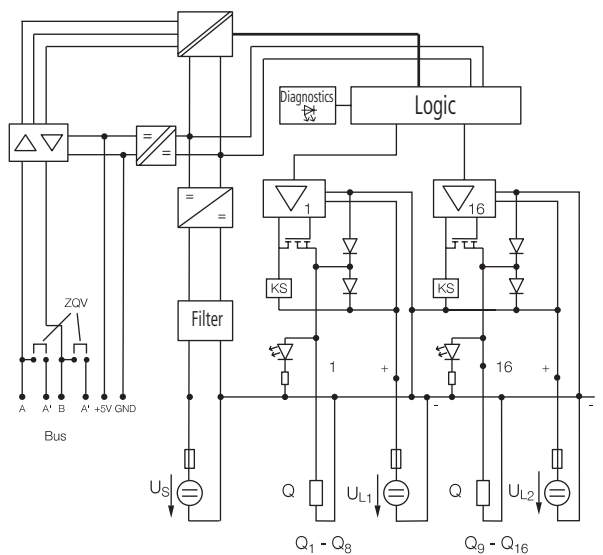
**DP-16DI/P-ECO**



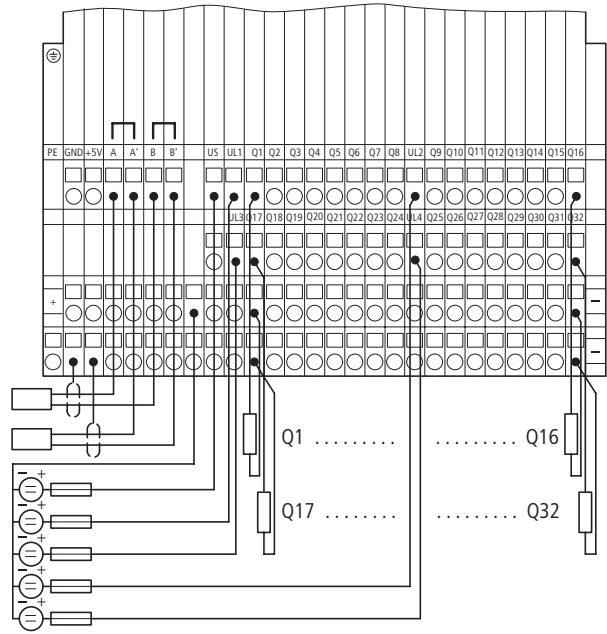
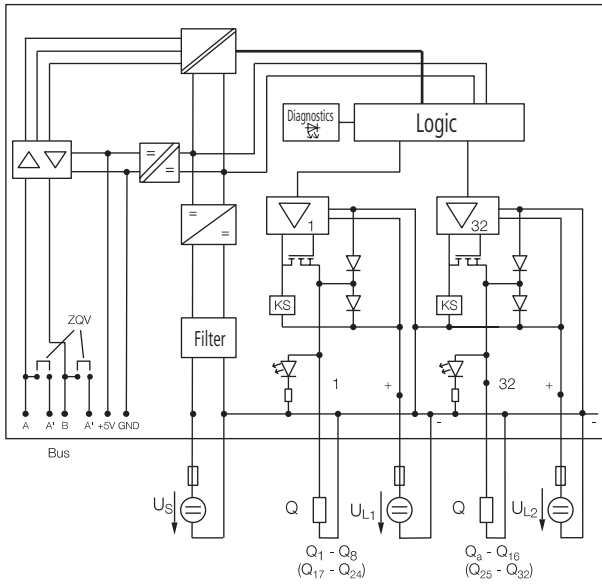
**DP-32DI/P-ECO**



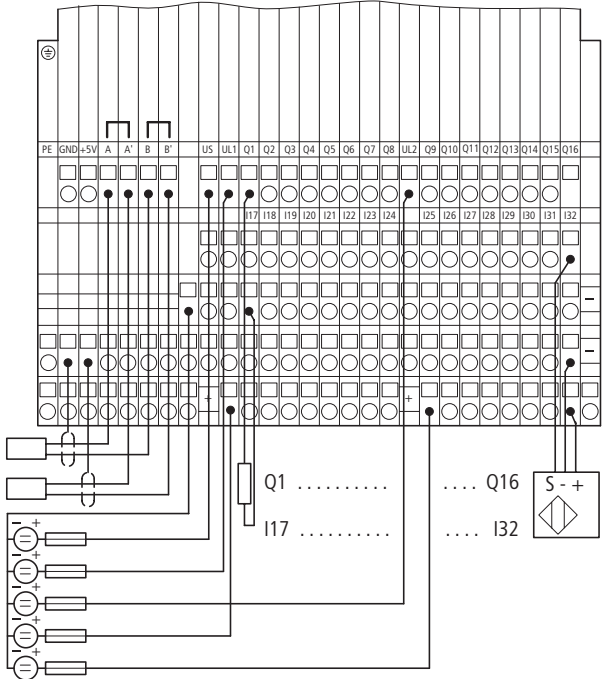
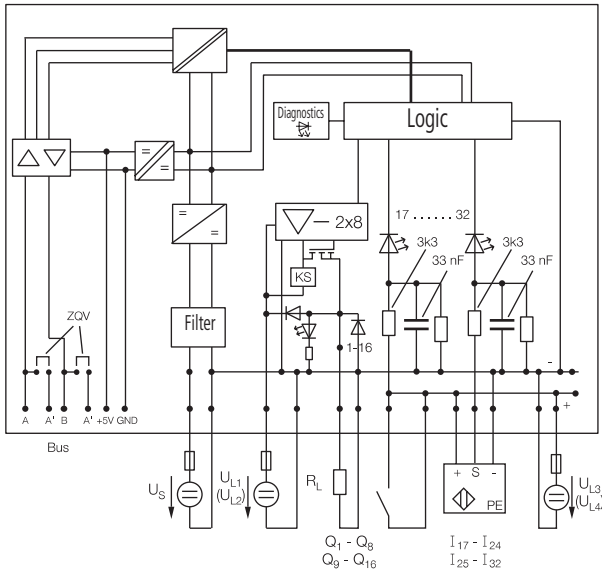
**DP-16DO/0.5A-PK-ECO**



DP-32DO/0.5A-PK-ECO



DP-16DI-P/16DO/0.5A-PK-ECO



Remote I/O WINbloc  
PROFIBUS-DP eco





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			PROFIBUS	PROFIBUS eco
<b>General</b>				
Standards			IEC/EN 61131	IEC/EN 61131-2 Type 1
Operating voltage <sup>1)</sup>		V DC	24	24
System configuration		V DC	18...30	18...30
Rated operating current <sup>1)</sup>	$I_e$	mA	40 for digital modules 70 for analog modules	70
<b>Ambient temperature</b>				
Operation		°C	0...55	0...60
Storage		°C	-20...85	-20...85
Relative air humidity, non-condensing (IEC/EN 60068-2-30)		%	15...95	15...95
<b>Electromagnetic compatibility (EMC)</b>				
Immunity			As per EN 50082-1 and IEC/EN 61000-6-2	As per EN 50082-1 and IEC/EN 61000-6-2
Electrostatic discharge (IEC/EN 61000-4-2, Level 3, ESD)				
Air discharge		kV	8	8
Contact discharge		kV	4	6
Electromagnetic fields (IEC/EN 61000-4-3, RFI)		V/m	10	10
Burst pulses (IEC/EN 61000-4-4, level 3)		kV	2	2
RFI suppression (EN 55011) <sup>2)</sup>			10 V, requirements as per EN 55011 Group 1, Class A, Emitted RFI as per EN 50081-2	
Degree of protection (IEC/EN 60529)			IP20	IP20
Vibration resistance (IEC/EN 60068-2-6) <sup>3)</sup>			Yes	Yes
Shock resistance (IEC 60068-2-27)			20 m/s <sup>2</sup> (2 g) to IEC 60068-2-27	20 m/s <sup>2</sup> (2 g) to IEC 60068-2-27
Repetitive shock resistance (IEC/EN 60068-2-29) <sup>4)</sup>			Yes	Yes
Approvals			UL	UL

**Notes**

- 1) Through bridge
- 2) Individual permit required for residential areas (residential, business/commercial).
- 3) Applies to modules fitted with two end brackets and an electronic module lock for the base modules.
- 4) These tests apply to all I/O modules with a locking clip, apart from relay modules.

			Base modules
<b>Base modules</b>			
Standards			VDE 0611 Part 1/8.92 IEC/EN 60947-7-1
Rated voltage		V	250
Rated current	$I_e$	A	17.5 A $\Delta$ continuous current via distribution strip ZVL
Conductor cross-section		mm <sup>2</sup>	1.5
Rated impulse withstand voltage	$U_{imp}$	kV	4
Pollution degree			3
Connections in TOP direction			Spring-loaded
Stripping length		mm	8
Terminal capacity		mm <sup>2</sup>	0.13...2.5
Solid		mm <sup>2</sup>	0.5...2.5
Flexible		mm <sup>2</sup>	0.5...1.5
Flexible with ferrule <sup>1)</sup>		mm <sup>2</sup>	0.5...1.5
Plug gauge IEC/EN 60 947-1			A2

**Notes**

- 1) For connection cross-sections, flexible with ferrules: Ferrules (gas-tight crimp) to DIN 46 228-1

		DP-Bridge	DP-BRIDGE/12MB
Operating voltage	V DC	24	24
Operating current	mA	< 80	< 80
Data transmission rate/distance		9.6 Kbit/s...1.5 Mbit/s	9.6 Kbit/s...12 Mbit/s
Weight		116 g	116 g



	DP-8DI/P	DP-16DI/P	DP-16DI/P-2X8	DP-32DI/P-2X16	DP-8DI/N	DP-8DI/230VAC	
<b>Digital input modules</b>							
Inputs as per standard	IEC/EN 61131-2 Type 1					IEC/EN 61131-2 Type 1	
Status '1'							
High signal $U_H$	11 V DC... 30 V DC		15 V DC... 30 V DC		0... 2 V DC		
High signal $I_H$	2 mA... 5.5 mA		2 mA... 4.5 mA		1.5 mA... 2 mA		
Status '0'							
Low signal $U_L$	-30 V DC... 5 V DC				15 V DC... 30 V DC		
Low signal $I_L$	-50 $\mu$ A... 1.5 mA				-		
Input delay	Rising edge, falling edge for "active low" < 200 ms (3-wire initiator) Falling edge for "open switch" < 2 ms					200 ms	
Input power loss	mW/ chan- nel	-	-	-	-	200	
Input reactive current	VA/ chan- nel	-	-	-	-	1.25	
Weight	167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	167 g $\pm$ 15%	



	DP-4AI/UI	DP-4AI/PT100	DP-4AI/THERMO
<b>Analog input modules</b>			
Operating voltage	V DC	24	24
Permissible range	V DC	18... 30	18... 30
Field current (without load)		70 mA	70 mA
Input resistance		$R_i \leq 125 \Omega$ , $R_u = 100 \text{ k}\Omega$	-
Limit frequency (-3 db)	Hz	50	-
Resistance transmitter		-	0... 409.5 $\Omega$
Offset error		$\leq 0.1\%$	$\pm 0.4 \Omega$
Linearity	%	$\leq 0.05$	$\pm 0.05$
Temperature coefficient		$\leq 360$ ppm of full-scale value per $^{\circ}\text{C}$	$\pm 0.03\%$ of measuring range/K
Basic error limit at 23 $^{\circ}\text{C}$		< 0.2% of full-scale value	-200... +400 $^{\circ}\text{C}$ : max. $\pm 1$ K, normally $\pm 0.5$ K +400... +850 $^{\circ}\text{C}$ : max. $\pm 1.5$ K
Conversion time		25 $\mu$ s	45 $\mu$ s
Cycle time	ms	7	1000
Sensor current		-	< 1.5 mA
RFI suppression		-	60, 50 Hz
Weight		313 g $\pm$ 15%	313 g $\pm$ 15%

	DP-4DO/2.0A-PK	DP-8DO/0.5A-PK	DP-16DO/0.5A-PK	DP-16DO/0.5A-P2X8	DP-32DO/0.5A-P2X16	
<b>Digital output modules</b>						
Operating voltage	V DC	24	24	24	24	
Permissible range	V DC	18... 30	18... 30	18... 30	18... 30	
Potential isolation		Operating voltage – field voltage 500 $V_{rms}$ /min to EN 61131				
Field current (without load)		$\leq 30$ mA	$\leq 40$ mA	$\leq 70$ mA	-	
Output current	A	$\leq 2$	$\leq 0.5$	$\leq 0.5$	$\leq 0.5$	
Output delay		$\approx 1$ ms, $R_L \leq 1 \text{ k}\Omega$	$\approx 1$ ms, $R_L \leq 1 \text{ k}\Omega$	$\approx 1$ ms, $R_L \leq 1 \text{ k}\Omega$	$\approx 3$ ms, $R_L \leq 1 \text{ k}\Omega$	
Utilization factor	g %	100	100	100	50	
Lamp load	$R_{LL}$ W	$\leq 10$	$\leq 2$	$\leq 2$	-	
Fuse protection		-	-	-	630 mA/F per channel	
Weight		167 g $\pm$ 15%	167 g $\pm$ 15%	313 g $\pm$ 15%	167 g $\pm$ 15%	

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			DP-8DO/R-NO	DP-16DO/R-NO	DP-8DO/R-CO
<b>Relay modules</b>					
Operating voltage		V DC	24	24	24
Permissible range		V DC	18...30	18...30	18...30
Potential isolation			Modbus – output 2 kV <sub>rms</sub> to EN 61131, Modbus – auxiliary voltage (optocoupler) 500 V <sub>rms</sub> /min		
Field current (without load)			≤ 35 mA	≤ 70 mA	≤ 30 mA
Nominal load voltage			110 V DC/250 V AC	110 V DC/250 V AC	30 V DC/250 V AC
Continuous current			Max. current per output: 2 A, resistive load Max. total current per group of 4: 6 A, resistive load Max. contact current: 60 W/500 VA Min. contact current: 100 μA	Max. current per output: 1 A, resistive load Max. total current per group of 4: 4 A, resistive load Max. contact current: 60 W/500 VA Min. contact current: 100 μA	Max. current per output: 2 A, resistive load Max. contact current: 60 W/500 VA Min. contact current: 100 μA
Lifespan, mechanical	Operations		$2 \times 10^7$	$2 \times 10^7$	$2 \times 10^7$
Lifespan, electrical	Operations		$10^5$ , at 250 V AC/2 A resistive load		
Insulation test voltage, contact/coil		kV	1	1	4
Creepage and clearance distances			3 mm between relay pairs	3 mm between relay pairs	3 mm between relay pairs
Switching frequency			20 min <sup>-1</sup> at nominal load	20 min <sup>-1</sup> at nominal load	20 min <sup>-1</sup> at nominal load
Weight			167 g ± 15%	313 g ± 15%	167 g ± 15%

			DP-4AO/UI
<b>Analog output modules</b>			
Operating voltage		V DC	24
Permissible range		V DC	18...30
Field current (without load)			70 mA
Load resistance			$R_u \geq 1 \text{ k}\Omega$ , $R_i \leq 400 \Omega$
Linearity		%	0.5
Basic error limit at 23 °C			< 0.8% of full-scale value
Transmission frequency		Hz	≤ 50
Temperature coefficient			300 ppm of full scale value per °C
Weight			313 g ± 15%

			DP-8DI/4DO/2.0A-PK	DP-8DI/8DO/0.5A-PK	DP-24DI/8DO/0.5A-PK
<b>Combi modules</b>					
Operating voltage		V DC	24	24	24
Permissible range		V DC	18...30	18...30	18...30
Input delay			–	–	–
Potential isolation			–	–	–
Inputs/outputs as per standard					
Field current (without load)			≤ 40 mA	≤ 40 mA	≤ 35 mA
Status '1'					
High signal	$U_H$		11 V DC... 30 V DC	11 V DC... 30 V DC	11 V DC... 30 V DC
High signal	$I_H$		2 mA... 4 mA	2 mA... 4.5 mA	2 mA... 4 mA
Status '0'					
Low signal	$U_L$		-30 V DC... 5 V DC	-30 V DC... 5 V DC	-30 V DC... 5 V DC
Low signal	$I_L$		-50 μA... 700 μA	-50 μA... 700 μA	-50 μA... 700 μA
Output load capacity			$2 \times I_{out}$ for 5 min.	–	–
Underload at $I_{load}$		mA	< 150/< 750	–	–
Lamp load	$R_{LL}$	W	≤ 20	≤ 2	≤ 2
Utilization factor	g	%	–	50	100
Output delay			< 1 ms	≈ 1 ms, DO $R_L \leq 1 \text{ k}\Omega$	≈ 1 ms, DO $R_L \leq 1 \text{ k}\Omega$
Output current		A	≤ 2	≤ 0.5	≤ 0.5
Weight			313 g ± 15%	167 g ± 15%	313 g ± 15%





		DP-3AI/1AO-UI
<b>Analog combi modules</b>		
Operating voltage	V DC	24
Permissible range	V DC	18 ... 30
Field current (without load)		Input: 70 mA, output: $\leq 35$ mA
Input resistance		$R_i \leq 125 \Omega$ , $R_u = 100k\Omega$
Linearity	%	Input: 0.5, output: $\pm 0.5$
Basic error limit at 23 °C		Input: < 0.2% of full-scale value Output: $\leq 0.8\%$ of full-scale value
Limit frequency (-3 db)	Hz	Input: $\leq 50$ , output: $\leq 50$
Temperature coefficient		Input: $\leq 360$ ppm of full-scale value, output 300 ppm of full-scale value
Conversion time		Input: 25 $\mu$ s, output: 5 $\mu$ s
Load resistance		$R_u \geq 1 k\Omega$ , $R_i \leq 400 \Omega$
Weight		313 g $\pm 15\%$

		DP-1CNT/24V
<b>Counter module</b>		
Operating voltage	V DC	24
Permissible range	V DC	18 ... 30
Input voltage		
Input voltage nominal value	V DC	24 V DC
Low signal	$U_L$	-1 ... +4 V DC (sensor/transmitter: -1 ... +1.5 V DC)
High signal	$U_H$	+5 ... +30 V DC (sensor/transmitter: +4 ... +30 V DC)
Input current		
High signal	$I_H$	Normally 4 mA (sensor/transmitter: 2.5 mA)
Frequency		$\leq 100$ Hz
Output current	mA	$\leq 500$ , short-circuit proof
Nominal voltage on supply terminal	$U_L$	24 V DC
Ripple	%	$\pm 5$ , permissible range (incl. ripple) 21.6 ... 26.4 V DC
Nominal current drawn from module bus	$I_{MB}$ mA	$\leq 60$
Weight		313 g $\pm 5\%$

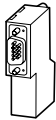


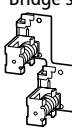
		DP-16DI/P-ECO	DP-32DI/P-ECO
<b>Digital input modules</b>			
Inputs as per standard		IEC/EN 61131-2 Type 1	IEC/EN 61131-2 Type 1
Status '1'			
High signal	$U_H$	15 V DC ... 30 V DC	15 V DC ... 30 V DC
High signal	$I_H$	1.2 mA ... 4 mA	1.2 mA ... 4 mA
Status '0'			
Low signal	$U_L$	-5 V DC ... 5 V DC	-5 V DC ... 5 V DC
Potential isolation		from the fieldbus 500 $V_{rms}/min$	from the fieldbus 500 $V_{rms}/min$
Utilization factor	g %	100	100
Weight		350 g, 370 g $\pm 15\%$	450 g, 550 g $\pm 15\%$

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			DP-16DO/0.5A-PK-ECO	DP-32DO/0.5A-PK-ECO
<b>Digital output modules</b>				
Operating voltage		V DC	24	24
Permissible range		V DC	18...30	18...30
Potential isolation			from the fieldbus 500 V <sub>rms</sub> /min	from the fieldbus 500 V <sub>rms</sub> /min
Field current (without load)			20 mA per U <sub>L</sub> input	20 mA per U <sub>L</sub> input
Output current		A	≤0.5	≤0.5
Output delay			< 100 μs (for R ≤ 1 kΩ)	< 100 μs (for R ≤ 1 kΩ)
Utilization factor	g	%	100	100
Lamp load	R <sub>LL</sub>	W	≤ 3	≤ 3
Weight			350 g ± 15%	450 g ± 15%

			DP-16DI-P/16DO/0.5A-PK-ECO
<b>Combi modules</b>			
Operating voltage		V DC	24
Permissible range		V DC	18...30
Input delay			3
Potential isolation			from the fieldbus 500 V <sub>rms</sub> /min
Inputs/outputs as per standard			IEC/EN 61131
Field current (without load)			≤ 20 mA per U <sub>L</sub> feed
Status '1'			
High signal	U <sub>H</sub>		15 V DC... 30 V DC
High signal	I <sub>H</sub>		1.2 mA... 4 mA
Status '0'			
Low signal	U <sub>L</sub>		-5 V DC... 5 V DC
Lamp load	R <sub>LL</sub>	W	≤ 3
Output delay			< 100 μs (for R ≤ 1 kΩ)
Output current		A	≤0.5
Weight			550 g ± 15%



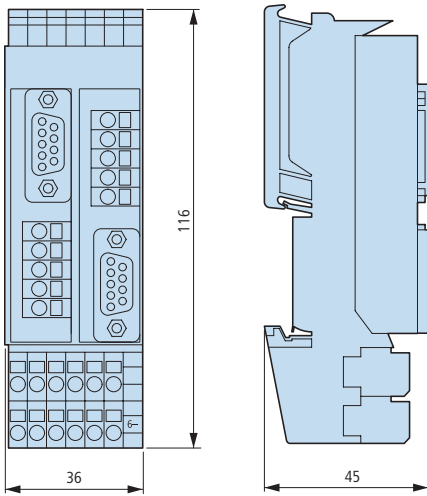
Description	For use with	Type Order No.	Price See price sheet	Std. pack
<b>Accessories</b>				
 ERbic PROFIBUS connector without termination resistor (gray)	PROFIBUS	ERBIC-PB-CONNECTOR/WITHOUT-TERMINAT. 85 51 231005		1 off
		ERBIC-PB-CONNECTOR/WITH-TERMINATION 85 51 231006		
Software Service package: Diagnostics software DIAMon and service cable for PROFIBUS-DP Adapter cable for DIAMon	PROFIBUS	SW-DIAMON-DP-WIN95-NT-KIT 85 51 224161		
		DP-DIAMON-ADAPTER 85 51 224162		
Monitoring/commissioning software for PROFIBUS-DP and CANopen Graphical display of stations, fault diag- nostics, fieldbus communication via dif- ferent standard interfaces Service package: DIAMon software, dong- gle and service cable for CANopen	PROFIBUS CANopen	CD-SW-DIAMON/DP-WIN95-NT 85 51 224164		
	CANopen	CAN/DIAMON-KIT 85 51 224222		
 End bracket For fixing the sides of the modules to the mounting rails	PROFIBUS PROFIBUS eco CANopen	WEW-35/2 85 51 224107		50 off
Shield connection For analog modules	PROFIBUS PROFIBUS eco CANopen	KLBU-4-6Z 85 51 224141		10 off
 End plate, separate With termination resistor Supplied with PB-DP-BRIDGE and DP-BRIDGE/12MB. Supplied with CAN-BRIDGE.	PROFIBUS	ZAP-MA/2S 85 51 224124		25 off
	CANopen	ZAP-ZSB1.5/2S 85 51 224125		
 Bridge section Shield connection for direct bus connection	PROFIBUS CANopen	SCH-1-WINBLOC 85 51 224089		1 off
Termination resistor	PROFIBUS eco	Set WINbloc eco (1 × ZBW-6, 2 × DP-ASW)	DP-ECO-ASW-SET 85 51 224157	
Termination resistor		–	DP-ASW 85 51 224156	
Fitting tool		–	ZBW-6 85 51 224123	



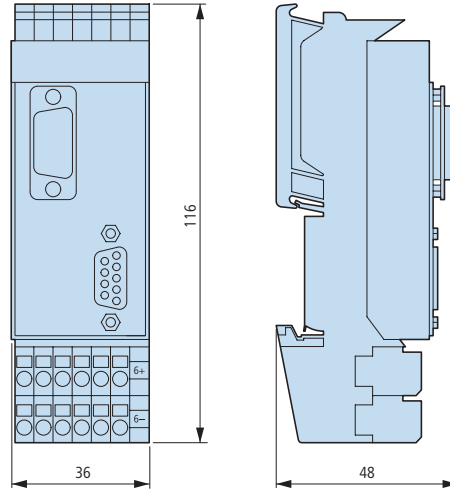
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**Bridges**

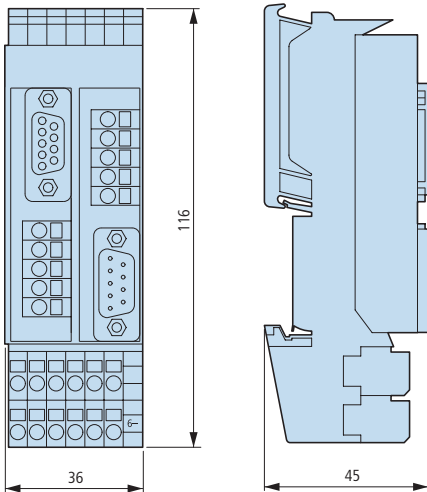
**PB-DP-BRIDGE**



**DP-BRIDGE/12MB**

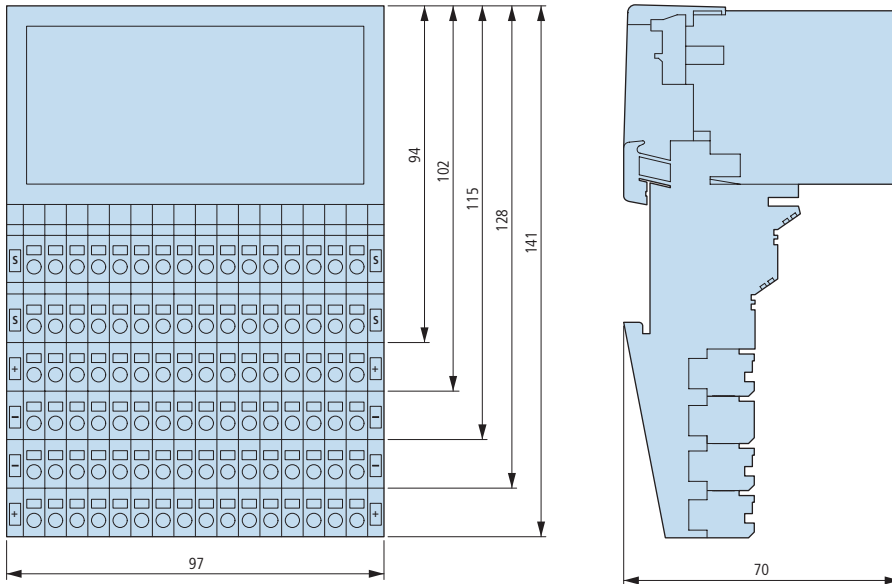
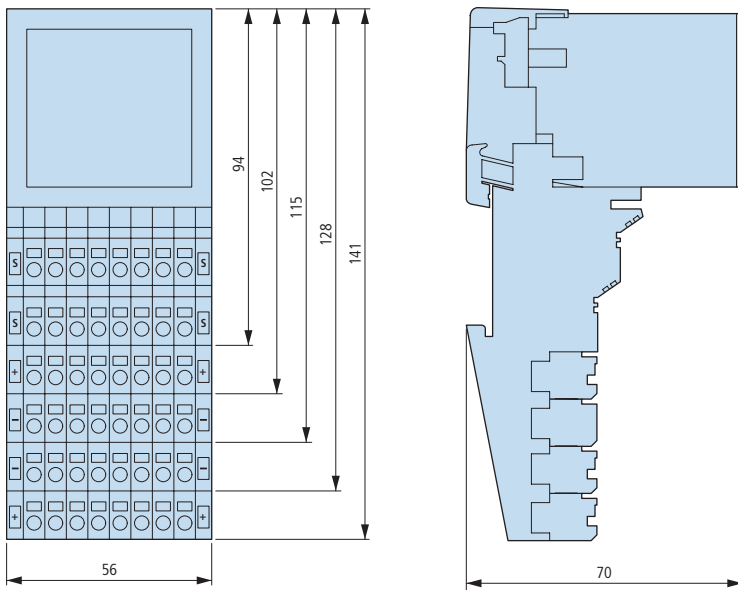


**CAN-BRIDGE**

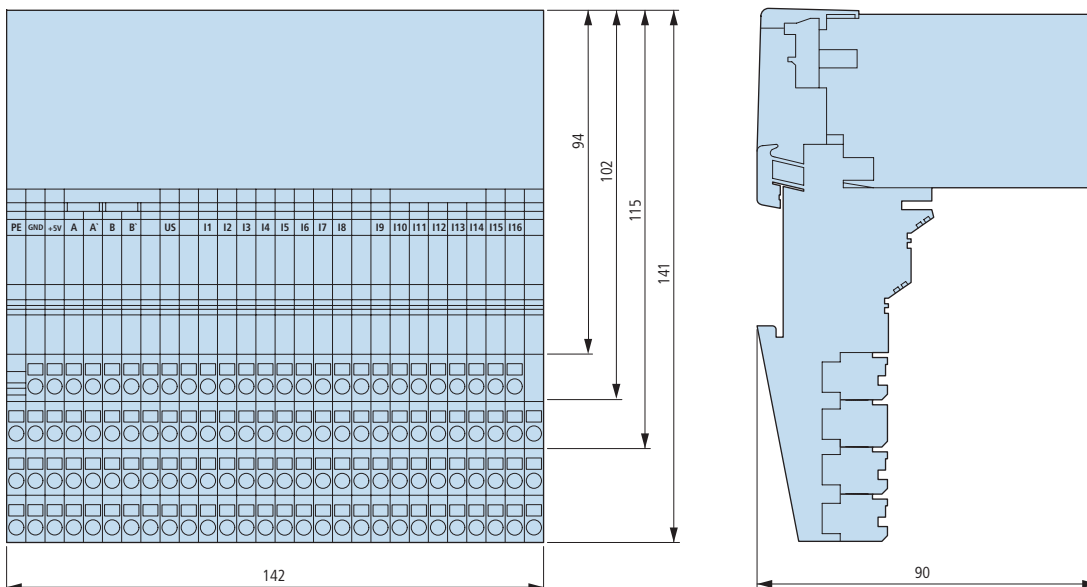




WINbloc base modules



WINbloc PROFIBUS eco



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Description	Type Order No.	Price  See price sheet	Std. pack
<b>Visualization software</b>			
GALILEO	<b>SW-GALILEO</b> 91 25 000021		1 off
GALILEO OPEN	<b>LIC-GALILEO-OPEN-PC</b> 91 30 000020		
EPAM	<b>SW-EPAM</b>		
<b>PLC programming software</b>			
<i>MXpro</i>	Programming to IEC 61131-1 with IL, ST, LD, FBD, SFC, CFC. Bus configuration CAN, PROFIBUS-DP, XI/ON. Comprehensive help and documentation.	<b>SW-MXPRO</b> 91 24 000007	1 off
<b>Additional software</b>			
S7-PG-Router	This tools enables the programming of S7 programmable controllers connected to the Micro Innovation Panel via Ethernet interface of the panel. XV200 and XVS400 devices with onboard Profibus and Ethernet interface support the S7 PG Routing function. This function requires 80 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 80 points for licensing a device.	<b>SW-S7-PG-ROUTER</b> 91 26 000001	1 off
CE Telediag	This tool enables user-friendly teleservice via a modem connection with a dialup assistant and device callback. XV200, XVS400, XV400 and XVH300 devices with onboard System Port (RS232) interface support the CE Telediag function. This function requires 40 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 40 points for licensing a device.	<b>SW-CE-TELEDIAG</b> 91 26 000015	
CAN Monitor	The CAN monitor tool enables the monitoring and tracing of CAN telegrams with a related time stamp, COB-ID and data. Error frames are not detected. XV200, XV400 and XVH300 devices with onboard CAN interface support the CAN monitor function. This function does not require any license points on the device. This product consists of the software and documentation.	<b>SW-CAN-MONITOR</b> 91 26 000005	
DXS Server	DXS (Data Exchange Service) is a service for distributing data between all connected clients. A robust event-driven and transaction-oriented communication protocol for Micro Innovation devices with GALILEO runtime is used. XV200, XVS400, XV400 and XVH300 devices with onboard Ethernet interface and GALILEO runtime support the DXS client function. This function requires 80 license points on the device → HMI / HMI-PLC licensing. This product consists of the software with documentation and a license product paper with 80 points for licensing a device.	<b>SW-DXS-SERVER</b> 91 26 000010	

**Notes** Other software is available at [www.microinnovation.com](http://www.microinnovation.com)



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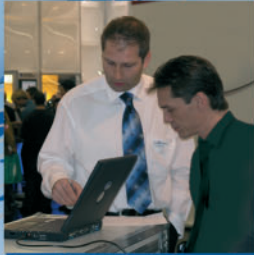
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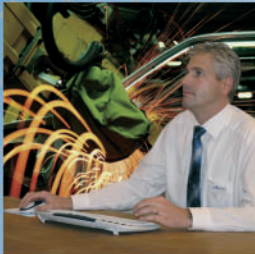




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