

System pro M compact® InSite

Connected solution for sub distribution

System pro M compact® InSite is a range of connected devices to support energy and asset management in electrical distribution.

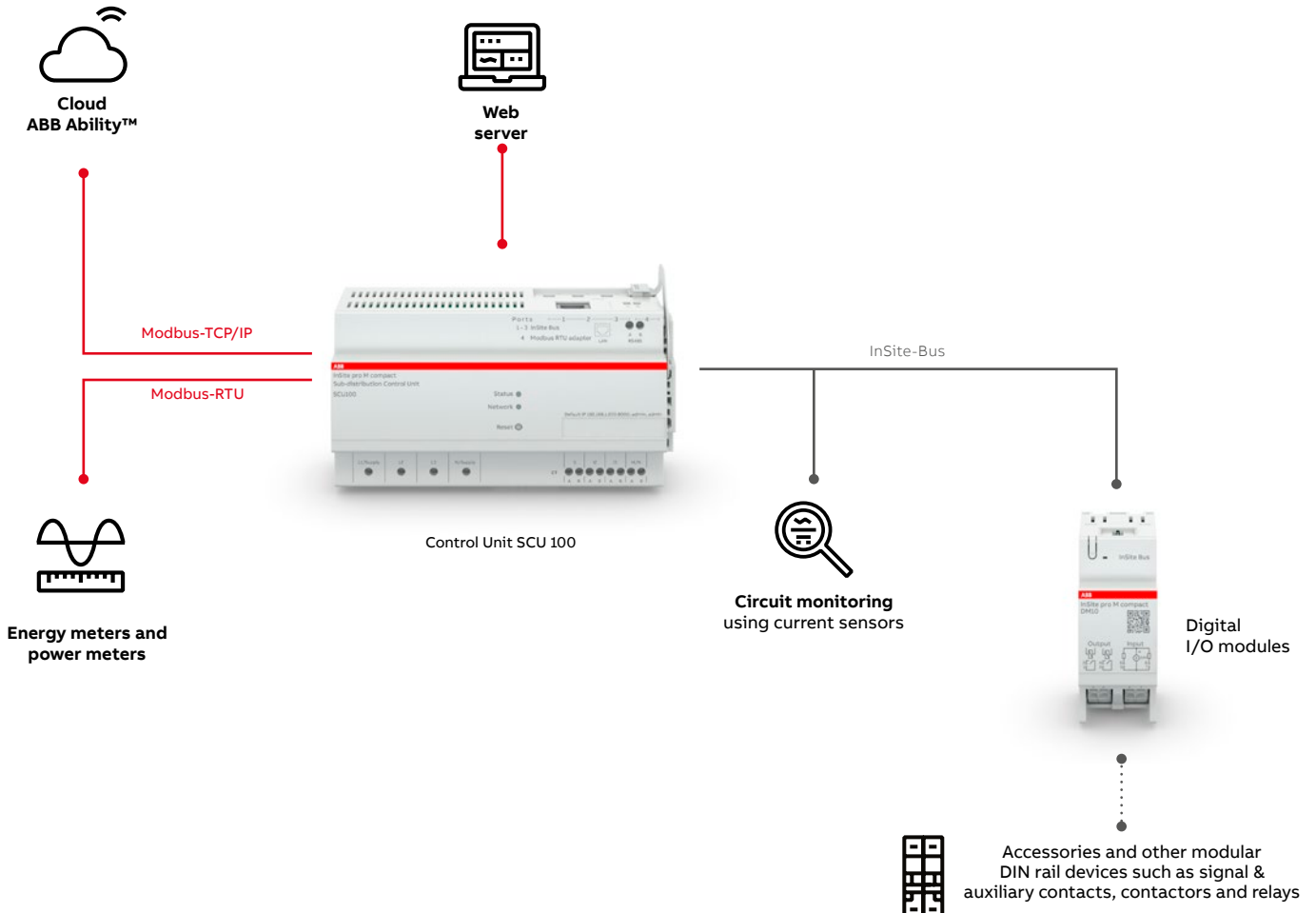
The solution delivers highest data security standards (encrypted SNMP V3 and SSL certificate) as well as continuous upgrades thanks to regular firmware updates. Central to the System pro M® InSite range is the SCU100 control unit, that has been specifically developed to allow users to better manage energy and assets in sub distribution boards. It can gather data from up to 16 energy and power meters, as well current sensors for branch measurement.

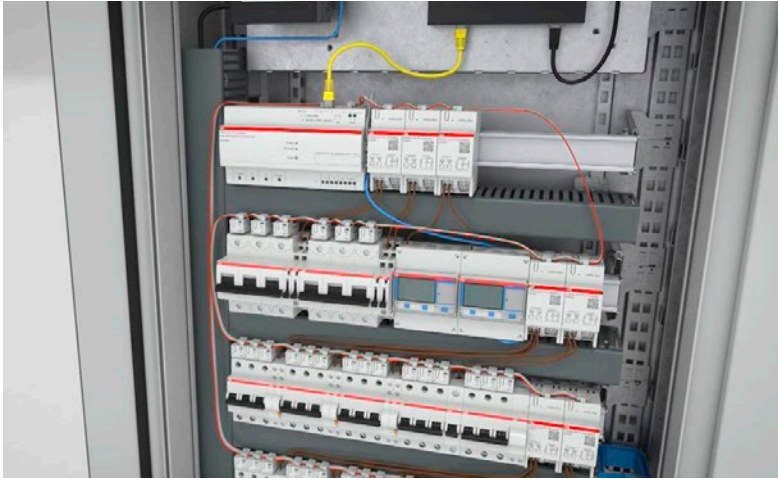
ABB's ready-made, pre-assembled InSite kit packages are designed to make sub and final electrical distribution smarter with minimal effort. Any size of installation in commercial or industrial application can easily be upgraded,

reducing installation and configuration time to nearly zero, and in turn, minimize costly operational downtime.

To enable monitoring and control of the complete energy distribution system, the range is completed with a flexible choice of input and output modules, which can be easily connected to ABB's System pro M compact® accessories of MCBs and RCDs, as well as other DIN-Rail products with digital inputs or outputs. They can also be connected to pulse meters – such as gas or water – to collect utilities consumption.

Based on a wide set of data, available functionalities range from simple monitoring of the installation to analysis of historical data, customized alarms and implementation of automated actions to reduce energy consumption, identify potential risks and ensure operational continuity.





What to include in the panel:

- 1 Control Unit
- 2 Digital I/O modules
- 3 Current sensors
- 4 Flat cable

1 Control Unit SCU 100

Single access point in the sub distribution board, data aggregator and collector from field devices

4th port for Modbus RTU to enable connection of meters

Firmware upgrade to communicate with:

- Classic accessories connected through I/O modules
- Sensors, energy and power meters in Modbus RTU
- Current sensors

Modbus TCP/IP and RTU to communicate to supervision system, enabling remote availability of collected data

LEDs for visual understanding of correct /uncorrect installation and functioning

Internal power supply to enable communication and correct functioning of sensors and I/O modules

2 Digital Input/Output modules DM00, DM10, DM11

- Connect in the connectivity system classic accessories from existing and future ABB ranges and 3rd party ranges.
- Compatibility with water/gas/heat meters with pulse outputs
- Input to receive data from hard wired connecte devices (accessories, meters)
- Output to act on connected accessories

Connection to InSite bus via same type of connectors as existing sensors

Assignment of ID address via dedicated button and analogous procedure as for sensors


No external power supply to enable communication and correct functioning

Visual indication of correct installation and functioning

Screwless terminals to ease installation procedure


Technical data

System pro M compact® InSite



Sub distribution control unit	Technical feature	Unit	Description
	Supply voltage	[VAC]	80-277 (L1-N, +5%)
	Frequency	[Hz]	50/60
	Power input (L1-N)	[W]	5...45 depending on number of sensors and I/O modules
	Power input , current transformer, secondary side	[VA]	Current circuit <2 (per phase)
	Voltage measurement range	[VAC]	80-277 (L1, L2, L3-N)
	Measurement range, current transformer, secondary side	[A]	nominal: 5 max: 6
	Harmonic component	[Hz]	up to 2000
	Data rate of Modbus RTU	[Baud]	RS485 2- wire, 2400...115200
	Refresh time		1sec / 30 sec (depending on type of data)
	Data storage and export		Integrated 1-year data storage Automatic CSV data export
	Communication		LAN: Modbus TCP/IP, SNMP v1, v2, encrypted v3 RS485: Modbus RTU
	Connected devices		Up to 96 sensors/digital channels Up to 16 meters
	LAN	[Mbit/s]	100
	Conductor cross-section	[mm ²]	0.5...2.5
	Mounting method		35mm DIN rail (DIN 5022)
	Degree of protection		IP20
	Dimensions	[mm]	161.5x87.0x64.9 (9WM)
	Operating temperature	[°C]	-25... +60
	Storage temperature	[°C]	-40... +85
	Standards		IEC61010-1

Main circuit accuracy	Description
Voltage	± 1%
Current	± 1%
Harmonic component (up to 2500Hz)	± 1%
Active power	± 2%
Apparent power	± 2%
Reactive power	± 2%
Power factor	± 2%

Input and Output modules	Technical feature	Unit	Input module DM11	Output module DM00	Input and Output module DM10
	Number of digital channels		4 Input	4 Output	2 Input + 2 Output
	Voltage (min - max)*		active input: 22-26 Vdc	relay output: 5Vdc-240Vac	active input: 22-26Vdc relay output: 5Vdc-240Vac
	Current (min - max)*		active input: 4mA	relay output: 5mA-2.5A Max 4,5A (<5sec)	active input: 4mA relay output: mA-2.5A Max 4,5A (<5sec)
	Pulse minimum duration**	[ms]	5	n/a	5
	Pulse frequency**	[Hz]	100	n/a	100
	Terminals cross section	[mm ²]	2,5	2,5	2,5
	Mounting method		35 mm DIN rail (DIN 50022) or SMISLINE TP plug base		
	Degree of protection		IP20	IP20	IP20
	Dimensions	[mm]	36x88x65	36x88x65	36x88x65
	Operating temperature	[°C]	-25...+60	-25...+60	-25...+60
Storage temperature	[°C]	-40...+85	-40...+85	-40...+85	
Standards		IEC 61010	IEC 61010	IEC 61010	

*relay output values reported are applicable to resistive load

**Applicable only to active inputs

Ordering data

System pro M compact® InSite



SCU100

The SCU100 is capable of collecting measurements and information from up to 16 energy and power meters, in addition to 96 current sensors and digital channels, all simultaneously. It calculates the energy and number of operations at single line level and compares stored values by period or by device.

Remotely monitoring of the system is made possible by a digital communication that supports different protocols: Modbus RTU, TCP or SNMP v1 and v2 and the encrypted v3.

Its built-in web server offers intuitive access to the measured data, the configuration settings and the system parameters, providing one unique interface for both operations and commissioning process. The two interfaces – LAN (TCP/IP or Modbus TCP) and RS485 (Modbus RTU) – guarantee straightforward integration into any IT infrastructure. What's more, the data can be read out by means of an encrypted SNMP protocol.

The Sub-distribution Control Unit SCU100 has been specifically developed to meet requirements of energy and asset monitoring and control in sub-distribution panelboards. In a framework where energy efficiency and operations continuity are becoming crucial, SCU100 offers the possibility to reduce wastes and identify risky situations promptly.



Digital Input and Output modules – DM11, DM00, DM10

The range of digital Input and Output Modules consists of 3 devices to adapt to quantity and type of installed products: Input Module DM11, Output Module DM00 and Input/Output Module DM10.

They can be connected to System pro M compact® accessories of MCBs and RCDs, but also to other DIN-Rail products with a digital input or output and to pulse meters (e.g. water, gas meters). They can read contact status, activate or deactivate lines and collect utilities consumptions.

ABB ranges compatible with I/O Modules are:

Molded Case Circuit Breaker	
Tmax XT	
Molded Case Circuit Breaker	Residual Current Devices
S 200	RCCBs – F 200
SN 201	RCD-blocks – DDA 200, DDA 800
S200 80-100A	RCBOs – DS 201, DS 202, DS 203, DS 200, DS800
S 750 DR	eRCBOs – DSE, DSN
S 700	
S 800	

Summary

A brief overview and more useful information

Order Codes

A brief overview and more useful information

The link provided here will redirect you to the **detailed product catalog**, where you can find **more information about the products and the order codes**.

<https://new.abb.com/low-voltage/products/system-pro-m/energy-efficiency-devices/system-pro-m-compact-insite>