System pro M compact® InSite

Beyond connected, always one step ahead of maintenance.

- Flexible and scalable solutions for commercial and industrial areas
- Retrofit existing installations within a day
- Connect the system to the cloud in only 10 minutes
- Lower operational costs and improved facility value by 5%
- Save up to 20% of energy and reduce CO2 emissions by 15%

Designed for commercial and industrial buildings, System pro M compact® InSite can be installed as a standalone solution or integrated into any IT infrastructure, such as the cloud-based ABB Ability™ Energy and Asset Manager solution, to help users achieve the highest standard of energy efficiency compliance, as well as saving up to 20% on energy bills.

Table of contents

System pro M compact® InSite
Connected solution for sub distribution

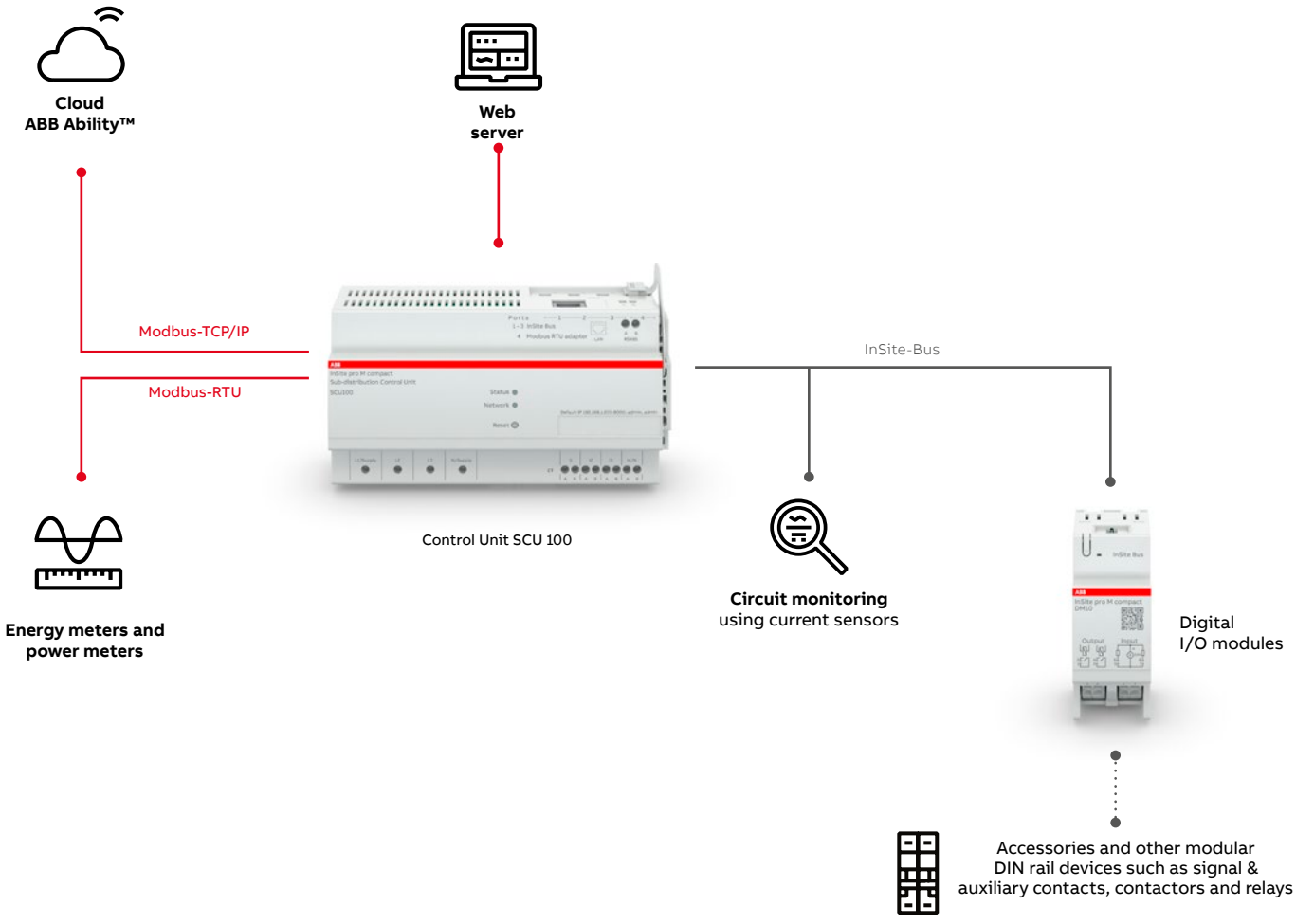
System pro M compact® InSite is a range of connected devices to support energy and asset management in electrical distribution.

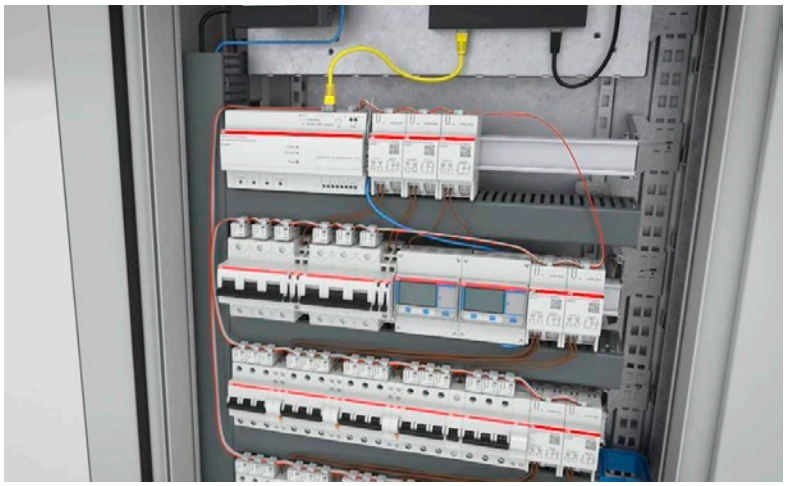
The solution delivers highest data security standards (encrypted SNMP V3 and SSL certificate) as well as continuous upgrades thanks to regular firmware updates. Central to the System pro M® InSite range is the SCU100 control unit, that has been specifically developed to allow users to better manage energy 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.

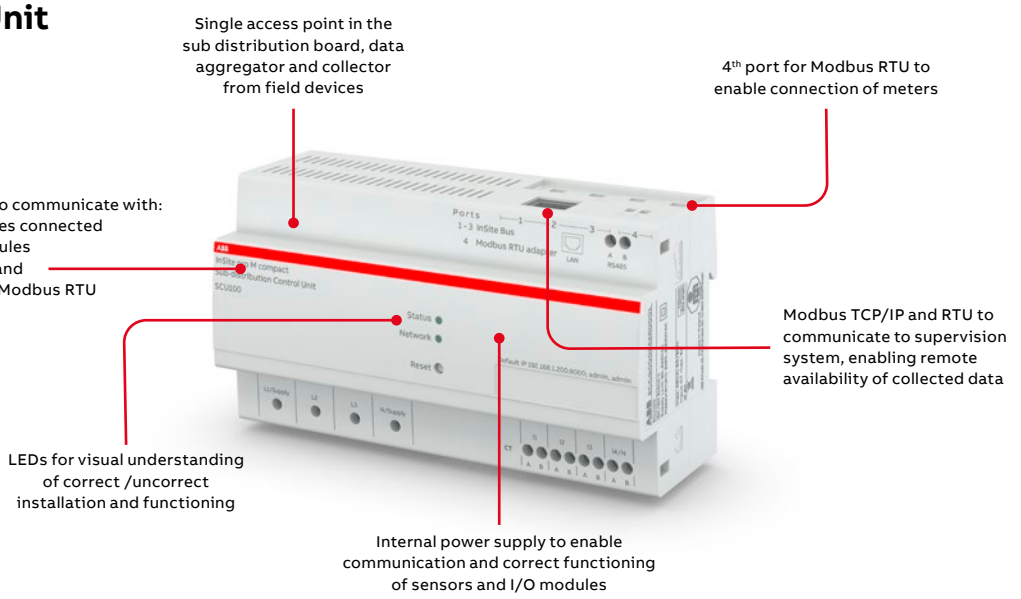




What to include in the panel:

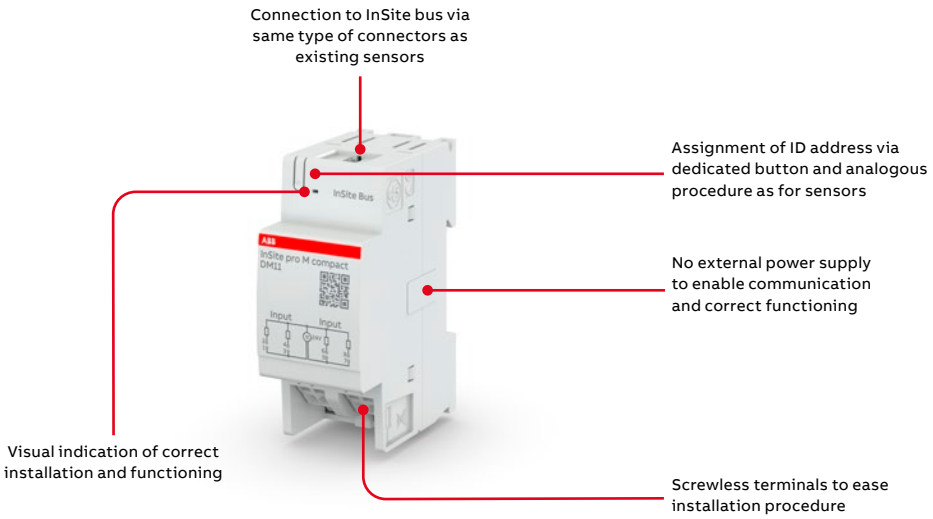
1. **Control Unit**
2. **Digital I/O modules**
3. **Current sensors**
4. **Flat cable**

1 Control Unit
SCU 100



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



System pro M compact® InSite
Main benefits for customers

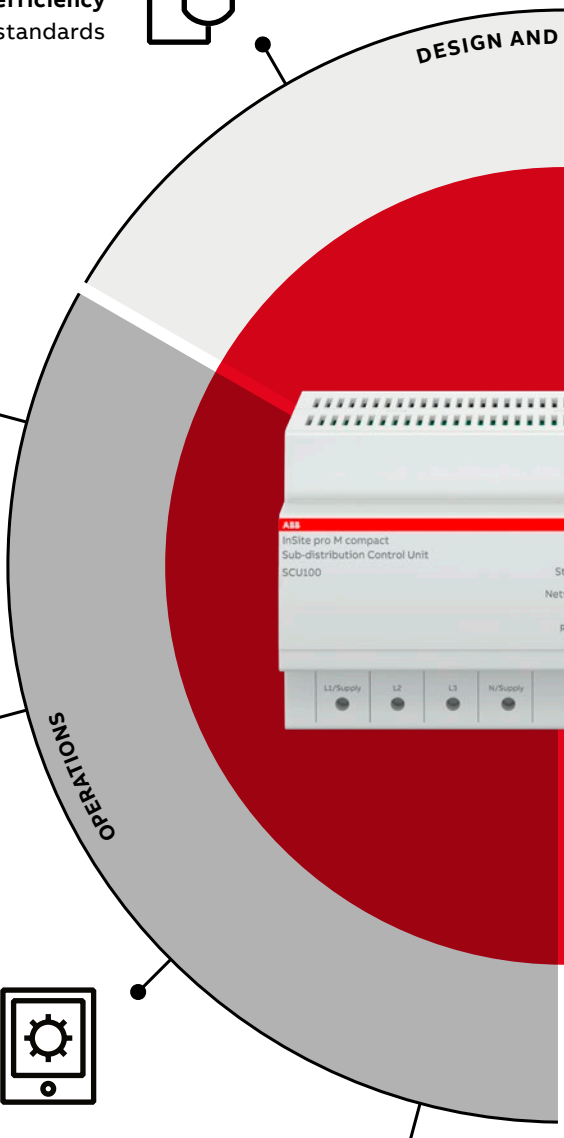
Energy efficiency
Compliance with highest energy efficiency standards

Save up to 20% on energy bill
Energy bills can be reduced by removing inefficiencies and wisely managing consumption of the facility

Alerts and warnings
Be always informed and early detect potential issues to limit negative consequences

Automatic control
Promptly react to selected events with no need of manual interventions

Easy access to data
Monitor, consult and export every type of data by accessing the User Interface



Updated and secured system
FW update via webserver and data secured thanks to encrypted SNMP V3 and SSL certificate

SPECIFICATION

Scalable, cloud-integrated solution
Stand-alone system or integrated in ABB Ability™ Energy and Asset Manager

Retrofit in 1 day existing installations
Limited downtimes during new solution implementation

Easy to install
No additional tools during coupling and connection of devices

INSTALLATION AND COMMISSIONING

Fast configuration
System and single devices configured via dedicated pages in the webUI

Automatic recognition
Error-free configuration thanks to automatic recognition of installed devices

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 trtransformer, 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
	Hramonic 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)
	Oparting temperature	[°C]	-25... +60
	Stirage 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	[mm2]	2,5	2,5	2,5
	Mounting method		35 mm DIN rail (DIN 50022) or SMISSLINE 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 develop 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	

Accessories

The Sub-distribution Control Unit needs a flat cable to gather information from current sensors and digital I/O modules. The flat cable should be a 4-pin cable, flexible in length. Devices can be placed at customizable distances required by the specific application.

Description	GTIN 7612271 EAN	Ordering details		Unit price	Weight of 1 unit (kg)	Packaging unit (pce.)
		Brief description	Product no.			
Sub-distribution Control Unit	508104	SCU100	2CCG000242R0001		0.329	1
Digital Input Module	508135	DM11	2CCG000245R0001		0.075	1
Digital Output Module	508142	DM00	2CCG000246R0001		0.085	1
Digital Input and Output Module	508159	DM10	2CCG000247R0001		0.080	1
Flat cable 5m	508111	INS105	2CCG000243R0001		0.046	1
Connector set (35pcs)	508128	INS135	2CCG000244R0001		0.024	35

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9AKK107680A4896 REV B 09.2020