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ABB
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Multi-function meters M1M 10 and M1M 12

Measurement, made simple

Measurement

Explore the new multi-function meters range for basic monitoring applications inside both small commercial buildings and small industries.

M1M 10 and M1M 12 offer exactly what is basically needed to monitor in an electrical system. Thanks to True RMS measurement of the main parameters, both average and per phase measurement suitable for Star, Delta or 1-phase systems can be easily measured. M1M allow quick stand-alone metering of the 3 different phases, as well as statistical metering of active energy consumptions.

M1M 10

M1M 10 is a VAF meter for basic electrical system monitoring, providing the measurement of Voltage, Current, Frequency and On Hours.

M1M 12

M1M 12 is a multi-function meter for complete electrical system monitoring, providing the measurement of: Active Energy, Active Power, Power Factor, Voltage, Current, Frequency, On Hours and Load Hours



Made simple

Easily replace the different analogue meters in sub-distribution switchboards using a single M1M; making stand-alone metering simple.



Simple to use

- Intuitive visualization of the 3 phase parameters on the bright LED display
- Enhanced clarity in data reading and device configuration

Easy choice

- Only 3 product codes to cover the main measurement requirements
- Maximum 2 steps to select the correct product for your application

Easy to install and stock

- Compact product design and optimized volumetric weight of packaging
- No tools required for product mounting thanks to mounting clips

System integration

- Remote monitoring in any Modbus RTU supervision system thanks to the optional RS485 port for M1M 12
- Quick system integration thanks to basic communication protocol map

Your benefits



For distributors

- Save space needed for internal stock
- Fast selection of the correct product for your orders
- Handle a minimum set of order codes



For panel builders

- Reduce the time needed for meter installation on the panel
- Fast selection of the correct product for your application
- Increase the number of projects covered with the same product

M1M 10 and M1M 12

Product overview

Intuitive visualization

Clear and simple reading of the measurement data for all 3 phases on the wide LED displays.

Compact design

Only 52mm inside the switchboard to ensure optimized logistics and reduced footprint in the panel



Electrical system monitoring

Complete electrical parameters measurement, from simple VAF (voltage, current, frequency) to power and energy monitoring

Easy to use

Simple front keypad to navigate in setup and menus.

Remote measurement

Availability of RS485 interface with the support of communication protocol Modbus RTU facilitating the communication and connection of the device with remote locations.

M1M 10 and M1M 12

Technical features

		M1M 10	M1M 12
Auxiliary power supply	Auxiliary Power Supply range	80V to 300 V AC or DC	
	Frequency	Hz	50 - 60
	Burden		5VA Max
	Installation category		CAT III
	Protection fuse		200mA
Measurement accuracy	Voltage		±1,0%
	Current		±1,0%
	Active Power (M1M 12)		±1,0%
	Active Energy (M1M 12)		±1,0%
Voltage measurement inputs	Measurement range	[V]	40-300V AC (p-n)
	Measurement category		CAT III
	Rated frequency	[Hz]	50 - 60Hz
	Max. VT Primary	[V]	999 Kv
	Burden	[VA]	0.2VA Max. per phase
Current measurement inputs	CT secondary		1A or 5A
	Measurement range		50mA - 6A ¹
	Max. CT Primary	[A]	99 kA.
	Burden	[VA]	0.2VA Max. per phase
User Interface	Access to device		2 pushbuttons
	Display type		LED display
	LED Digit height	[mm]	10
Communication protocol (M1M 12 Modbus)	RS-485		
	Protocol		Modbus RTU
	Communication interface		RS485 with optical isolation
	Baud rate		2400 bps to 19200 bps
	Parity number		Odd, Even, None
	Stop bit		1,2
	Address		1-247
Mechanical characteristics	Overall dimensions	[mm]	96 x 96 x 58 (52mm depth inside the switchboard)
	IP degree of protection (IEC 60529)		IP51
	Weight	[kg]	0,300
Climatic conditions	Operating temperature		-10°C to +60°C ²
	Storage temperature		-25°C to +70°C
	Relative humidity		5% to 95% non condensing
	Pollution degree		2
	Altitude		Below 2000ms
Standards	Electrical safety		IEC 61010-1
	EMC		IEC 61000 4-2,4-3,4-6,4-8,4-4,4-11; CISPR-22

¹ Below 250mA, additional error of 0.1% of full scale.

² Below 10°C, mean temperature coefficient is 0.15%/K

M1M 10 and M1M 12

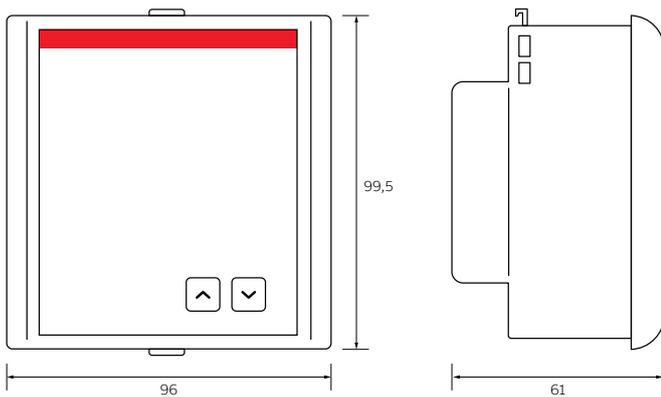
Technical features



		M1M 10	M1M 12
Measured parameter	TRMS Voltage	■	■
	TRMS Current	■	■
	Frequency	■	■
	Power Factor		■
	Active Power		■
	Active Energy		■
	On Hours	■	■
	Load Hours		■
Communication interface	Serial port		RS-485
	Protocol		Modbus RTU

Overall dimensions

All measurements in mm



M1M 10 and M1M 12

Ordering codes



M1M 10

M1M 10

M1M 10 is a VAF meter for basic electrical system monitoring, providing the measurement of the main single-phase and three-phase electrical parameters and allowing easy replacement of different analogue meters.

Communication protocol and interface	Bbn 8012542	Order details		Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.
-	350811	M1M 10	1SYG235081R4051	0,3	1



M1M 12

M1M 12

M1M 12 is a multi-function meter, providing what is needed to monitor the electrical system and allowing statistical metering of active energy consumption.

M1M 12 product range includes option with built-in communication protocol (Modbus RTU) through RS485 communication port, allowing easy integration with Modbus supervision systems.

Communication protocol and interface	Bbn 8012542	Order details		Weight 1 piece	Pack unit
	EAN	Type code	Order code	kg	pc.
-	075912	M1M 12	1SYG207591R4051	0,3	1
Modbus RTU RS485	075813	M1M 12 Modbus	1SYG207581R4051	0,3	1