Energy Meter EMD3P with current transformer

Data sheet



EMD3P



Current transformer

TECHNICAL DATA FOR THE EMD3P

MEASUREMENT

	Readings per channel	Total per EMD3P
Current	✓	×
Power factor	✓	✓
Voltage	✓	×
Frequency	×	✓
Active, reactive, apparent power	✓	✓
Active, reactive, apparent energy	✓	✓
Measuring interval 100, 200 , 500, 1000 ms (Default)	✓	✓

POWER SUPPLY

Supply off	Voltage input L1/N
Power consumption P_{max}	2 W

VOLTAGE INPUTS

Quantity	4 (L1, L2, L3, N)
Overvoltage category	CAT III
Power protection	16 A type B
Measurement range	85 ... 250 V AC
Frequency	50/60 Hz ± 5 %
Connection type	Plug with push-in connector supplied
Connecting capacity	0,20 … 2,50 mm²

CURRENT INPUTS

Quantity	EMD3P: 3
Connection type	Plug with push-in connector supplied
Supported current transformers	TQ current transformer CT63/SCT200/SCT600/ (63 ... 600 A)

RS485 INTERFACE

Quantity	1
Connection type	2x push-in cable connector for daisy-chaining
Connecting capacity	0.14 mm² ... 0.50 mm² solid 0.20 mm² ... 0.50 mm² stranded 0.25 mm² ... 0.50 mm² wire end ferrule without plastic sleeve
Type	Half-duplex
Bit rate	9.600 … 115.200 Baud (115.200 Baud default)
Termination	External possible with terminating connector
Fail-safe wiring	Yes
Max. cable lengt	100 m (twisted pair) with external termination
Data protocol	Modbus RTU
Firmware update	Yes

ETHERNET INTERFACE

Quantity	1
Connection type	RJ45 shielded
Type	10/100 Mbit
Features	Autonegotiation, Auto MDI-X
Max. cable length	100 m (CAT5)
Data protocol	Modbus TCP
Firmware update	Yes

MEASUREMENT ACCURACY

Measured variable	Standard accuracy full scale value
Phase current	1.5 %
Voltage	0.5 %
Total active power	2.0 %
Total reactive power	2.0 %
Total active energy	2.0 %
Power factor	2.0 %
Frequency	0.1 %

MECHANICAL DATA

Housing material	Glass fibre-reinforced polyamide
Fire-resistance	UL94-V0
Protection class	II
Degree of protection	IP2X
Weight	<0.1 kg
Dimensions without plug	88 x 35 x 65 mm
Width/installation	2 modules/DIN rail

AMBIENT CONDITIONS

Ambient temperature in operation	-25 °C … +55 °C
Ambient temperature during transportation / storage	-25 °C … +70 °C
Relative humidity (non-condensing)	Up to 75 % as an annual average, up to 95 % on up to 30 days/year
Max. altitude	2000 m above sea level

PRODUCT SAFETY

Product standards	EN 61010–1 EN 61010–2–030 EN 61010–2–201

ELECTROMAGNETIC COMPATIBILITY

Product standards	EN 61326–1, table 2 (industry)

Interference immunity

ESD (IEC 61000-4-2)	4 kV contact discharge 8 kV air discharge
RF radiation (IEC 61000-4-3)	3 V/m 10 V/m for increased deviation in measuring accuracy
Burst (IEC 61000-4-4)	Grid: 4 kV Ethernet: 2 kV
Surge (IEC 61000-4-5)	L-L: 1 kV L-N: 2 kV Ethernet: 1 kV
Conducted disturbances (IEC 61000-4-6)	150 kHz … 80 MHz, 10 V (RMS value)
Magnetic field (IEC 61000-4-8)	30 A/m
Voltage dips (IEC 61000-4-11)	100 %, 20 ms (remains active) 60 %, 200 ms (active/restart) 30 %, 500 ms (active/restart) 100 %, 5 s (restart))

Radiated interference

Disturbance voltage (EN 55011)	Grid, class B
Disturbance current (EN 55011)	Ethernet, class B
Electromagnetic interference (EN 55011)	30 MHz ... 1 GHz, class B
Harmonics (EN 61000-3-2)	Grid, class A
Voltage fluctuations (EN 61000-3-3)	Grid

TECHNICAL DATA FOR CURRENT TRANSFORMER

ELECTRICAL SPECIFICATION

	CT63	CT200	CT600
Max. nominal voltage		0.66 kV	
Insulation voltage		2 kV	
Nominal frequency		50/60 Hz	
Current rating	63 A	200 A	600 A
Accuracy class		Standard	

AMBIENT

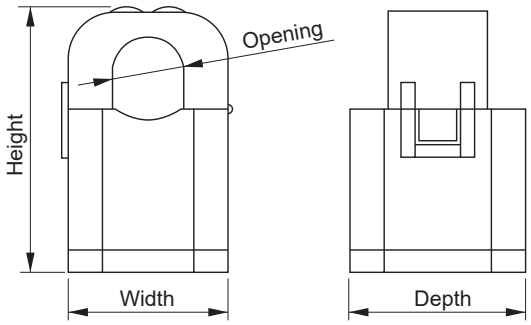
CONDITIONS	CT63	CT200	CT600
Ambient temperature in operation		-25 °C … +55 °C	
Ambient temperature during transportation/ storage		-25 °C … +70 °C	
Relative humidity (non-condensing)		Up to 75 % as an annual average, up to 95 % on up to 30 days/year	
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CONNECTING

CABLE	CT63	SCT200		CT600
Cable colour		Black		
Cable diameter		3.8 mm		
Cable length	1 m	1 m	1 m/2 m	2 m
Cable cross-section		AWG 24		

MECHANICAL

SPECIFICATION	CT63	CT200	CT600
Split-core CT		Yes	
Fire-resistance CT		UL94-V0	
Width	23 mm	46 mm	57.5 mm
Depth	26 mm	35 mm	41.4 mm
Height	40 mm	65.4 mm	85.2 mm
Opening	10 mm	24 mm	36 mm
Weight with packaging	65 g	250 g	400 g



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