

EMDX³ electrical energy meters

┌ rail mounting



0 046 70

0 046 74



Technical characteristics p. 15

Measure the electricity consumed by a single-phase or three-phase circuit downstream of the electricity distribution metering. Display electricity consumption in kWh, as well as other values such as current, active energy, reactive energy and power (depending on the catalogue number).

Conform to standards IEC 62053-21/23, IEC 62052-11 and IEC 61010-1. MID compliance ensures accuracy of the metering with a view to recharging for the electricity used.

Pack	Cat.Nos		Single-phase meters
1	Non-MID	MID compliant	Direct connection 32 A - 1 module Pulse output
	0 046 70		
1	0 046 81		36 A - 2 modules Pulse output
1	0 046 72	0 046 78	63 A - 2 modules Pulse output
1	0 046 77	0 046 79	63 A - 2 modules RS 485 output

Pack	Cat.Nos		Three-phase meters
	1	Non-MID	MID compliant
0 046 73		0 046 82	
1	0 046 80		63 A - 4 modules RS 485 output
1	0 046 74		Connection with CT 5 A - 4 modules pulse output
	0 046 84		
1	0 046 86		5 A - 4 modules RS 485 and pulse output

Pack	Cat.Nos	Concentrator
1	0 046 87	For collecting and transmitting measurements taken by 7 universal pulse electricity meters. Also collects data from other meters (gas meters, water meters, etc.) RS485 output 4 modules

EMDX³ multi-function measuring units

┌ rail mounting



0 046 76



Technical characteristics p. 16

Conform to standards:

- IEC 61557-12
- IEC 62053-22 class 0.5 S
- IEC 62053-23 class 2

Pack	Cat.Nos	EMDX ³ modular
		For mounting on ┌ rail Width: 4 modules • LCD display • Measurement of currents, voltages, active, reactive and apparent power and internal temperature • Dual tariff metering: - Active energy consumed - Reactive energy consumed - Operating time - Power factor • THD voltages and currents up to order 51 • Programmable alarms on all functions • Outputs for controlling wiring devices, alarm feedback and pulse feedback
1	0 046 75	EMDX³ pulse unit Data transmission via pulses
1	0 046 76	EMDX³ RS 485 unit Data transmission via RS 485 communication interface and pulses

EMDX³ multi-function measuring units for mounting on door or solid faceplate



0 146 68



0 146 69



0 146 73



0 261 78



0 261 89



0 046 88



Technical characteristics **p. 16**

Conform to standards:

- IEC 61557-12
- IEC 62053-22 class 0.5 S
- IEC 62053-23 class 2

Pack	Cat.Nos	EMDX ³ - Access	Pack	Cat.Nos	EMDX ³ - Premium (continued)
1	0 146 68	Multi-function measuring unit For mounting on door or solid faceplate Dimensions: 96 x 96 x 60 mm • LCD display • Measurement of currents, voltages, active, reactive and apparent power, internal temperature and power factor • Metering: - Active energy consumed or produced - Reactive energy consumed or produced - Operating time - Pulses • THD voltages and currents up to order 51 • Programmable alarms on all functions Can take 2 optional modules	1	0 146 73	Modules for EMDX³ - Premium multi-function measuring units RS 485 communication module MODBUS link
			1	0 146 74	Storage module Storage of active and reactive power over 62 days, the last 10 alarms and the average voltage and frequency values over 60 days max.
			1	0 146 75	Module with 2 inputs/2 outputs Up to 3 modules, i.e. 6 inputs/6 outputs, can be installed Outputs can be assigned to monitoring mode, remote control or timed remote control
1	0 146 71	Modules for EMDX³ - Access multi-function measuring unit RS485 communication module MODBUS link	1	0 146 77	Temperature module Indication of the internal temperature and possibility of connecting 3 sensors for measuring the external temperature
1	0 146 72	1-output module Can be assigned to pulse feedback, alarm feedback or control of wiring devices			Communication and supervision Web servers Enable remote viewing, via a web browser on PCs, smartphones, web viewers, tablet computers such as iPads, Archos, etc., of values collected on electricity meters and multi-function measuring units
			1	0 261 78	For 32 metering points (meters or multi-function measuring units)
			1	0 261 79	For an unlimited number of metering points (meters or multi-function measuring units)
					Legrand software dedicated to measurement For displaying the values collected from electricity meters or multi-function measuring units on a PC connected to the network
			1	0 261 88	For 32 metering points (supplied on CD)
			1	0 261 89	For an unlimited number of metering points (supplied on CD)
					IP converter For RS485/Ethernet conversion for connecting electricity meters and multi-function measuring units to an IP network
1	0 146 69	EMDX³ - Premium Multi-function measuring units For mounting on door or solid faceplate Dimensions: 96 x 96 x 60 mm • LCD display • Measurement of currents, voltages, active, reactive and apparent power, internal temperature and power factor • Metering: - Active energy consumed or produced - Reactive energy consumed or produced - Operating time - Pulses • Individual harmonics up to order 63 • Programmable alarms on all functions Can take 4 optional modules			

current transformers CT



0 047 79

Pack Cat.Nos Single-phase current transformers (CT)

Used with ammeters, electricity meters or multi-function measuring units
Provide a 0 to 5 A current at the secondary, proportional to the primary current
For fixing on plates, EN 60715 rail
Cat.Nos 0 046 31/34/36, or bars
Secondary connected by terminals or lugs
Precision class 1%

For 16 x 12.5 mm bar and Ø21 mm cable

Transformation ratio	Output (VA)
50/5	1.25
100/5	2.5
200/5	5.5

Pack	Cat.Nos
1	0 046 31
1	0 046 34
1	0 046 36

For 20.5 x 12.5 and 30 x 10.5 mm bar and Ø23 mm cable

Transformation ratio	Output (VA)
300/5	11

Pack	Cat.Nos
1	0 047 75

For 40.5 x 10.5 mm bar and Ø35 mm cable

Transformation ratio	Output (VA)
400/5	12

Pack	Cat.Nos
1	0 046 38

For 65 x 32 mm bar

Transformation ratio	Output (VA)
600/5	12
800/5	15
1000/5	20

Pack	Cat.Nos
1	0 047 76
1	0 047 77
1	0 047 78

For 84 x 34 mm bar

Transformation ratio	Output (VA)
1250/5	15

Pack	Cat.Nos
1	0 047 79

For 127 x 38 mm bar

Transformation ratio	Output (VA)
1500/5	15
2000/5	20

Pack	Cat.Nos
1	0 046 45
1	0 046 46

For 127 x 54 mm bar

Transformation ratio	Output (VA)
2500/5	50
4000/5	50

Pack	Cat.Nos
1	0 047 80
1	0 046 48

Three-phase current transformers (CT)

Used with ammeters, electricity meters or multi-function measuring units
Provide a 0 to 5 A current at the secondary, proportional to the primary current
For fixing directly on bars
Secondary connected by terminals or lugs
Precision class 1%

For three 20.5 x 5.5 mm bars

Transformation ratio	Output (VA)
250/5	3

Pack	Cat.Nos
1	0 046 98

For three 30.5 x 5.5 mm bars

Transformation ratio	Output (VA)
400/5	4

Pack	Cat.Nos
1	0 046 99

current transformers CT

Current transformers (CT)

Technical characteristics

Degree of protection: IP 20

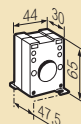
Operating frequency: 50/60 Hz

Dimensions

• Single-phase CTs

Cat.Nos 0 046 31/34/36 for 16 x 12.5 mm bar and Ø21 mm cable

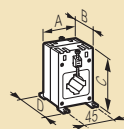
Fixing on EN 60715 rail



Cat.No 0 047 75 for 20.5 x 12.5 and 30 x 10.5 mm bar and Ø23 mm cable

Cat.No 0 046 38 for 40.5 x 10.5 mm bar and Ø35 mm cable

Fixing on EN 60715 rail or on plate

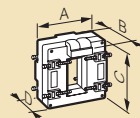


Cat.Nos	A	B	C	D	Ø	Fixing centres on plate
0 047 75	56	42	94	50	23	50 x 45
0 046 38	77	46	107	54	35	54 x 45

Cat.Nos 0 047 76/77/78 for 65 x 32 mm bar

Cat.No 0 047 79 for 84 x 34 mm bar

Fixing on bar

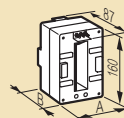


Cat.Nos	A	B	C	D
0 047 76/77/78	90	90	94	40
0 047 79	96	87	116	58

Cat.Nos 0 046 45/46 for 127 x 38 mm bar

Cat.Nos 0 047 80 and 0 046 48 for 127 x 54 mm bar

Fixing on bar



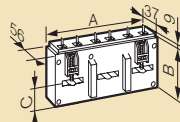
Cat.Nos	A	B
0 046 45/46	99	58
0 046 48/0 047 80	125	40

• Three-phase CT

Cat.No 0 046 98 for three 20.5 x 5.5 mm bars

Cat.No 0 046 99 for three 30.5 x 5.5 mm bars

Fixing on bar



Cat.Nos	A	B	C
0 046 98	107	58.5	25
0 046 99	135	66.5	30

Determination of the max. distance between CT and meter

Cat.Nos	Max. power of CT	Meter consump. (W)	Max. loss in capac. (VA)	Max. distance bet. CT & meter (m)		
				Wiring 2.5 mm ²	Wiring 4 mm ²	Wiring 6 mm ²
0 046 31	1.25	0.5	0.75	1.8	2.7	3.9
0 046 34	2.5	0.5	2	4.9	7.1	10.4
0 046 98	3	0.5	2.5	6.1	8.9	13
0 046 99	4	0.5	3.5	8.5	12.4	18.1
0 046 36	5.5	0.5	5	12.2	17.8	25.9
0 047 75	11	0.5	10.5	25.5	37.3	54.4
0 046 38 0 047 76	12	0.5	11.5	28	40.8	59.6
0 047 77/79 0 046 45	15	0.5	14.5	35.3	51.5	75.2
0 046 46 0 047 78	20	0.5	19.5	47.4	69.3	101.1
0 047 80 0 046 48	50	0.5	49.5	120.4	175.8	256.7

EMDX³ electrical energy meters

└ rail mounting

■ Technical characteristics

Single-phase meters Cat.Nos 0 046 70/72/77/78/79/81

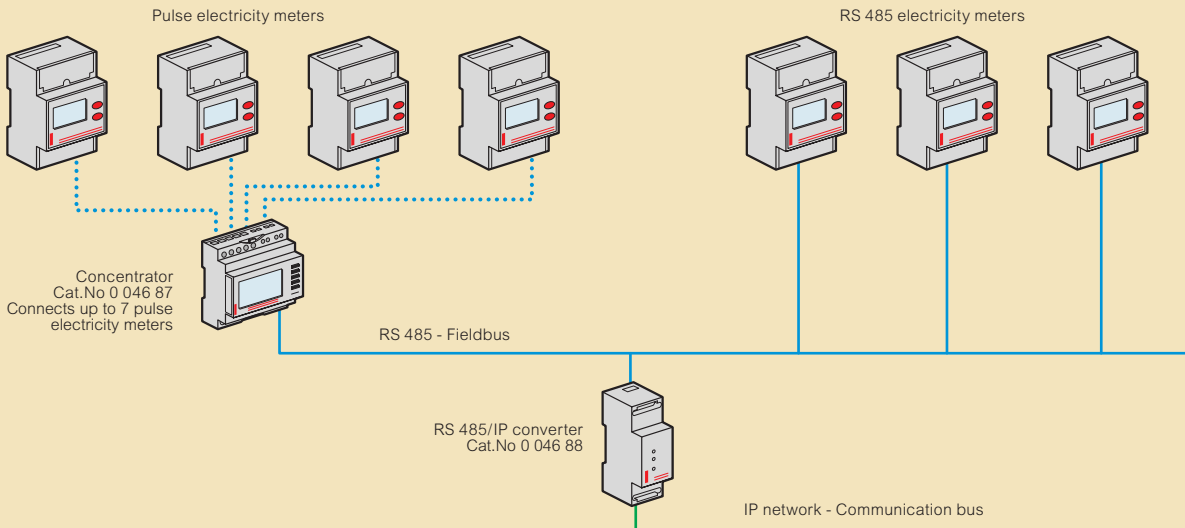
LCD display: 7 digits
 Resolution: 0.1 kWh
 Maximum indication: 99999.9 kWh
 Metrological LED: 1 Wh/pulse (Cat.No 0 046 70 : 0.5 Wh/pulse)
 Accuracy (EN 62053-21): class 1
 Reference voltage Un: 230 V-240 V
 Reference frequency: 50-60 Hz
 Pulse output: 1 pulse/10 Wh
 (Cat.No 0 046 70: 2 pulse/Wh)

Three-phase meters Cat.Nos 0 046 73/74/80/82/83/84/85/86

LCD display: 8 digits
 Resolution: 0.01 kWh⁽¹⁾
 Maximum indication: 99999.99 kWh⁽¹⁾
 Metrological LED: 0.1 Wh/pulse or 1 Wh/pulse
 Active energy accuracy (EN 62053-21): class 1
 Reactive energy accuracy (EN 62053-23): class 2
 Reference voltage Un:
 - Single-phase: 230-240 V
 - Three-phase: 230(400)-240(415) V
 Operating limit range (EN 62053-21, EN 62053-23):
 - Single-phase: 110 to 254 V
 - Three-phase: 110(190) to 254(440) V
 Pulse output: 1 pulse/10 Wh

Cat.Nos		0 046 70	0 046 81	0 046 72	0 046 77	0 046 78	0 046 79	0 046 73	0 046 80	0 046 82	0 046 83	0 046 74	0 046 84	0 046 85	0 046 86	
Number of modules		1	2	2	2	2	2	4	4	4	4	4	4	4	4	
Connection	Direct	●	●	●	●	●	●	●	●	●	●					
	Via a current transformer											●	●	●	●	
	Single-phase	●	●	●	●	●	●					●	●	●	●	
	Three-phase							●	●	●	●	●	●	●	●	
Max. current		32 A	36 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A	63 A	5 A (CT)	5 A (CT)	5 A (CT)	5 A (CT)	
Metering and measurement	Total active energy	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Total reactive energy							●	●	●	●	●	●	●	●	
	Partial active energy (reset)		●	●	●	●	●	●	●	●	●	●	●	●	●	
	Partial reactive energy (reset)							●	●	●	●	●	●	●	●	
	Active power			●	●	●	●	●	●	●	●	●	●	●	●	
	Reactive power							●	●	●	●	●	●	●	●	
	Apparent power							●	●	●	●	●	●	●	●	
	Current			●	●	●	●	●	●	●	●	●	●	●	●	
	Voltage			●	●	●	●	●	●	●	●	●	●	●	●	
	Frequency			●	●	●	●	●	●	●	●	●	●	●	●	
	Power factor			●	●	●	●	●	●	●	●	●	●	●	●	
	Time-of-use			●	●											
	Average active power							●	●	●	●	●	●	●	●	
	Max. average active power value							●	●	●	●	●	●	●	●	
Dual tariff							●									
Communication	Pulse output	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	RS 485 interface				●	●	●		●	●	●		●	●	●	
MID compliant						●	●			●			●	●		
Operating conditions	Reference temperature	23 °C ± 2 °C														
	Operating temperature	-20 to +55 °C			-10 to +45 °C				-5 to +55 °C							
	Storage temperature	-40 to +70 °C			-25 to +70 °C				-25 to +70 °C							
	Consumption	≤ 8 VA			≤ 4 VA per phase				≤ 1 VA per phase							
	Heat dissipation	≤ 6.5 W			≤ 6 W				≤ 4 W							

■ Interfacing with IP communication network



1: For direct connection meters
 If connected via transformers, the resolution and maximum indication depend on the transformation ratios of these transformers