

EMDX³ multi-function measuring units

Technical characteristics

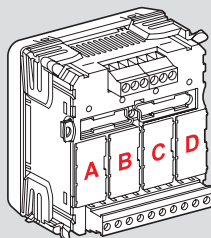
Cat.Nos			4 120 45	4 120 47	4 120 51	4 120 52	4 120 53
Connection	Current measurement terminals	Flexible cable	4 mm ²	4 mm ²	4 mm ²	4 mm ²	4 mm ²
		Rigid cable	6 mm ²	6 mm ²	6 mm ²	6 mm ²	6 mm ²
	Other terminals	Flexible cable	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²	2.5 mm ²
		Rigid cable	4 mm ²	4.5 mm ²	4 mm ²	4 mm ²	4 mm ²
Protection index	Front cover	IP 54	IP 54	IP 54	IP 54	IP 54	
	Casing	IP 20	IP 20	IP 20	IP 20	IP 20	
Weight		250 g	285 g	250 g	285 g	285 g	
Display	Type	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	Backlit LCD	
	Refresh time	1.1 s	1.1 s	1 s	1 s	1 s	
Measurements		1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	1P+N, 3P, 3P+N	
Voltage measurement	Direct	Phase/Phase	80 - 500 V	50 - 460 V	80 - 500 V	80 - 500 V	80 - 690 V
		Phase/Neutral	50 - 290 V	86 - 260 V	50 - 290 V	50 - 290 V	50 - 400 V
	From PT	Primary	-	-	max. 1200 V	max. 1200 V	max. 150 kV
		Secondary	-	-	-	-	-
	Update period	Direct	0.8 s	0.3 s	0.2 s	0.2 s	0.2 s
Current measurement	From a CT	Primary	50 kA	50 kA	max. 10 kA (X/1 A) or 50 kA (X/5A)	max. 10 kA (X/1 A) or 50 kA (X/5A)	max. 10 kA (X/1 A) or 50 kA (X/5A)
		Secondary	5 A	5 A	1 A or 5 A	1 A or 5 A	1 A or 5 A
	Minimum measurement	10 mA	10 mA	5 mA	5 mA	5 mA	
	Input consumption	≤ 1 VA	≤ 1 VA	≤ 1 VA	≤ 1 VA	≤ 0.2 VA	
	Permanent overload	1.2 In	1.2 In	1.2 In	1.2 In	1.2 In	
	Intermittent overload	20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s	20 In / 0.5 s	
	Update period	0.2s	0.2s	0.2s	0.2 s	0.2 s	
Power measurement	Max. CT x PT ratio	9999	9999	99990	99990	10000000 (x/1 A) 20000000 (x/5 A)	
	Total	0 - 9999 kW/ kVAr / kVA	0 - 9999 kW/ kVAr / kVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW / MVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW / MVA	0 - 9999 kW/ kVAr / kVA 0 - 9999 MW / MVA	
Frequency measurement	Update period	0.2 s	0.2 s	0.2 s	0.2 s	0.2 s	
	Measurement range	45/65 Hz	45/65 Hz	45/65 Hz - 360/440 Hz	45/65 Hz - 360/440 Hz	45/65 Hz	
	Update period	0.2 s	0.2 s	0.2 s	0.2 s	0.2 s	
Auxiliary power supply	50 / 60 Hz	230 V ± 10%	Self-supplied	80 - 265 V ± 10%	80 - 265 V ± 10%	80 - 265 V ± 10%	
	d.c.	-	-	100 - 300 V ± 10%	100 - 300 V ± 10%	100 - 300 V ± 10%	
Consumption	a.c.	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA	≤ 2.5 VA	
	d.c.	≈	≈	≤ 2.5 W	≤ 3.5 W	≤ 3.5 W	
Operating temperature		from -5° C to +55° C	from -5° C to +55° C	from -5° C to +55° C	from -5° C to +55° C	from -5° C to +55° C	
Storage temperature		from -25° C to +70° C	from -25° C to +70° C	from -25° C to +70° C	from -25° C to +70° C	from -25° C to +70° C	

1: except for Cat.No 4 120 53 - 50 Hz only

EMDX ³ Easy Connect measuring units		
	rail mounting	On dor
Cat.Nos	4 120 48	4 120 49
INPUT		
Connection type	3-3E / 3N3E	
Rated voltage	230 and 400 V (L-L)	
Voltage measurement	195...460 V	
Rated current	630/1600/3200/6300 A	
Maximum current	750/1950/3900/7500 A	
Minimum current	12.5/32.5/65/125 A	
Rated frequency	50/60 Hz	
Frequency range	45...65 Hz	
AUXILIARY POWER SUPPLY		
Rated value	self-powered (between all measurement lines)	
Voltage range	-	
Frequency	-	
Self-consumption	-	
FREQUENCY RANGE		
Accuracy in accordance with:	- Voltage: cl.0.5 - Current: cl. 1 EN/IEC 61557-12 ; EN/IEC 62053-21 ; EN/IEC 62053-23	
	- Reactive power: cl.1 - Apparent power: cl.1 - Frequency: ± 0.1 Hz - THD cl.2	
DISPLAY		
Display type	Backlit graphic LCD	
Digits height	2"	3.5"
MECHANICAL CHARACTERISTICS		
Case	4 modules DIN 43880 (35 mm)	flush-mounted (cutout 92x92 mm)
Door	-	96x96 mm
Material	self-extinguishing polycarbonate	
Protection index	IP20 terminals/ IP54 on door	
CONNECTION TYPE		
Voltage IN V1-V2-V3-N	Screws	
Voltage OUT N-V3-V2-V1	Screws	
Tariff	Screws	
Modbus	RJ 45	
Current	Easy connect	
CONDITIONS D'UTILISATION		
Operating temperature	- 20...60 °C	
Storage temperature	- 25...70 °C	
Suitable for use in tropical conditions	Yes	
Maximum dissipated power	≤ 5 W	
COMMUNICATION RS 485		
Protocol	MODBUS RTU/TCP	
Standard	RS485-3 wires	
Impedance	120 Ohm (menu-programmable connection)	
Transmission speed	4800...38400 bit/s to be selected	

Maximum number of modules and installing position for multi-function measuring unit Cat.No 4 120 53

Cat.Nos	Designation	Max. number	EMDX ³ -Premium 4 120 53
4 120 55	RS 485 communication module	1	A
4 120 57	2 inputs / 2 outputs module	2	C, D
4 120 58	Temperature module	1	D
4 120 59	Pulse output module for energy count	2	A, B, C, D
4 120 60	2 analog outputs module	2	C, D



Fitting modules Cat.No 4 120 53

