

Energy meters Ex9EM



- Basic Energy Meters according to EN 62052-11, EN 62053-21
- Mounting on DIN rails
- Operating voltage U_e 230/400 V AC
- Fixed rated current or adjustable by CT
- Multi-tariff or 1-tariff versions
- LCD or Mechanical register
- 1 or 4-module width versions

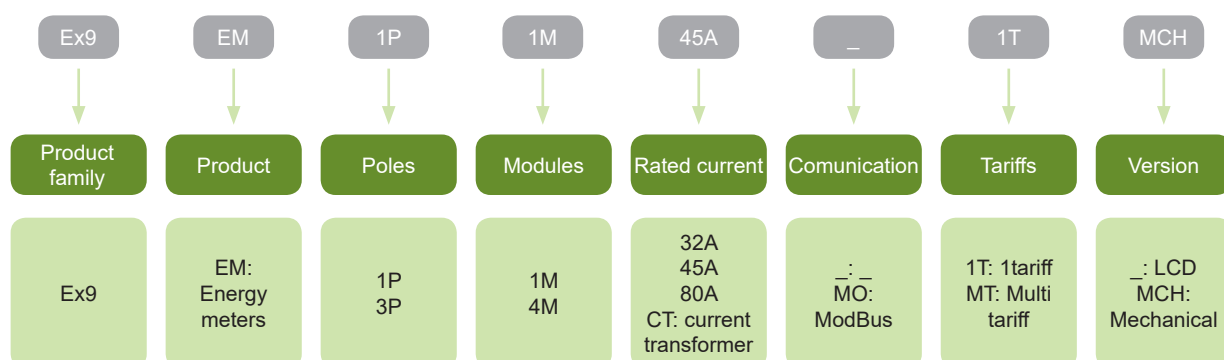
Energy Meters Ex9EM are basic meters of electric energy. We provide 6 types with various parameters. Rated current can be fixed or adjustable by Current Transformer. LCD or Mechanical register version is available.

Installation Energy Meters Ex9EM are suitable for residential and industrial applications. The biggest advantage is mounting on DIN rails inside consumer units. They will find their use everywhere where it is needed to count consumed energy.

Energy meters are offered in 1 or 4-modules width versions.

Ex9EM 1P 1M 80A MO MT as only one has Multi-tariff mode and RS485-ModBus communication which can read and display the following variables: kWh, active energy, reactive energy and active power. Software for communication can be downloaded from our website.

Type Key



Certification marks



Energy Meters Ex9EM

Energy Meters

- Basic energy meters
- With LCD display or mechanical counter
- Fixed rated current or variable by Current Transformer
- Width 1MU or 4MU



Rated current	Poles	Modules	Article No.	Type	Packing
80A	1	1	107281	Ex9EM 1P 1M 80A MO MT	1/10/120
45A	1	1	107282	Ex9EM 1P 1M 45A 1T	1/10/120
45A	1	1	107283	Ex9EM 1P 1M 45A 1T MCH	1/10/120
CT	3	4	107284	Ex9EM 3P 4M CT 1T	1/1/45
80A	3	4	107285	Ex9EM 3P 4M 80A 1T	1/1/45
32A	1	1	107286	Ex9EM 1P 1M 32A 1T	1/10/120

Technical Data Ex9EM

Energy Meters

General parameters

1 or 4 Module width versions

Electrical parameters

	Ex9EM 1P 1M 32A 1T	Ex9EM 1P 1M 45A 1T	Ex9EM 1P 1M 45A 1T MCH
Tested according to	EN 62052-11, EN 62053-21		
Rated operating voltage U_e	230 V AC \pm 20%		
Rated frequency f	50 Hz \pm 10%		
Rated current I_e (I_{max})	0.25 - 5(32) A	0.25 - 5(45) A	
Poles	1		
Communication	-		
Connection mode	Direct		
Rated insulation voltage U_i	4 kV		
Power consumption	\leq 8 VA		
Impulse output	1 000		
Display	LCD 5+2	LCD 5+2	Mechanical counter 5+1
LCD Total Energy	Forward + Reverse		
Accuracy class	1		
Battery	-		
Starting current	0.004 \cdot I_e		
Measurement type	Active Energy		
Pulse output	1 000 Imp/kWh $R_L = 1$ Wh/Imp $R_A = 1$ Wh/Imp S0 - Standard DIN 43864		
Pulse width	80 ms		
LED	Impulse rate = Usage		
Registered harmonics range	0.05 - 0.25 kHz		

Mechanical parameters

Device width	18 mm		
Device height	91 mm (without covers), 120 mm		
Frame size	45 mm		
Mounting	onto 35 mm device rail (DIN)		
Degree of protection			
with terminal covers	IP 51	IP 51	IP 50
without terminal covers	IP 50	IP 50	IP 50
Terminals	screw terminals		
Max. terminal capacity	12 mm ²		
Fastening torque of terminals	1.5 Nm	1.5 Nm	1.0 Nm
Ambient temperature	-25°C — +55°C		-20°C — +65°C
Max. rel. humidity	75% Average, 95% Short time		
Insulation class	II		
Sealable	yes		
Weight	0.082 kg		

Technical Data Ex9EM

Energy Meters

Electrical parameters

	Ex9EM 1P 1M 80A MO MT*	Ex9EM 3P 4M CT 1T	Ex9EM 3P 4M 80A 1T
Tested according to	EN 62052-11, EN 62053-21		
Rated operating voltage U_e	230 V AC \pm 20%	3x230/400 V AC \pm 20%	
Rated frequency f	50 Hz \pm 10%		50-60 Hz
Rated current I_e (I_{max})	5(80) A	1.5 - (6) A	5(80) A
Poles	1	3	3
Communication	ModBus	-	-
Connection mode	Direct	CT	Direct
Rated insulation voltage U_i	4 kV		
Power consumption	\leq 8 VA	\leq 10 VA	\leq 10 VA
Impulse output	1 000	12 000	800
Display	LCD 5+1	LCD 6+2	LCD 6+2
LCD Total Energy	Forward + Reverse		
Accuracy class	1		
Battery	Yes	-	Yes
Starting current	0.004* I_e		
Measurement type	Active and Reactive Energy	Active Energy	
Pulse output	1 000 Imp/kWh $R_L = 1$ Wh/Imp $R_A = 1$ Wh/Imp S0 - Standard DIN 43864	12 000 Imp/kWh $R_L =$ depend on the CT ratio $R_A =$ depend on the CT ratio S0 - Standard DIN 43864	800 Imp/kWh S0 - Standard DIN 43864
Pulse width	90 ms	35 ms	35 ms
LED	Impulse rate = Usage		
Registered harmonics range	-	0.05 - 0.25 kHz	

*Software for communication can be downloaded from our website www.noark-electric.eu.

Mechanical parameters

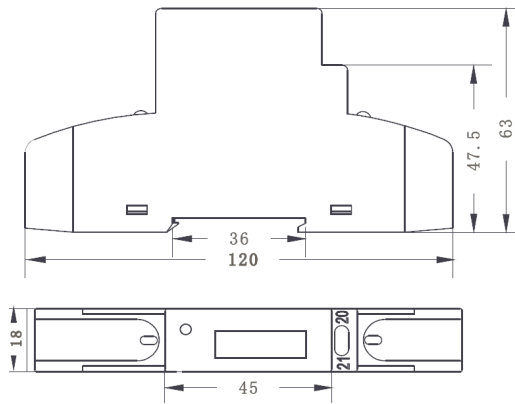
Device width	19.5 mm	76 mm	76 mm
Device height	97.2 mm	100 mm	100 mm
Frame size	45 mm		
Mounting	onto 35 mm device rail (DIN)		
Degree of protection			
with terminal covers	IP 50	IP 51	IP 51
without terminal covers	IP 50	IP 50	IP 50
Terminals	lift and screw terminals		
Max. terminal capacity	10 mm ²	18 mm ²	40 mm ²
Fastening torque of terminals	3 Nm	1.5 Nm	1.2 Nm
Ambient temperature	-25°C — +55°C	-20°C — +55°C	
Max. rel. humidity	75% Average, 95% Short time		
Insulation class	II		
Sealable	yes		
Weight	0.082 kg	0.278 kg	0.366 kg

Technical Data Ex9EM

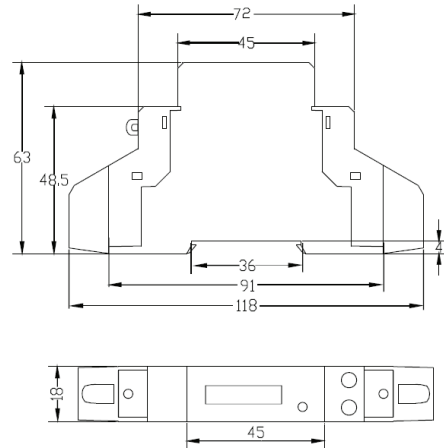
Energy Meters

Dimensions

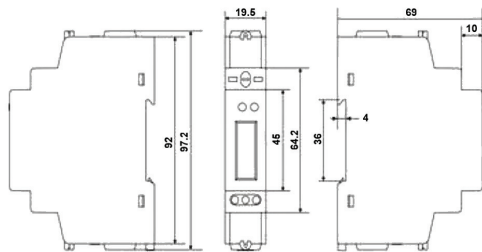
Ex9EM 1P 1M 32A 1T / Ex9EM 1P 1M 45A 1T



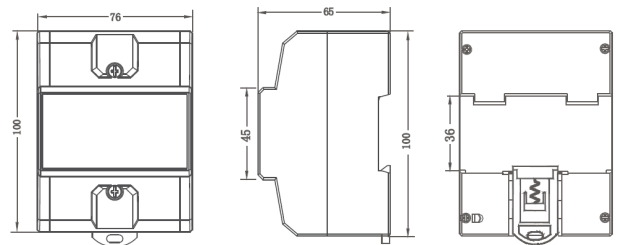
Ex9EM 1P 1M 45A 1T MCH



Ex9EM 1P 1M 80A MO MT

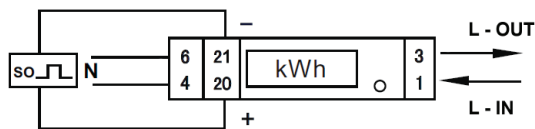


Ex9EM 3P 4M CT 1T / Ex9EM 3P 4M 80A 1T

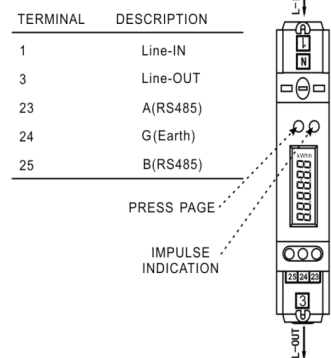


Wiring diagrams

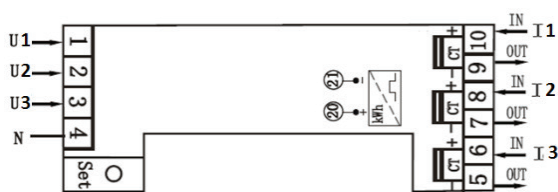
Ex9EM 1P 1M 32A 1T
Ex9EM 1P 1M 45A 1T
Ex9EM 1P 1M 45A 1T MCH



Ex9EM 1P 1M 80A MO MT



Ex9EM 3P 4M CT 1T



Ex9EM 3P 4M 80A 1T

