



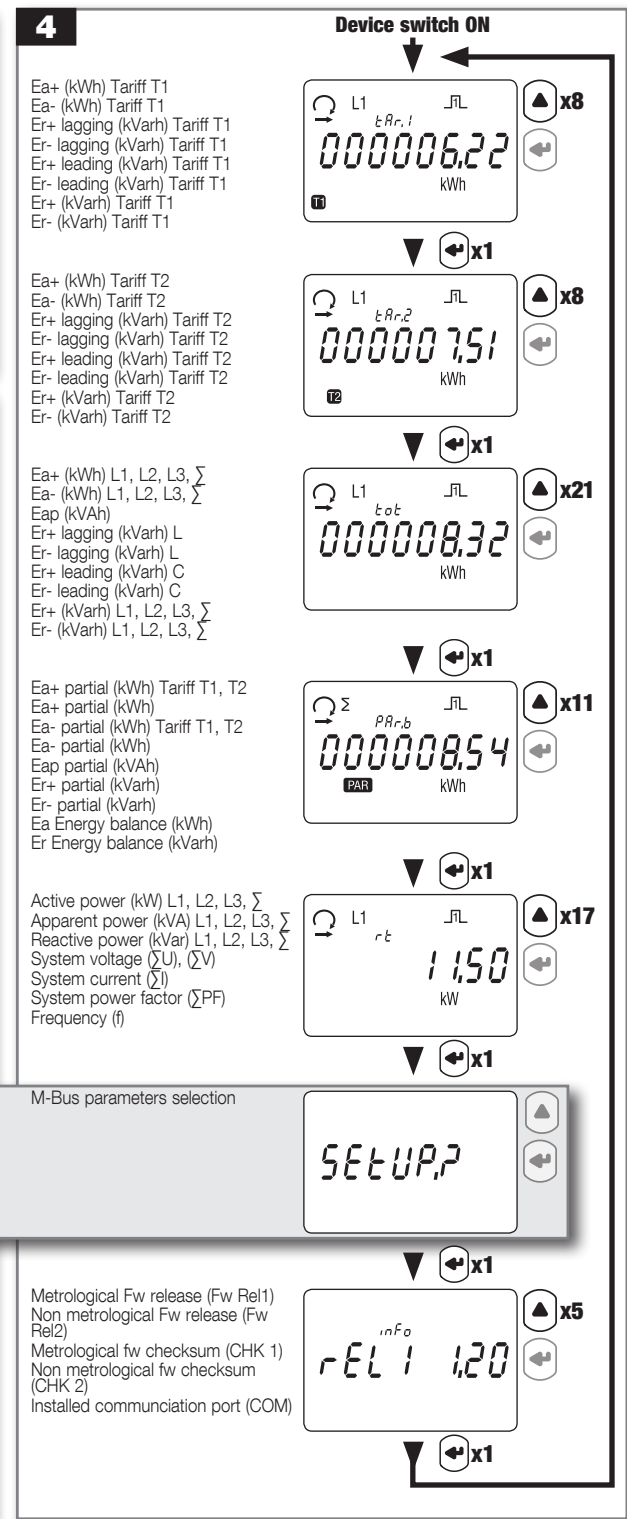
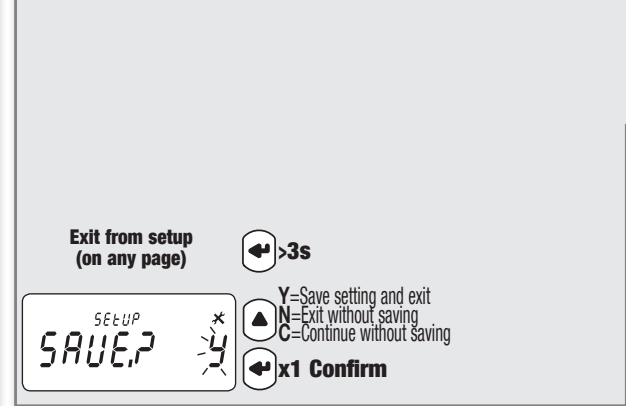
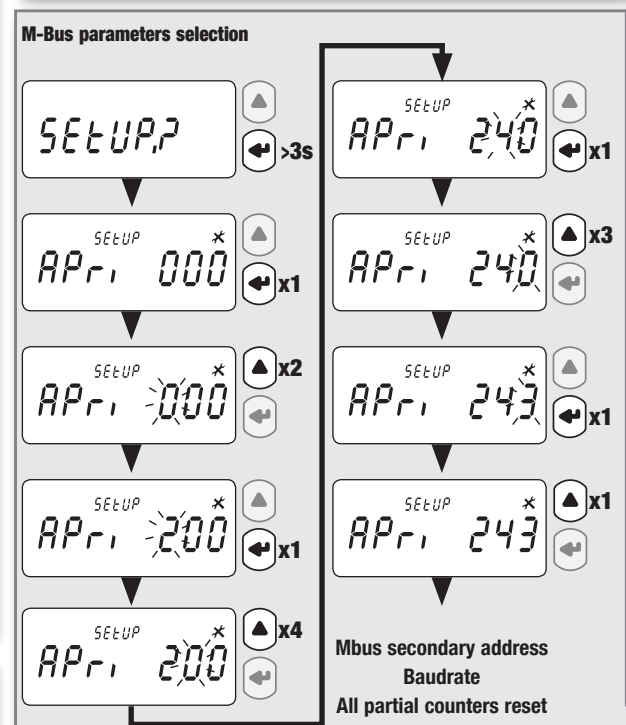
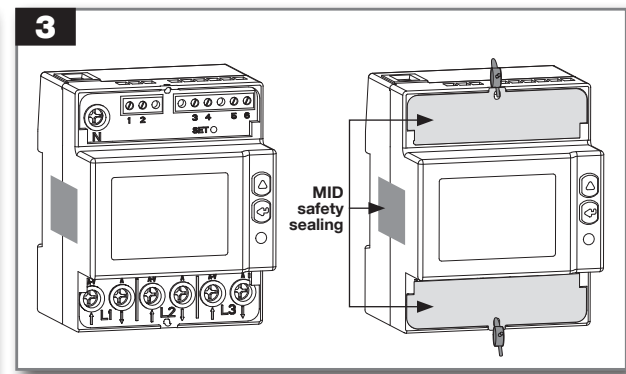
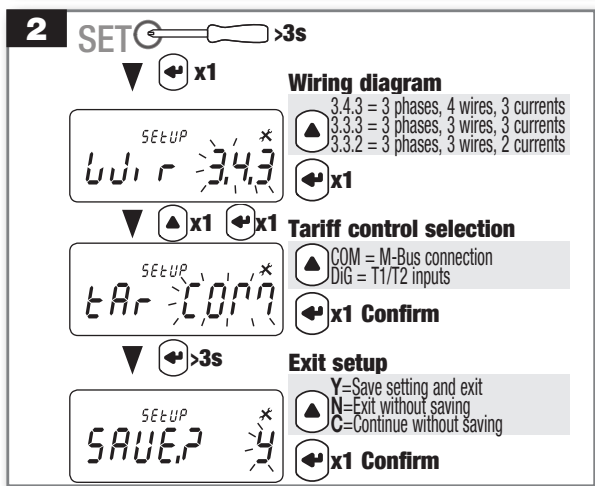
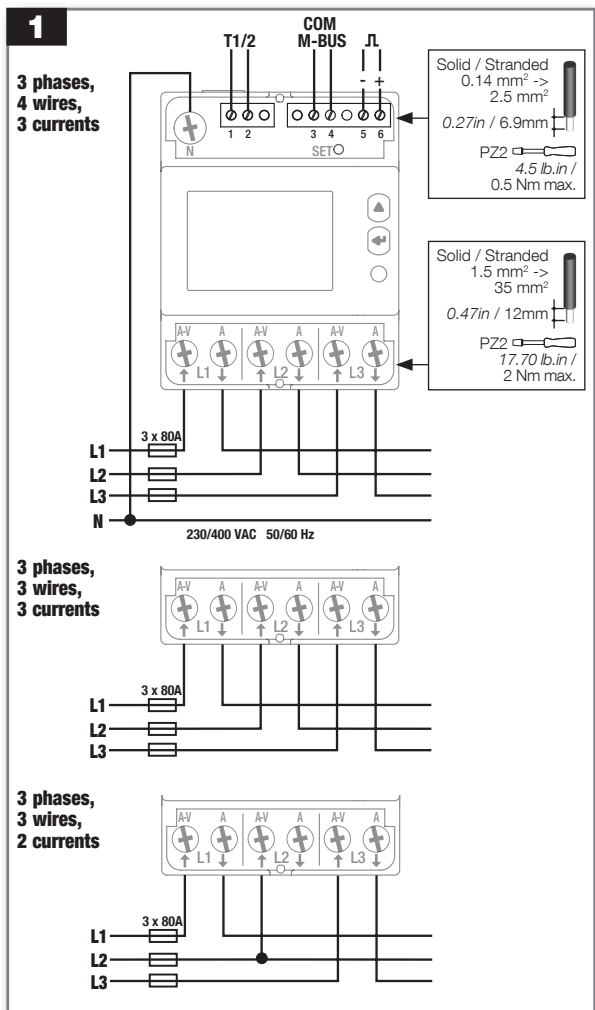
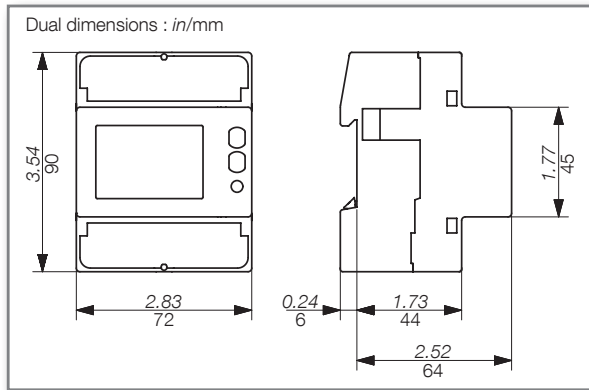
**Measurements**  
The parameters are available according to the device model.

Instantaneous values	Symbol	Measure unit	Display	Com.
Phase to Neutral voltages	$\sum V$ V1, V2, V3	V	●	●
Phase to Phase voltages	$\sum U$ U12, U23, U31			
Current	$\sum I$ I1, I2, I3	A	●	●
Power factor	$\sum PF$ PF1, PF2, PF3			
Apparent power	$\sum S$ , S1, S2, S3	kVA	●	●
Active power	$\sum P$ , P1, P2, P3			
Reactive power	$\sum Q$ , Q1, Q2, Q3	kvar	●	●
Frequency	f			
Phase sequence	CW / CCW		●	
Power direction	↔		●	
Recorded data				
Total energy counters	Ea, Er ( $\sum$ ) Ea, Er (per phase)	kWh, kvarh	●	●
Total apparent energy	Eap ( $\sum$ )			
Total ind. and cap. reactive energy	Er ( $\sum$ )	kvarh	●	
T1/T2 tariff energy counters	Ea, Er ( $\sum$ )	kWh, kvarh	●	●
T1/T2 tariff ind. and cap. reactive energy	Er ( $\sum$ )	kvarh	●	
T1/T2 tariff resettable partial energy counters	Ea ( $\sum$ )	kWh	●	
Resettable partial energy counters	Ea, Er Eap ( $\sum$ )	kWh, kvarh kVAh	●	●
Energy balance	$\sum$	kWh, kvarh	●	
Other information	Symbol	Value/status	Display	Com.
Present tariff	T	1/2	●	●
Partial counters	PAR	START/ STOP	●	
S0 output status	$\square$	Active/Not active	●	

NOTE: in case of 3 wire connection, phase-neutral voltages, neutral current, phase powers, phase power factors parameters and all phase counters are not available.

**Energy balance values calculation**

Energy balance	Formula
kWh	(+kWh T1) - (-kWh T1) + (+kWh T2) - (-kWh T2)
kvarh	(+kvarh T1) - (-kvarh T1) + (+kvarh T2) - (-kvarh T2)



**Technical characteristics**  
Data in compliance with EN 50470-1, EN 50470-3

General	
Housing	4 modules DIN 43880
Mounting	DIN rail EN 60715
Operating features	
Connectivity	3/4 wires 3x 230/400V to 3x 240/415V
Storage of energy values and configuration	FRAM
Display tariffs identifier	T1 and T2
Supply	
Autosupplied	
Operating voltage range	184 ... 288 VAC
Operating frequency range	45 ... 65 Hz
Rated power dissipation (max.) P <sub>v</sub>	3.5VA - 1W
Overload capability	
Voltage U <sub>n</sub> continuous	288 VAC
Voltage U <sub>n</sub> momentary (1 s)	300 VAC
Current I <sub>max</sub> continuous	80 A
Current I <sub>max</sub> momentary	30 I <sub>max</sub> for 1/2c
Display	
Display type	LCD 8 digits with backlight
Active energy: 1 display, 8-digit	000000.00 ... 999999.99 kWh
Reactive energy: 1 display, 8-digit	000000.00 ... 999999.99 kvarh
Apparent energy: 1 display, 8-digit	000000.00 ... 999999.99 kVAh
Instantaneous active power: 1 display, 4-digit	00.00 ... 99.99 kW
Instantaneous reactive power: 1 display, 4-digit	00.00 ... 99.99 kvar
Instantaneous apparent power: 1 display, 4-digit	00.00 ... 99.99 kVA
Instantaneous voltage: 1 display, 4-digit	000.0 ... 999.9 V
Instantaneous current: 1 display, 4-digit	00.00 ... 99.99 A
Power Factor: 1 display, 4-digit	0.000 ... 1.000
Frequency: 1 display, 4-digit	45.00 ... 65.00 Hz
Display period refresh	1 s
Measuring accuracy	
Active energy	class B acc. to EN 50470-3
Active energy	class 1 acc. to EN 62053-21
Reactive energy	class 2 acc. to EN 62053-23
Measuring input	
Type of connection	230 V phase to N or 400 V phase to phase
Certified voltage U <sub>n</sub>	230/400, 240/415 VAC
Current I <sub>ref</sub>	5 A
Current I <sub>min</sub>	0.25 A
Operating range current (I <sub>st</sub> ... I <sub>max</sub> )	0.020 ... 80 A
Certified frequency f <sub>n</sub>	50/60 Hz ± 1 Hz
Starting current for energy measurement (I <sub>st</sub> )	20 mA
Optical interfaces (LED)	
Meter constant	1 Wh/imp
SO Output	
Type	Optoisolated - 5 to 27VDC 27mA acc. to EN 62053-31
Pulse weight	100 Wh
Safety	
Indoor meter	yes
Degree of pollution	2
Operational voltage	300 VAC
AC voltage test (EN 50470-3, 7.2)	4 kV
Impulse voltage test	6 kV 1.2/50µs
Protection class (EN 50470)	class II
Housing material flame resistance	UL 94 class V0
Embedded communication	
M-Bus	300, 600, 1200, 2400, 4800, 9600 bps
Isolation class	SELV Circuit
Environmental conditions	
Mechanical environment	M1
Electromagnetic environment	E2
Operating temperature	-25 ... +55 °C
Limit temperature of transportation and storage	-25 ... +75 °C
Relative humidity (not condensation)	≤80 %
Vibrations	±0.075 mm
Degree protection	IP51(*)/IP20

(\*) For the installation in a cabinet at least with IP51 protection.