

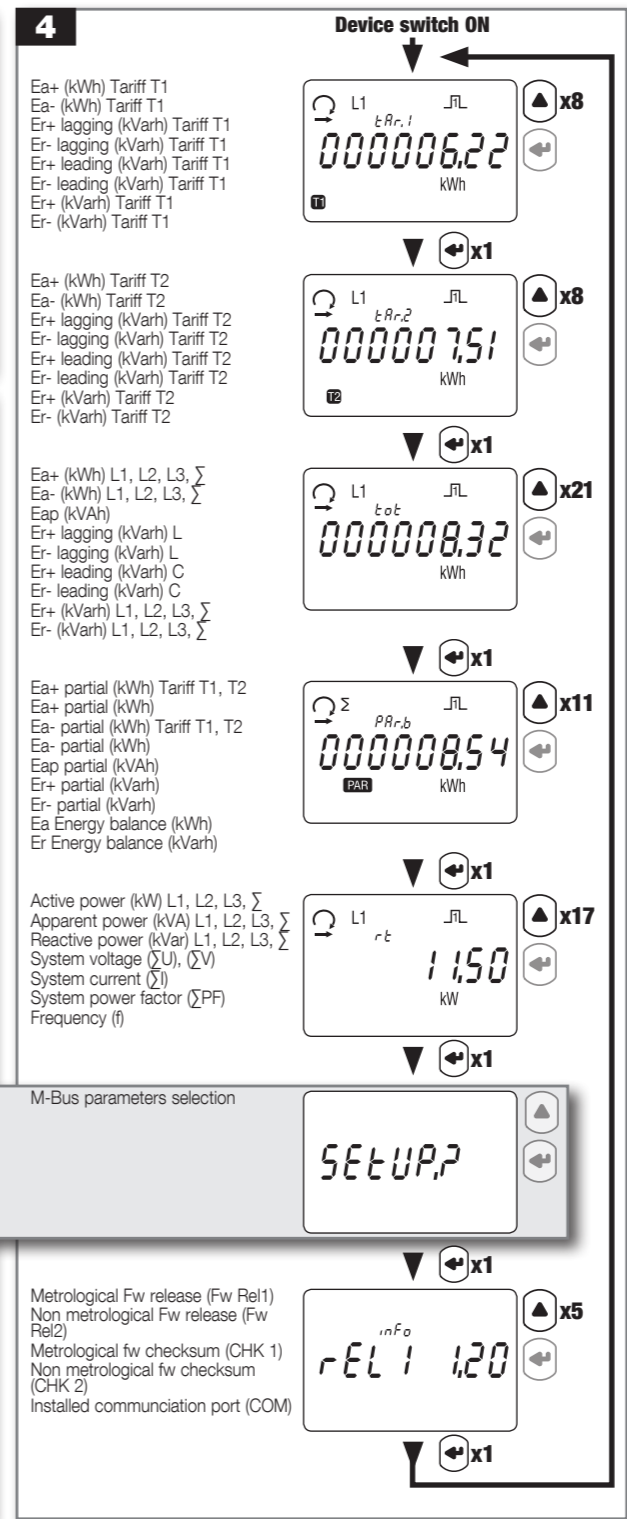
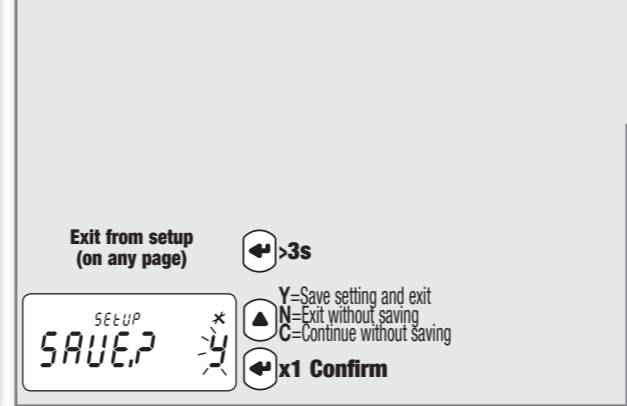
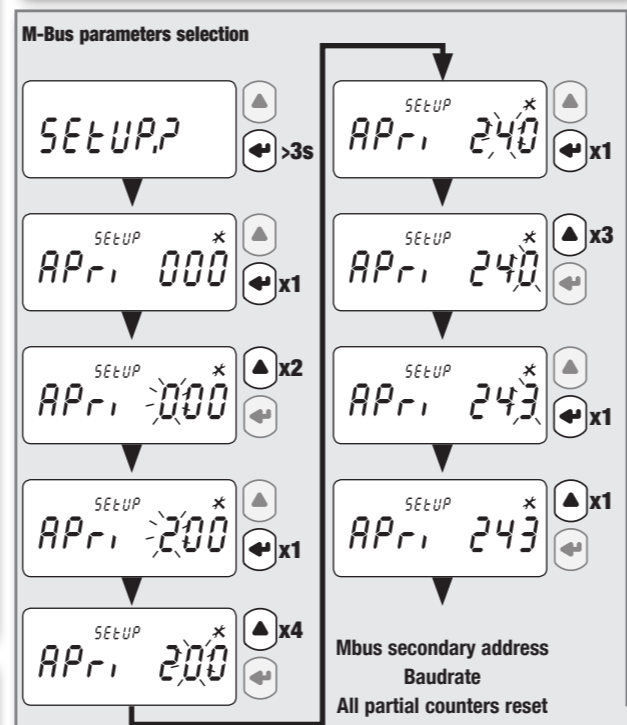
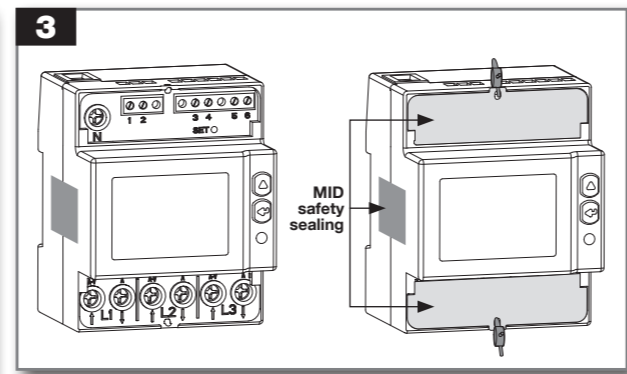
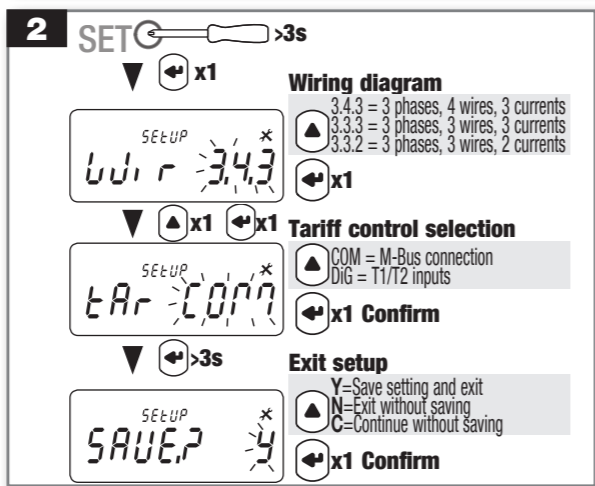
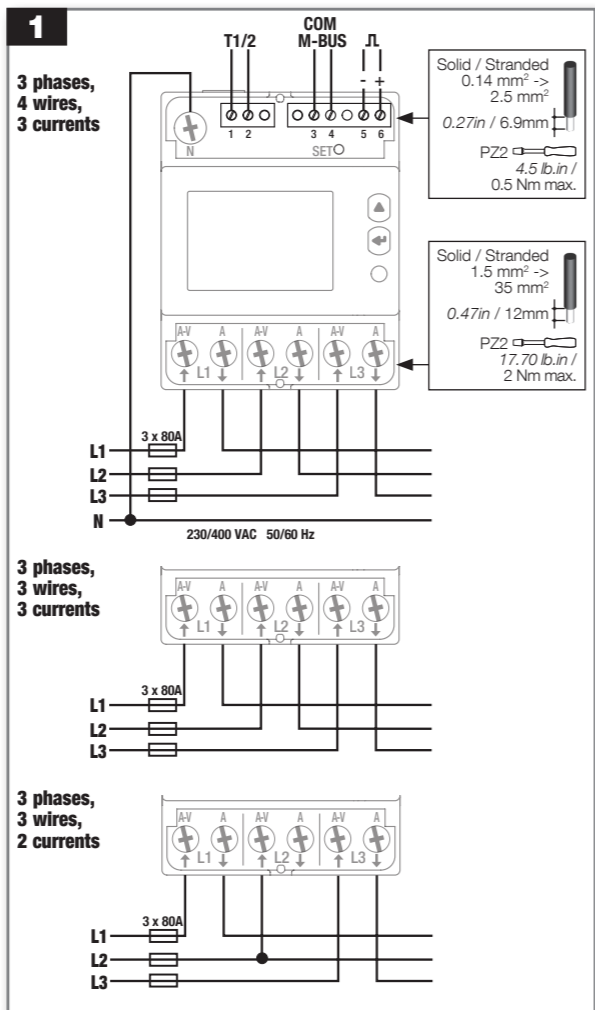
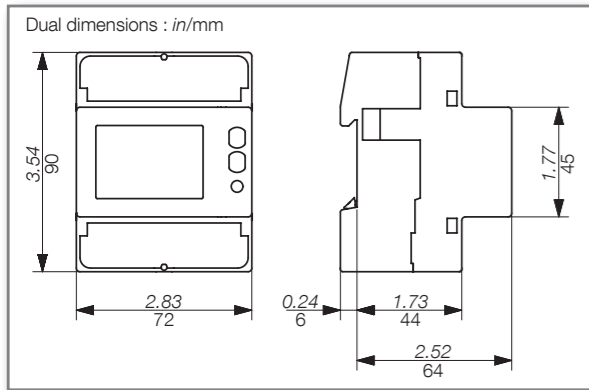
Measurements
The parameters are available according to the device model.

Instantaneous values	Symbol	Measure unit	Display	Com.
Phase to Neutral voltages	$\sum V$	V	●	●
	V1, V2, V3			
Phase to Phase voltages	$\sum U$		●	●
	U12, U23, U31			
Current	$\sum I$	A	●	●
	I1, I2, I3			
Power factor	$\sum PF$		●	●
	PF1, PF2, PF3			
Apparent power	$\sum S, S1, S2, S3$	kVA	●	●
Active power	$\sum P, P1, P2, P3$	kW	●	●
Reactive power	$\sum Q, Q1, Q2, Q3$	kvar	●	●
Frequency	f	Hz	●	●
Phase sequence	CW / CCW		●	●
Power direction	↔		●	●
Recorded data				
Total energy counters	Ea, Er (\sum)	kWh, kvarh	●	●
	Ea, Er (per phase)			
Total apparent energy	Eap (\sum)	kVAh	●	●
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	kWh, kvarh	●	●
Energy balance	Eap (\sum)	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 _v : 3.5VA - 1W
Overload capability	Voltage U _n continuous: 288 VAC Voltage U _n momentary (1 s): 300 VAC Current I _{max} continuous: 80 A Current I _{max} momentary: 30 I _{max} 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 Intantaneous voltage: 1 display, 4-digit: 000.0 ... 999.9 V Intantaneous 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 _n : 230/400, 240/415 VAC Current I _{ref} : 5 A Current I _{min} : 0.25 A Operating range current (I _{st} ... I _{max}): 0.020 ... 80 A Certified frequency f _n : 50/60 Hz ± 1 Hz Starting current for energy measurement (I _{st}): 20 mA
Optical interfaces (LED)	Meter constant: 1 Wh/imp
S0 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.