

Electricity meter WM1

Energy Sector



Electricity meter WM1

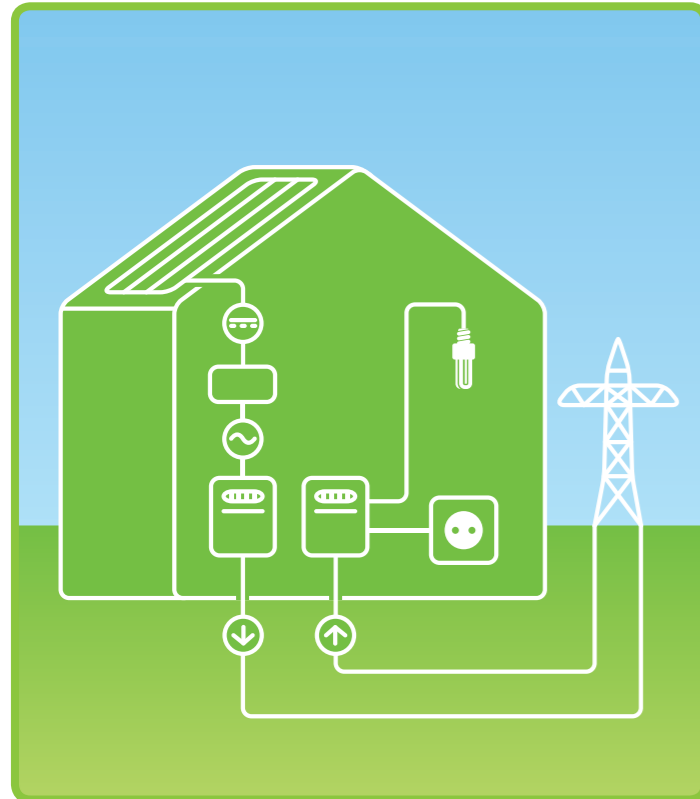
Electricity meter WM1

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- Single-phase, DIN-RAIL, with communication, (MID approved-option)
- For energy revenue and monitoring in Smart Metering/Grids systems

Typical applications

Household (MID version only)



Industry



WM 1 main purposes

- for revenue metering, energy consumption monitoring and energy management,
- for single or group of loads, in residential or commercial buildings, flats, industry processes, etc.
- for PV (solar-gen) Feed-in tariff metering,

Functional and technical parameters

Registration:

Cummulative register: A+ (kWh)

- Options: A-, IAI
- Tariffs: 2 (Tariff switching: Vinut)

Indications:

LED:

- Pulsating: K=1000 imp/Kwh
- Lit: meter connected to mains voltage, no load current (below Ist.)
- Not lit: voltage below threshold (165 V/AC)

LCD:

- Energy flow direction (arrows)

Display:

- LCD: kWh 9(8/1), (h=4,52mm)
- Data scroll: automatic
Option: manual (by button)

Impulse output: (option)

- SO (EN62053-31 A&B), k=1000imp/kWh

Tariff control input:

- V_{input} (V = 230+/-20%)

Com ports:

- Optical (side position)
protocol: MODBUS, or custom specific,
- Wired (auxiliary terminals): RS485
- Speed: up to 19200b/s, Frame: 8N1
- Protocol: MODBUS RTU or custom specific

Meter housing:

- Meter base and Terminal covers:
 - Polycarbonate/nontransparent, self-extinguished (V0)
- Meter cover:
 - Transparent, self-extinguished (UL94 V-0), UV protected
- Sealing facility: suitable for standard meter seals

Terminal block:

- Cage clamps (approved by UL1059/2006)

DIN-RAIL mounting:

- DIN EN60715,
- simple handling & installation (klik-on fitting)

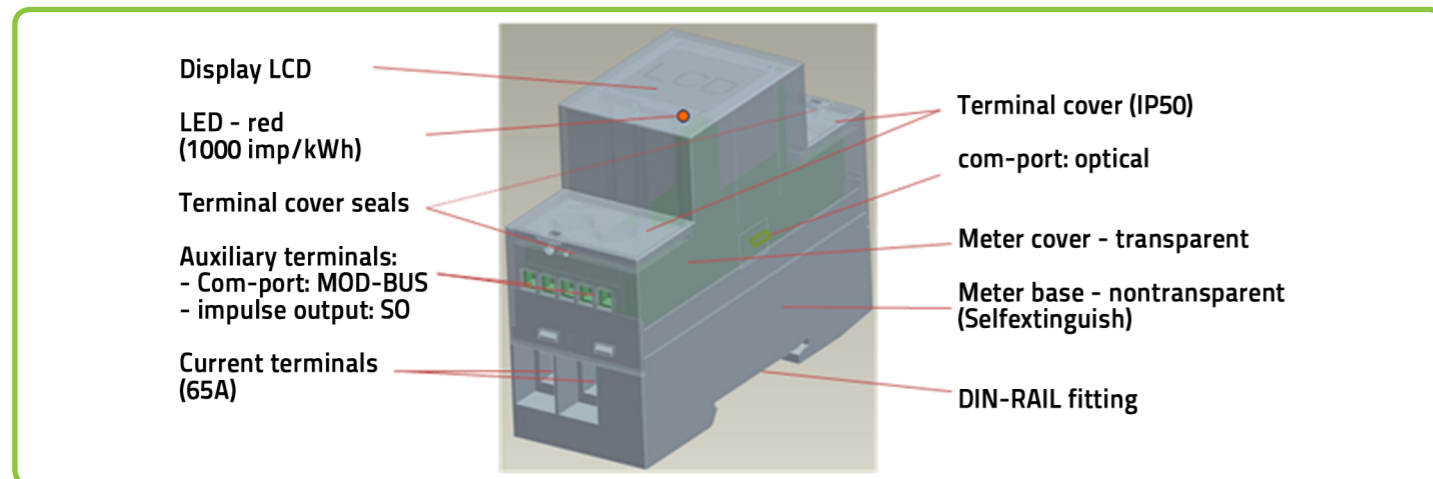
Dust/water protection :

- IP 50

Technical parameters:

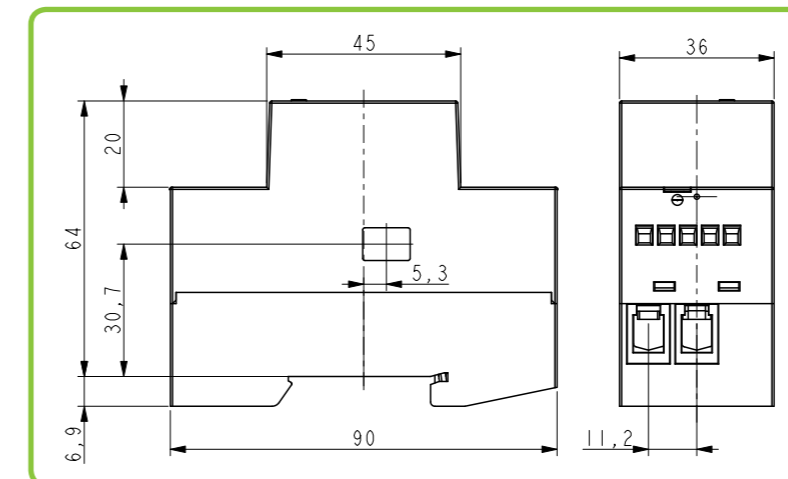
Current range Ib - Imax:	5 - 65 A
Nominal voltage Vn:	230 V
Vn tolerance:	Vn (1,1 - 0,8)V
Nominal frequency Fn:	50, 60 Hz
Accuracy clas:	1
Approval:	MID
Starting current:	20 mA
Voltage shock:	6kV
Voltage isolation:	double
Protection class:	300Vrms cat. III
Op. temp. Range:	-25° ...+55° C
Extended temp range:	-40° ...+60° C
Storage temp range:	-50° ...+70° C

Basic features



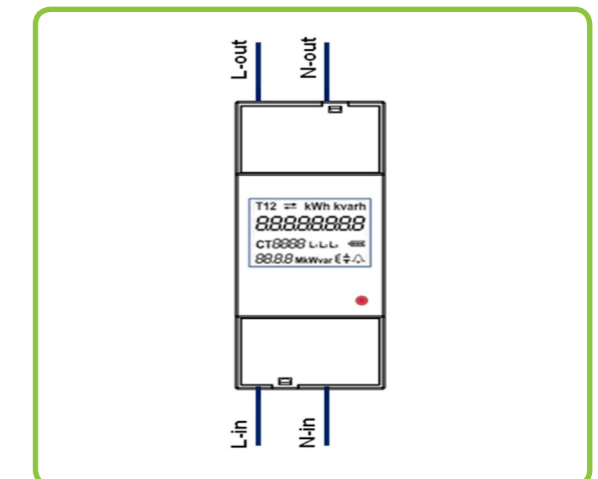
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Physical dimensions



3

Connection



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EXTENDED DATA SET (MOD-BUS Register Map)

READING OF INSTANTANEOUS VALUES

- This is special option for industrial process metering and energy management/monitoring systems.
- Listed values are available for reading by MODBUS com-port, minimal data refreshment rate is 1 sec.
- This values are not displayed on LCD or registered/stored in the meter memory.

Address	Contents	Data
INSTANTANEOUS VALUES		
30105	30106	Frequency
30107	30108	U1
30126	30127	I1
30140	30141	Active Power Total (Pt)
30148	30149	Reactive Power Total (Qt)
30156	30157	Apparent Power Total (St)
30164	30165	Power Factor Total (PFt)
30172		Power Angle Total (atan2(Pt,Qt))
30181		Internal Temperature
ENERGY		
30400		Error register
30401		Energy Counter 1 Exponent
30402		Energy Counter 2 Exponent
30403		Energy Counter 3 Exponent
30404		Energy Counter 4 Exponent
30405		Current Active Tariff
30406	30407	Energy Counter 1
30408	30409	Energy Counter 2
30410	30411	Energy Counter 3
30412	30413	Energy Counter 4

WM1 Ordering options

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Option	Optical port	Pulse output	Tariffs (2)	RS485 (MODBUS)
A	X			
B1	X	X		
B2	X		X	
B3	X	X	X	
C1	X			X (extended data set)
C2	X	X		X (extended data set)