

# UEM45-2 <UEM45-2A R, UEM45-2A M>

## 45A single phase energy meter with built-in communication

- UEM45-2A R with RS485 Modbus RTU communication
- UEM45-2A M with M-Bus communication
- Direct connection up to 45 A
- Fully bi-directional 4-quadrant measurements for all energies and powers
- 2 S0 outputs for pulse emission:
  - S01 is fully programmable by HMI or at a distance by COM
  - S02 is always fixed to 1000 imp/kWh
- 4 tariffs
- Class B according to EN 50470-3 (MID)
- Certified for maximum operating temperature of 70°C
- 1 DIN module compact size
- LCD display with 6 main digits
- Quick installation



### » General features

1 DIN module energy meter for the energy measurement in industrial and civilian application, with the following built-in communications according to the model: RS485 Modbus RTU or M-Bus.

The device comes with MID Certification, making it suitable for billing purposes.

The active energy is compliant to EN 50470-3 class B (MID).

The reactive energy is compliant to IEC/EN 62053-23 class 2.

Besides the energy, the meter can measure the main electrical parameters and makes them available on the display and on the built-in COM port. The COM port allows to manage the connected meter by a remote station and data is transmitted on a RS485 or M-Bus line according to the device model. Moreover, a dedicated application for remote management is provided:

- *Modbus Master software* > for energy meter management by PC in RS485 Modbus network.
- *M-Bus Master software* > for energy meter management by PC in M-Bus network.

Backlighted LCD display with clear graphic symbols comprehensible at a glance.

Metrological LED on front panel and sealable terminal covers. The analysis of the MTBF values, the accurate selection of components and the reduction of the internal working temperatures together with strict production and control standards guarantee a product with an excellent quality and a long lasting reliability.

### » Applications

- Totalization of the electric energy in the industry for each single line or machine.
- Measurement of energy generated by renewable sources such as solar, eolic, etc.
- Accounting and billing of consumptions in camp sites, malls, residential areas, naval ports, etc.
- Totalization of the electric consumption in hotels, congress centers, exhibition fairs.
- Accounting of the consumptions in buildings with executive office services.
- Allocation of the consumptions in civilian and industrial buildings.
- Realization of energy monitoring systems.
- Remote survey of the consumptions and compute of the costs.

### » Benefits

- Up to 12 instantaneous measurements, complete set of real time values, total counters and partial counters.
- Remote management through optional application according to the device model (RS485 Modbus, M-Bus).
- 4 tariffs remotely monitorable via COM port.
- MID certified.
- Operating temperature up to 70°C.

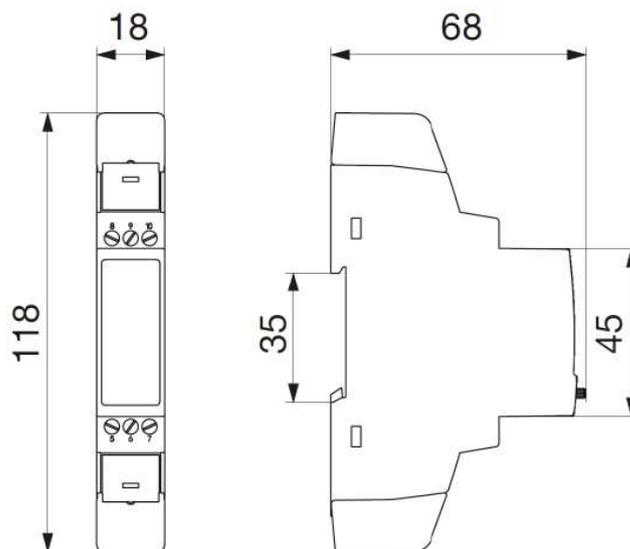
### » Related products

- Modbus Master software (for Windows OS)
- M-Bus Master software (for Windows OS)

## » Measurements on display

	REAL TIME VALUES	TOTAL COUNTERS	PARTIAL COUNTERS
<b>PARAMETERS</b>			
Voltage (U)	•		
Current (I)	•		
Frequency (F)	•		
Power Factor (PF)	•		
Active Power (P)	•		
Apparent Power (S)	•		
Reactive Power (Q)	•		
Imported Active Energy (+kWh)	•	•	•
Exported Active Energy (-kWh)	•	•	•
Apparent Energy (kVAh)	•	•	•
Imported Reactive Energy (+kvarh)	•	•	
Exported Reactive Energy (-kvarh)	•	•	

## » Technical drawing (mm)



## » Technical features

## GENERAL

Housing in compliance with	DIN 43880
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## POWER SUPPLY

Power supply	from the voltage
Range	nominal voltage $\pm 20\%$
Max consumption	UEM45-2A R: 0.5 W, 1.5 VA UEM45-2A M: 1 W, 10 VA

## NOMINAL VOLTAGE &amp; FREQUENCY

Nominal value	230 V 50/60 Hz
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## CURRENT

Starting current $I_{st}$	0.02 A
Minimum current $I_{min}$	0.25 A
Transitional current $I_{tr}$	0.5 A
Nominal current $I_n$	5 A
Maximum current $I_{max}$	45 A

## ACCURACY

Active energy class B in compliance with	EN 50470-3
Reactive energy class 2 in compliance with	EN 62053-23

## COMMUNICATION for RS485 MODBUS model

Isolated port	RS485
Unit load	1/2
Protocol	MODBUS RTU
Communication speed	24/48/96/192/384 kbps

## COMMUNICATION for M-BUS model

Isolated port	M-BUS
Unit load	1
Protocol	M-BUS
Communication speed	600/1.2k/2.4k/4.8k/9.6k bps

## S0 OUTPUTS

Passives optoisolated in compliance with	IEC 62053-31
Type	S01 programmable S02 fixed to 1000 imp/kWh
Pulse rate selectable for S01	0.001/ 0.01/ 0.1/ 1 En/imp

## TARIFF MANAGEMENT

Through serial command (COM)	4
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## METROLOGICAL LED

Meter constant	1000 imp/kWh
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## SAFETY

In compliance with	IEC 62052-11, IEC 62052-31
Pollution degree	2
Protective class	II
Pulse voltage withstand	6 kV-1.2 $\mu$ s
AC voltage withstand	4 kV for 1 min
Housing material flame resistance	UL 94 class V0

## ENVIRONMENTAL CONDITIONS

Mechanical environmental	M1
Electromagnetic environmental	E2
Operating temperature	-40°C ... +70°C
Storage temperature	-40°C ... +75°C
Humidity (without condensation)	max 95%
Protection degree of frontal panel / terminals	IP51 / IP20
Installation	internal use

ORDER CODE	MODEL	NOMINAL VOLTAGE AND FREQUENCY	POWER SUPPLY	CURRENT INPUT	COM PORT	TARIFFS	SO OUTPUTS
1123.0001.0001	UEM45-2A R	230V 50/60Hz	Self-powered	Direct up to 45A	RS485	4	2
1123.0002.0001	UEM45-2A M	230V 50/60Hz	Self-powered	Direct up to 45A	M-BUS	4	2

NOTE: Subject to change without notice



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