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UEMCT ‹UEMCT- A R, UEMCT-A M›

CT three phase energy meter with built-in communication

- UEMCT - A R with RS485 Modbus RTU communication
- UEMCT - A M with M-Bus communication
- For 1 or 5A CT
- Programmable CT primary
- Possibility to connect by Power Transformers (PT)
- Fully bi-directional 4-quadrant measurements for all energies and powers
- For 2 / 3 / 4 wire networks with balanced or unbalanced load both models RS485 and M-Bus
- 2 S0 outputs
  -S01 is fully programmable by HMI or at a distance by COM
  -S02 is always fixed to 3200 imp/kWh
- Up to 4 tariffs
- Class C according to EN 50470-3 (MID)
- Certified for maximum operating temperature of 70°C



» General features

4 DIN modules energy meter for the energy measurement in industrial and civilian application, with the following built-in communication, 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 C (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 both on LCD display and on the built-in COM port. The COM port allows to manage the connected meter by a remote station. 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.

Wide 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.
- Internal allocation of the consumptions in timeshare civilian and industrial buildings.
- Realization of energy monitoring systems.
  Remote survey of the consumptions and compute
- of the costs.

» Benefits

- Remote management through optional application/ interface according to the device model (RS485 Modbus, M-Bus).
- Up to 50 instantaneous measurements, complete set of real time values, total counters, tariff counters and partial counters.
- CT primary is programmable.
- Possibility to connect by PT.
- Meets Class C (MID certified).
- Operating temperture up to70°C.

»Related products

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

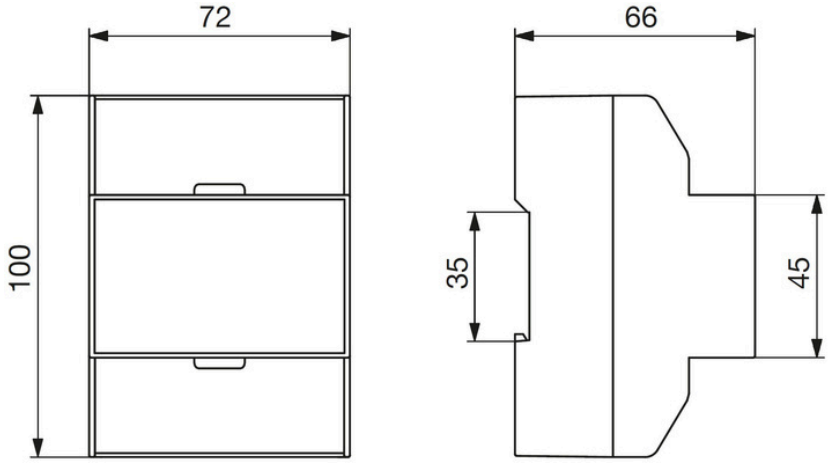
»Measurements on display

	REAL TIME VALUES	TOTAL COUNTERS	TARIFF COUNTERS	PARTIAL COUNTERS
PARAMETERS				
Phase 1 to Neutral Voltage (U1N)	❑			
Phase 2 to Neutral Voltage (U2N)	❑			
Phase 3 to Neutral Voltage (U3N)	❑			
Line 1 to 2 Voltage (V12)	❑			
Line 2 to 3 Voltage (V23)	❑			
Line 3 to 1 Voltage (V31)	❑			
Phase Sequence	❑			
Phase 1 Current (I1)	❑			
Phase 2 Current (I2)	❑			
Phase 3 Current (I3)	❑			
Neutral Current (IN)	❑			
System Frequency (F)	❑			
Phase 1 Power Factor (PF1)	❑			
Phase 2 Power Factor (PF2)	❑			
Phase 3 Power Factor (PF3)	❑			
System Power Factor (PF∑))	❑			
Phase 1 Active Power (P1)	❑			
Phase 2 Active Power (P2)	❑			
Phase 3 Active Power (P3)	❑			
System Active Power (P∑)	❑			
Phase 1 Active Power (P1)	❑			
Phase 2 Active Power (P2)	❑			
Phase 3 Active Power (P3)	❑			
System Active Power (P∑)	❑			
Phase 1 Apparent Power (S1)	❑			
Phase 2 Apparent Power (S2)	❑			
Phase 3 Apparent Power (S3)	❑			
System Apparent Power (S∑)	❑			
Phase 1 Reactive Power (Q1)	❑			
Phase 2 Reactive Power (Q2)	❑			
Phase 3 Reactive Power (Q3)	❑			
System Reactive Power (Q∑))	❑			
Phase 1 Current Maximum Demand (I1 MAX DMD)	❑			
Phase 2 Current Maximum Demand (I2 MAX DMD)	❑			
Phase 3 Current Maximum Demand (I3 MAX DMD)	❑			
System Active Power Maximum Demand (±P∑ AX DMD)	❑			

»Measurements on display

	REAL TIME VALUES	TOTAL COUNTERS	TARIFF COUNTERS	PARTIAL COUNTERS
PARAMETERS				
Phase 1 Imported Active Energy (+kWh1)		□		
Phase 2 Imported Active Energy (+kWh2)		□		
Phase 3 Imported Active Energy (+kWh3)		□		
System Imported Active Energy (+kWh∑)		□	□	□
Phase 1 Exported Active Energy (-kWh1)		□		
Phase 2 Exported Active Energy (-kWh2)		□		
Phase 3 Exported Active Energy (-kWh3)		□		
System Exported Active Energy (-kWh∑)		□	□	□
System Apparent Energy (kVAh∑)		□	□	□
Phase 1 Imported Reactive Energy (+kvarh1)		□		
Phase 2 Imported Reactive Energy (+kvarh2)		□		
Phase 3 Imported Reactive Energy (+kvarh3)		□		
System Imported Reactive Energy (+kvarh∑))		□	□	□
Phase 1 Exported Reactive Energy (-kvarh1)		□		
Phase 2 Exported Reactive Energy (-kvarh2)		□		
Phase 3 Exported Reactive Energy (-kvarh3)		□		
System Exported Reactive Energy (-kvarh∑))		□		
Balance of System Active Energy [imp-exp] (kWh∑BAL)		□	□	□
Balance of System Reactive Energy [imp-exp] (kvarh∑)BAL)		□		

»Technical drawing (mm)



»Technical features

GENERAL	
Housing in compliance with	DIN 43880

AUXILIARY POWER SUPPLY & WIRING	
Voltage	100 ... 277 VAC
Max consumption	UEMCT-A R: 1 W, 2 VA UEMCT-A M: 1 W, 3 VA
Wiring modes	3 phases/ 4 wires/ 3 currents, 3 phases/ 3 wires/ 2 currents, 1 phase/ 2 wires/ 1 current

NOMINAL VOLTAGE AND FREQUENCY	
Nominal value	3x230/400 V ±20% 50/60 Hz

CURRENT	
Starting current I_{st}	0.005 A
Minimum current I_{min}	0.05 A
Transitional current I_{tr}	0.25 A
Nominal current I_n	5 A
Maximum current I_{max}	6 A

CURRENT TRANSFORMER	
CT primary	CT sec ... 9999A
CT secondary	1 or 5 A

POWER TRANSFORMER	
PT primary	PT sec ... 9999V
PT secondary	50 ... 230 V

ACCURACY	
Active energy class C 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	2.4 / 4.8 / 9.6 / 19.2 / 38.4 kbps

COMMUNICATION for M-BUS model	
In compliance with	EN 13757-3
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 3200 imp/kWh
Pulse rate selectable only for S01	0.01 / 0.1 / 1 / 10 / 100 / 1000 En/imp

TARIFF MANAGEMENT	
Through digital input (DIG)	2
Through serial command (COM)	4

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

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

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ORDER CODE	MODEL	NOMINAL VOLTAGE AND FREQUENCY	AUX POWER SUPPLY	CURRENT INPUT	COM PORT	TARIFFS	S0 OUTPUTS
1120.0001.0001	UEMCT-A R	3x230/400V 50Hz	100 ... 277 V	CTs(not included)	RS485	4	2
1120.0002.0001	UEMCT-A M	3x230/400V 50Hz	100 ... 277 V	CTs(not included)	M-BUS	4	2

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NOTE: Subject to change without notice