UEM6C ‹UEM6C-4A R, UEM6C-A M, UEM6C-4A E, UEM6C-4D R, UEM6C-D M, UEM6C-4D E›

6A three phase energy meter with built-in communication

- Available built-in communication: RS485 Modbus RTU/ASCII or M-Bus or Ethernet (Modbus TCP)
- For 1 or 5A CT
- Programmable CT ratio
- Fully bi-directional 4-quadrant measurements for all energies and powers
- For 4 wire networks with balanced or unbalanced load. M-BUS model can be used also for 3 / 4 wire networks
- 8 MB for data recording and automatic/manual data transferring (only ETHERNET model)
- S0 output for energy pulse emission
- Class C according to EN 50470-3 (MID)
- Available with MID certification

» 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/ASCII, M-Bus or Ethernet Modbus TCP. Available with MID certification suitable for billing.

Besides the energy, the meter can measure the main electrical parameters and makes them available on the built-in COM port. The LCD display shows the energies and the instantaneous powers. The COM port allows to manage the connected meter by a remote station. Data is transmitted on a RS485, M-Bus or Ethernet 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 or Ethernet network.
- *M-Bus Master software* > for energy meter management by PC in M-Bus network.
- *Web server* > built-in interface for energy meter management by PC in Ethernet network. Moreover, it allows to enable a data recording and a manual or automatic data transferring. In case of automatic transferring, data is sent to a remote server at the set time schedule.

The meter is built according to EN 50470-1 standard. The active energy is compliant to IEC 62053-22 class 0,5 S, but for MID certified device it moreover fulfills class C requirements according to EN 50470-3. The accuracy of reactive energy is compliant to IEC/EN 62053-23 class 2.

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 dedicated application/ interface according to the device model (RS485 Modbus, M-Bus, Ethernet).
- Up to 30 instantaneous measurements, complete set of energy counters and partial counters. Moreover partial counters can be started, stopped or reset.
- Suitable for CT with 1 or 5A secondary. CT ratio is programmable (1 ... 10000).
- Phase sequence and diagnostic function for error signalling in case of wrong polarity connection.
- Available MID according to Swiss market (MID S). Reactive energy is not shown on energy meter display.

» Related products

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

» Technical features

Power supply
- Power supplied from the voltage circuit
- Nominal measurement voltage ±20%
- Max consumption (for each phase):
  RS485 MODBUS / ETHERNET models: 3.5 VA - 1 W
  M-BUS model: 7.5 VA - 0.5 W
- CT burden (for each phase): 0.04 VA
- Nominal frequency: 50/60 Hz

Voltage range & frequency
- 3x230/400 V 50 Hz (MID)
- 3x230/400 ... 3x240/415 V 50/60 Hz (NO MID)

Current
- Starting current I_{st}: 1 mA
- Minimum current I_{min}: 10 mA
- Transitional current I_{tr}: 50 mA
- Reference current I_{ref} (I_n): 1 A
- Maximum current I_{max}: 6 A

RS485 Modbus communication
- Port: RS485
- Protocol: Modbus RTU/ASCII
- Communication speed: 300 ... 57600 bps

M-Bus communication
- Port: wired (EN 1434-3)
- Protocol: M-Bus
- Communication speed: 300 ... 9600 bps
- Unit load: 1

Ethernet communication
- Port: 10/100 Base T
- Protocol: HTTP, NTP, DHCP, Modbus TCP
- Communication speed: 10/100 Mbps
- 8 MB for data recording
- Web server

Accuracy
- Active energy class C according to EN 50470-3 (MID)
- Active energy class 0,5 S according to IEC 62053-22 (NO MID)
- Reactive energy class 2 according to IEC/EN 62053-23

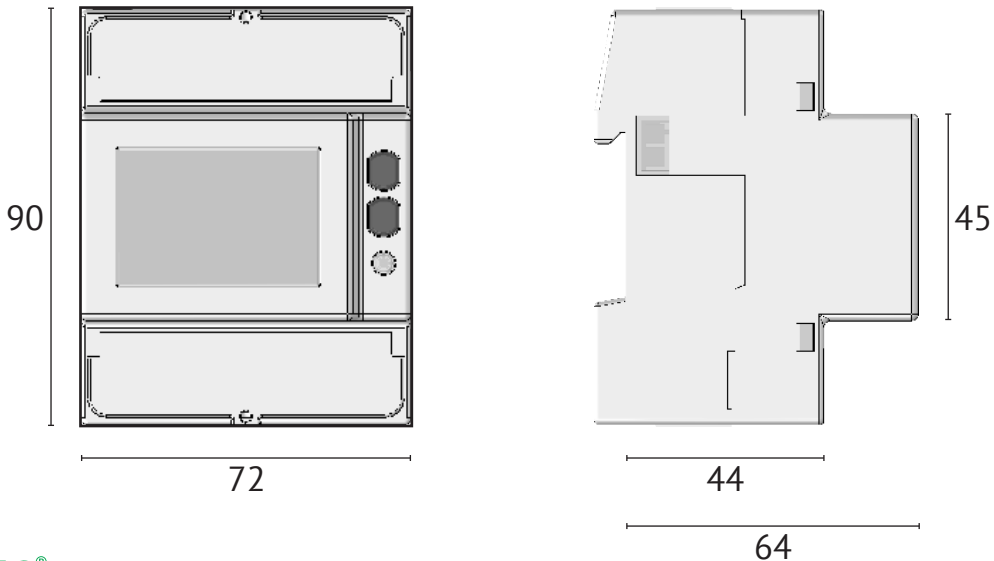
S0 output
- Passive optoisolated
- Maximum values: 27 V_{DC} - 27 mA
- Meter constant according to the set CT ratio:
  1000 imp/kWh with CT ratio in range 1...4
  200 imp/kWh with CT ratio in range 5...24
  40 imp/kWh with CT ratio in range 25...124
  8 imp/kWh with CT ratio in range 125...624
  1 imp/kWh with CT ratio in range 625...3124
  0.1 imp/kWh with CT ratio in range 3125...10000
  The measuring unit (imp/kWh, imp/kvarh, imp/kVAh) changes according to the assigned counter (kWh, kvarh, kVAh)
- Pulse length: 50 ±2ms

Tariff input (no ETHERNET model)
- Active optoisolated
- Voltage range for tariff 2: 80 ... 276 V_{AC-DC}

Metrological LED
- Meter constant: 10000 imp/kWh
- Pulse length: 10 ±2ms

Environmental conditions
- Operating temperature: -25°C ... +55°C
- Storage temperature: -25°C ... +75°C
- Humidity: 80% max without condensation
- Protection degree: IP51 frontal part -IP20 terminals

» Technical drawing (mm)



» Measurements

In this table, "3 WIRE SYSTEM" column is valid only for M-BUS model. For the other models, only 4 wire system is available.

	SYMBOL	MEASURE UNIT, VALUE or STATUS	3 WIRE SYSTEM	4 WIRE SYSTEM	DISPLAY	COM PORT
INSTANTANEOUS VALUES						
Phase voltage	V_{L1-N} - V_{L2-N} - V_{L3-N}	V		●		●
Line voltage	V_{L1-L2} - V_{L2-L3} - V_{L3-L1}	V	●	●		●
System voltage	V∑	V	●	●		●
Phase current	I_1 - I_2 - I_3	A	●	●		■
Neutral current	I_N	A		●		■
System current	I∑	A	●	●		■
Phase power factor	PF_{L1} - PF_{L2} - PF_{L3}	-		●		●
System power factor	PF∑	-	●	●		●
Phase apparent power	S_{L1} - S_{L2} - S_{L3}	VA		●	■	■
System apparent power	S∑	VA	●	●	■	■
Phase active power	P_{L1} - P_{L2} - P_{L3}	W		●	■	■
System active power	P∑	W	●	●	■	■
Phase reactive power	Q_{L1} - Q_{L2} - Q_{L3}	var		●	■	■
System reactive power	Q∑	var	●	●	■	■
Frequency	f	Hz	●	●		●
Phase sequence	CW/CCW	-	●	●	●	●
Power direction	→ ←	-	●	●	●	●
RECORDED DATA						
Phase active energy	L1 - L2 - L3	Wh		●	■	■
System active energy	∑	Wh	●	●	■	■
Phase inductive and capacitive reactive energy	L1 - L2 - L3	varh		●	■❖	■
System inductive and capacitive reactive energy	∑	varh	●	●	■❖	■
Phase inductive and capacitive apparent energy	L1 - L2 - L3	VAh		●	■	■
System inductive and capacitive apparent energy	∑	VAh	●	●	■	■
Tariff 1/2 phase active energy (no ETHERNET model)	L1 - L2 - L3	Wh		●	■	■
Tariff 1/2 system active energy (no ETHERNET model)	∑	Wh	●	●	■	■
Tariff 1/2 phase ind. and cap. reactive energy (no ETHERNET model)	L1 - L2 - L3	varh		●	■❖	■
Tariff 1/2 system ind. and cap. reactive energy (no ETHERNET mod.)	∑	varh	●	●	■❖	■
Tariff 1/2 phase ind. and cap. apparent energy (no ETHERNET mod.)	L1 - L2 - L3	VAh		●	■	■
Tariff 1/2 system ind. and cap. apparent energy (no ETHERNET mod.)	∑	VAh	●	●	■	■
Resettable partial energy counters	∑	Wh, varh, VAh	●	●	■❖	■
Energy balance	∑	Wh, varh, VAh	●	●	■❖	■
In case of ETHERNET model, a recording at programmable rate (minimum 10 s) can be enabled with selectable parameters like instantaneous values and counters. Then, the recorded data can be transferred manually or automatically.						
OTHER INFORMATION						
Present tariff (no ETHERNET model)	T	1/2				●
Secondary values	SEC	ON/OFF			●	●
CT ratio	CT	Set value			●	●
Undervoltage/overvoltage	VOL, VUL	ON/OFF				●
Undercurrent/overcurrent	IOL, IUL	ON/OFF				●
Frequency out of range	fOUT	ON/OFF				●
Partial counters	PAR	START/STOP			●	●
S0 output status	⎍1⎍	Active			●	

LEGEND: ● = Available ■ = Bidirectional value ❖ = varh not available for MID S meter

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ORDER CODE	VOLTAGE AND FREQUENCY INPUT	INPUTS/ OUTPUTS		COMMUNICATION PORT			OPTIONS			
	Self-powered	TARIFF input	S0 output	RS485 MODBUS	M-BUS	ETHERNET	MID	MIDS	NO MID	RESET
UEM6C-4A R (CTs not included)										
1113.0001.0001	3x230/400V 50Hz	1	1	●			●			
1113.0002.0001	3x230/400V 50Hz	1	1	●				●		
UEM6C-4D R (CTs not included)										
1113.0003.0001	3x230/400V...3x240/415V 50/60Hz	1	1	●					●	
1113.0004.0001	3x230/400V...3x240/415V 50/60Hz	1	1	●						●
UEM6C-A M (CTs not included)										
1113.0005.0001	3x230/400V 50Hz	1	1		●		●			
1113.0006.0001	3x230/400V 50Hz	1	1		●			●		
UEM6C-D M (CTs not included)										
1113.0007.0001	3x230/400V...3x240/415V 50/60Hz	1	1		●				●	
1113.0008.0001	3x230/400V...3x240/415V 50/60Hz	1	1		●					●
UEM6C-4A E (CTs not included)										
1113.0009.0001	3x230/400V 50Hz		1			●	●			
1113.0010.0001	3x230/400V 50Hz		1			●		●		
UEM6C-4D E (CTs not included)										
1113.0011.0001	3x230/400V...3x240/415V 50/60Hz		1			●			●	
1113.0012.0001	3x230/400V...3x240/415V 50/60Hz		1			●				●

LEGEND

MID: MID certified meter, with reset function only on partial counters.
MID S: MID certified meter, with reset function only on partial counters, without reactive energy counters on display (only SWITZERLAND).
NO MID: Meter without MID certification, with reset function only on partial counters.
RESET: Meter without MID certification, with RESET function on ALL counters.
Softwares for meter remote management (MODBUS Master, M-BUS Master) downloadable for free at www.algodue.it, in the Client protected area.

NOTE: Subject to change without notice

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