UEM63-4D R70

63A three phase energy meter with built-in communication

- For RS485 Modbus RTU/ASCII communication
- Direct connection up to 63 A
- Up to 70°C operating temperature
- Fully bi-directional 4-quadrant measurements for all energies and powers
- For 4 wire networks with balanced or unbalanced load
- Class B according to EN 50470-3 (MID)
- S0 output for energy pulse emission
- Available with MID certification

» General features

4 DIN modules energy meter for the energy measurement in industrial and civilian application, with RS485 Modbus RTU/ASCII built-in communication. 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 line. Moreover, a dedicated application for remote management is provided:

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

The meter is built according to EN 50470-1 standard. The active energy is compliant to IEC/EN 62053-21 class 1, but for MID certified device it moreover fulfills class B 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.
- Up to 30 instantaneous measurements, complete set of energy counters and partial counters. Moreover partial counters can be started, stopped or reset.
- 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)

» Technical features

Power supply
- Power supplied from the voltage circuit
- Nominal measurement voltage ±20%
- Max consumption (for each phase): 3.5 VA - 1 W
- Nominal frequency: 50/60 Hz

Voltage range & frequency
- 3x230/400 ... 3x240/415 V 50/60 Hz

Current
- Starting current I_{st}: 20 mA
- Minimum current I_{min}: 250 mA
- Transitional current I_{tr}: 500 mA
- Reference current I_{ref} (I_b): 5 A
- Maximum current I_{max}: 63 A

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

Accuracy
- Active energy class 1 according to IEC/EN 62053-21 (NO MID)
- Active energy class B according to EN 50470-3 (MID)
- Reactive energy class 2 according to IEC/EN 62053-23

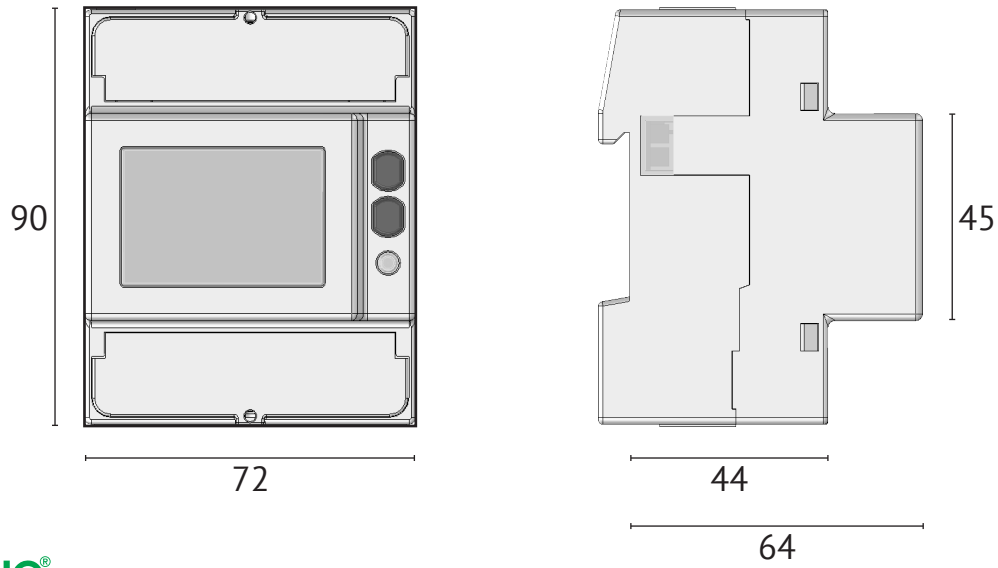
S0 output
- Passive optoisolated
- Maximum values: 27 V_{DC} - 27 mA
- Meter constant: 100 imp/kWh
  The measuring unit (imp/kWh, imp/kvarh, imp/kVAh) changes according to the assigned counter (kWh, kvarh, kVAh)
- Pulse length: 50 ±2ms

Tariff input
- Active optoisolated
- Voltage range for tariff 2: 80 ... 276 V_{AC-DC}

Metrological LED
- Meter constant: 1000 imp/kWh
- Pulse length: 10 ±2ms

Environmental conditions
- Operating temperature: -25°C ... +70°C
- Storage temperature: -25°C ... +75°C
- Humidity: 80% max without condensation
- Protection degree: IP51 frontal part -IP20 terminals

» Technical drawing (mm)



» Measurements

	SYMBOL	MEASURE UNIT, VALUE or STATUS	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}	kVA	●	■	■
System apparent power	S∑	kVA	●	■	■
Phase active power	P_{L1} - P_{L2} - P_{L3}	kW	●	■	■
System active power	P∑	kW	●	■	■
Phase reactive power	Q_{L1} - Q_{L2} - Q_{L3}	kvar	●	■	■
System reactive power	Q∑	kvar	●	■	■
Frequency	f	Hz	●		●
Phase sequence	CW/CCW	-	●	●	●
Power direction	→ ←	-	●	●	●
RECORDED DATA					
Phase active energy	L1 - L2 - L3	kWh	●	■	■
System active energy	∑	kWh	●	■	■
Phase inductive and capacitive reactive energy	L1 - L2 - L3	kvarh	●	■❖	■
System inductive and capacitive reactive energy	∑	kvarh	●	■❖	■
Phase inductive and capacitive apparent energy	L1 - L2 - L3	kVAh	●	■	■
System inductive and capacitive apparent energy	∑	kVAh	●	■	■
Tariff 1/2 phase active energy	L1 - L2 - L3	kWh	●	■	■
Tariff 1/2 system active energy	∑	kWh	●	■	■
Tariff 1/2 phase ind. and cap. reactive energy	L1 - L2 - L3	kvarh	●	■❖	■
Tariff 1/2 system ind. and cap. reactive energy	∑	kvarh	●	■❖	■
Tariff 1/2 phase ind. and cap. apparent energy	L1 - L2 - L3	kVAh	●	■	■
Tariff 1/2 system ind. and cap. apparent energy	∑	kVAh	●	■	■
Resettable partial energy counters	∑	kWh, kvarh, kVAh	●	■❖	■
Energy balance	∑	kWh, kvarh, kVAh	●	■❖	■
OTHER INFORMATION					
Present tariff	T	1/2			●
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

ORDER CODE	VOLTAGE AND FREQUENCY INPUT	COMMUNICATION PORT	OPTIONS			
	Self-powered	RS485 MODBUS	MID	MIDS	NOMID	RESET
UEM63-4D R70						
1115.0001.0001	3x230/400V...3x240/415V 50/60Hz	●	●			
1115.0002.0001	3x230/400V...3x240/415V 50/60Hz	●		●		
1115.0003.0001	3x230/400V...3x240/415V 50/60Hz	●			●	
1115.0004.0001	3x230/400V...3x240/415V 50/60Hz	●				●

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.
Software for meter remote management (MODBUS Master) downloadable for free at www.algodue.com
A multilingual manual with English, German, Italian, French, Spanish is provided.

NOTE: Subject to change without notice

algodue® ELETTRONICA
Innovative Electronic Systems
Via P. Gobetti, 16/F - 28014 Maggiora (NO) - Italy - Tel.: +39 0322 89307
sales@algodue.it - www.algodue.com