

UEC80-X

80A three phase 3 or 4 wire programmable energy meter

- Direct connection up to 80 A
- Fully bi-directional 4-quadrant measurements for all energies and powers
- For 3 / 4 wire networks with balanced or unbalanced load
- Class B according to EN 50470-3 (MID)
- Tariff input
- 2 SO outputs for energy pulse emission
- LCD display with 8 main digits
- IR optical port for communication with external modules
- Available with MID certification



» General features

4 DIN modules energy meter for the energy measurement in industrial and civilian application, available with MID certification suitable for billing. Combined with different external modules, the meter can communicate with other systems. COM modules are available for the most common field protocols.

Besides the energy, the meter can measure the main electrical parameters and makes them available on the IR port. The LCD display shows the energies and the instantaneous powers.

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 backlit LCD display with clear graphic symbols comprehensible at a glance. Metrological LED on front panel and sealable terminal covers. Available versions with different voltage working range for the connection on 3 or 4 wire network, suitable for balanced or unbalanced loads. 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

- Up to 30 instantaneous measurements, complete set of energy counters with 2 tariffs total 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

- Communication modules (RS485 Modbus, M-Bus, Lan gateway, KNX)

» Technical features

Power supply

- Power supplied from the voltage circuit
- Nominal measurement voltage $\pm 20\%$
- Max consumption (for each phase): 7.5 VA - 0.5 W
- Nominal frequency: 50/60 Hz

Voltage & frequency

- Nominal values:
 - A) 3x230/400 V 50 Hz
 - D) 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} : 80 A

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 outputs

- 2 passive optoisolated
- Maximum values: 250 V_{AC-DC} - 100 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 \pm 2ms

Tariff input

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

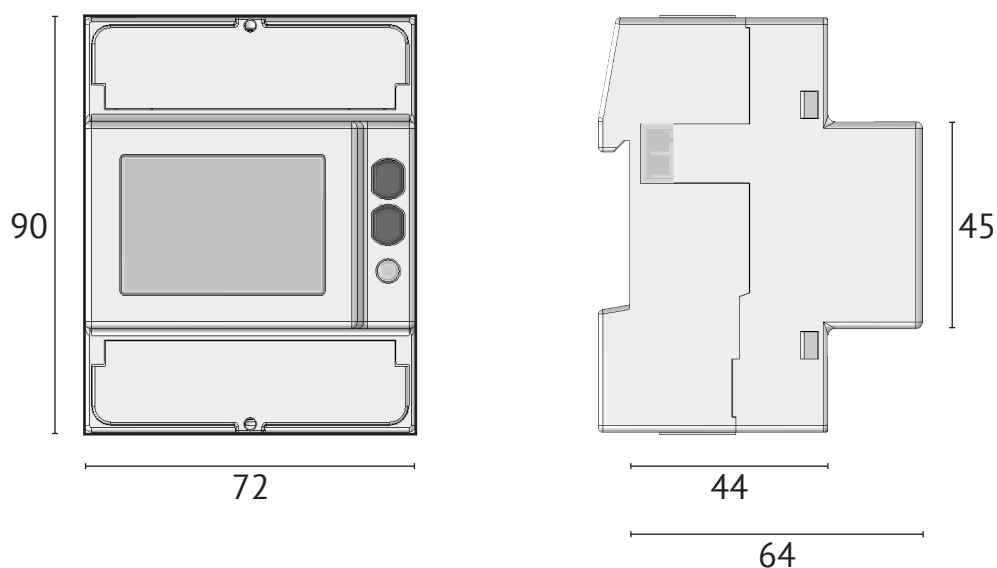
Metrological LED

- Meter constant: 1000 imp/kWh
- Pulse length: 10 \pm 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

| | 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_{Σ} | V | ● | ● | | ● |
| Phase current | $I_1 - I_2 - I_3$ | A | ● | ● | | ■ |
| Neutral current | I_N | A | | ● | | ■ |
| System current | I_{Σ} | A | ● | ● | | ■ |
| Phase power factor | $PF_{L1} - PF_{L2} - PF_{L3}$ | - | | ● | | ● |
| System power factor | PF_{Σ} | - | ● | ● | | ● |
| Phase apparent power | $S_{L1} - S_{L2} - S_{L3}$ | kVA | | ● | ■ | ■ |
| System apparent power | S_{Σ} | kVA | ● | ● | ■ | ■ |
| Phase active power | $P_{L1} - P_{L2} - P_{L3}$ | kW | | ● | ■ | ■ |
| System active power | P_{Σ} | kW | ● | ● | ■ | ■ |
| Phase reactive power | $Q_{L1} - Q_{L2} - Q_{L3}$ | kvar | | ● | ■ | ■ |
| System reactive power | Q_{Σ} | kvar | ● | ● | ■ | ■ |
| Frequency | f | Hz | ● | ● | | ● |
| Phase sequence | CW/CCW | - | ● | ● | ● | ● |
| Power direction | \rightarrow \leftarrow | - | ● | ● | ● | ● |
| RECORDED DATA | | | | | | |
| Phase active energy | L1 - L2 - L3 | kWh | | ● | ■ | ■ |
| System active energy | Σ | kWh | ● | ● | ■ | ■ |
| Phase inductive and capacitive reactive energy | L1 - L2 - L3 | kvarh | | ● | ■❖ | ■ |
| System inductive and capacitive reactive energy | Σ | kvarh | ● | ● | ■❖ | ■ |
| Phase inductive and capacitive apparent energy | L1 - L2 - L3 | kVAh | | ● | ■ | ■ |
| System inductive and capacitive apparent energy | Σ | kVAh | ● | ● | ■ | ■ |
| Tariff 1/2 phase active energy | L1 - L2 - L3 | kWh | | ● | ■ | ■ |
| Tariff 1/2 system active energy | Σ | kWh | ● | ● | ■ | ■ |
| Tariff 1/2 phase inductive and capacitive reactive energy | L1 - L2 - L3 | kvarh | | ● | ■❖ | ■ |
| Tariff 1/2 system inductive and capacitive reactive energy | Σ | kvarh | ● | ● | ■❖ | ■ |
| Tariff 1/2 phase inductive and capacitive apparent energy | L1 - L2 - L3 | kVAh | | ● | ■ | ■ |
| Tariff 1/2 system inductive and capacitive apparent energy | Σ | kVAh | ● | ● | ■ | ■ |
| Resettable partial energy counters | Σ | kWh, kvarh, kVAh | ● | ● | ■❖ | ■ |
| Energy balance | Σ | 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 | f _{OUT} | ON/OFF | | | | ● |
| Partial counters | PAR | START/STOP | | | ● | ● |
| S0 output status | $\lceil \uparrow \rceil \lceil \downarrow \rceil$ | Active | | | ● | |
| LEGEND: ● = Available ■ = Bidirectional value ❖ = varh not available for MID S meter | | | | | | |

| ORDER CODE | VOLTAGE AND FREQUENCY INPUT | COMMUNICATION PORT | OPTIONS | | | |
|----------------|---------------------------------|--------------------|--------------|----|-----|------|
| | | | Self-powered | IR | MID | MIDS |
| UEC80-A | | | | | | |
| 1105.0001.0001 | 3x230/400V 50Hz | ● | ● | | | |
| 1105.0002.0001 | 3x230/400V 50Hz | ● | | ● | | |
| 1105.0003.0001 | 3x230/400V 50Hz | ● | | | ● | |
| 1105.0004.0001 | 3x230/400V 50Hz | ● | | | | ● |
| UEC80-D | | | | | | |
| 1105.0013.0001 | 3x230/400V...3x240/415V 50/60Hz | ● | ● | | | |
| 1105.0014.0001 | 3x230/400V...3x240/415V 50/60Hz | ● | | ● | | |
| 1105.0015.0001 | 3x230/400V...3x240/415V 50/60Hz | ● | | | ● | |
| 1105.0016.0001 | 3x230/400V...3x240/415V 50/60Hz | ● | | | | ● |

LEGEND

- IR:** IR port. This port allows to combine the meter with the communication module (not included).
 - 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 .
 - NONE:** Meter without MID certification, with reset function only on partial counters.
 - RESET:** Meter without MID certification, with RESET function on ALL counters.
- A multilingual manual with English, German, Italian, French, Spanish is now provided.

NOTE: Subject to change without notice



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