

COUNTIS M3x

Active energy meters for OEM

three-phase - direct 100 A



COUNTIS M34

Function

The **COUNTIS M3x** meters are modular energy meters designed for three-phases metering and direct connection up to 100 A for machine manufacturers (Bulk packaging).

They can directly display both active (kWh) and reactive energy (kvarh) on a backlit LCD screen.

With multifunction monitoring and compact size in 4 modules width, they support RS485 MODBUS RTU or MBUS communication and are suited for both commercial or industrial power distribution systems.

COUNTIS M34 and M36 have MID certification.

Advantages

Bulk packaging

The packaging and accessories of these meters are optimised for high quantities requirements :

- Unboxing and integration are quicker.
- Packaged with large quantities to simplify ordering and shipping process.

Communication and pulse outputs

- RS485 communication (MODBUS RTU) or MBUS communication.
- Energy values can be remotely transmitted via the communication output (computer, BMS, etc.) to a system for billing analysis, energy savings or energy cost management.
- 2 available pulse outputs : one with configurable pulse weight and duration, the second with fixed 400 Wh/imp.

Multi-parameters measurement and load acquisition

- Remote collection of multiple electrical parameters through communication: I, U, V, P, Q, S, PF, THD, demand, energies.

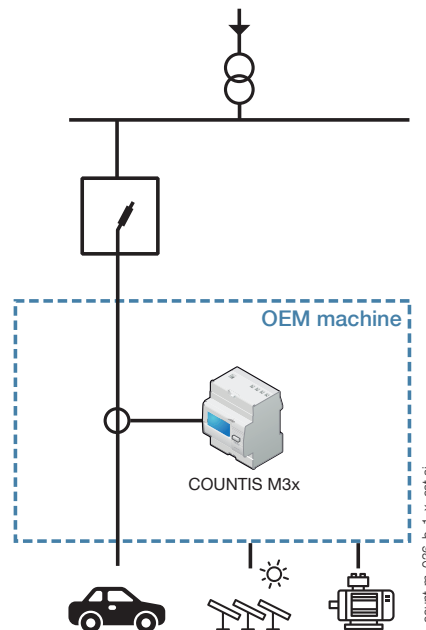
Compact

4 modules width only.

MID Module B+D certified

COUNTIS M units comply with the MID directive to guarantee accuracy and reliability when metering, compulsory for energy billing applications. "Module B+D" certification guarantees that the design and manufacturing process of products are approved by an accredited laboratory.

Functional diagram



Extended temperature range

Operating temperature from -40°C up to +70°C without degrading any functions of the meter.

The solution for

- > EV chargers
- > Inverters
- > OEM machines



Strong points

- > Bulk packaging
- > Communication and pulse outputs
- > Multi-parameters measurement and load acquisition
- > Compact
- > MID Module B+D certified
- > Extended temperature range

MID certification

- > COUNTIS M units comply with the MID directive to guarantee accuracy and reliability when metering, compulsory for energy billing applications.
- > COUNTIS M MID feature tamper-proof components to prevent fraud.



Conformity to standards

- > IEC 62053-21
- > IEC 62053-23
- > EN50470-1
- > EN50470-3

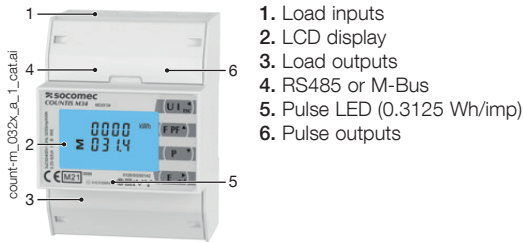


General Characteristics

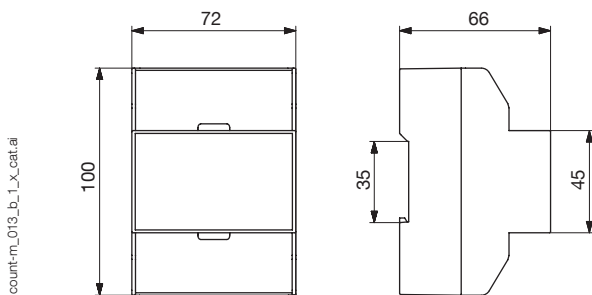
- Compact design.
- Measurement accuracy: 1 %.
- Backlit LCD display.
- Demand monitoring.
- Total harmonic distortion.

Model	Key functions
M34	2 pulses output + RS485 MODBUS communication + MID
M36	2 pulses output + M-Bus communication + MID

Front panel



Dimensions (mm)



Type	modular
Number of modules	4
Dimensions W x H x D	72 x 100 x 66 mm
Case degree of protection	IP 20
Front degree of protection	IP 51
Display type	Backlit LCD Backlight
Rigid cable cross-section	4 ... 25 mm ²
Flexible cable cross-section	4 ... 25 mm ²

Electrical characteristics

Current measurement

Type	three-phase - direct 100 A
Primary current	100 A
Reference current (I_{ref})	10 A
Input consumption	< 2 W / 10 VA
Overcurrent withstand	30 I_{max} for 0.01s

Voltage measurement

Voltage AC (U_n)	3 x 230 / 400 VAC
Voltage range	80%~120% of U_n
Frequency	50 or 60 Hz \pm 2%
AC voltage withstand	4 kV for 1 minute
Impulse voltage withstand	6 kV~1.2 μ s waveform

Output (pulse)

Pulse output 1	configurable : 1, 10, 100, 1000 pulses per kWh/kvarh
Pulse output 2	non-configurable : 400 pulses per kWh
Type of optoisolated	5-27 VDC - 27 mA DC max.
Pulse duration	60 / 100 / 200 ms

Accuracy

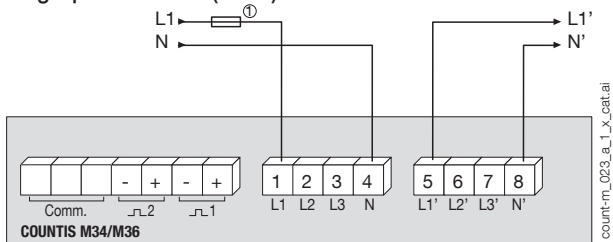
Voltage / Current / Frequency	0.5% / 0.5% / 0.2%
Power factor / Active power / Reactive power / Apparent power	1%
Active energy	Class 1 IEC 62053-21 Class B EN50470-1/3 (MID version only)
Reactive energy	Class 2 IEC 62053-23
Total harmonic distortion	1% up to 31st harmonic
Values refresh rate	1s

Operating conditions

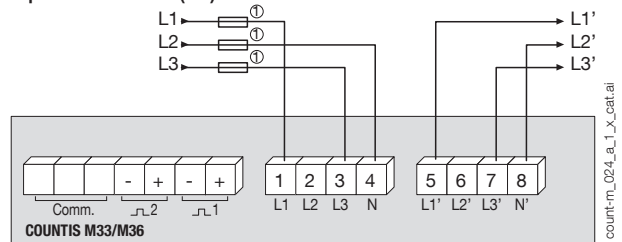
Operating temperature	-40°C to +70°C (3K7)
Storage temperature	-40°C to +70°C
Relative humidity	0 to 95%, non-condensing

Terminals and connections

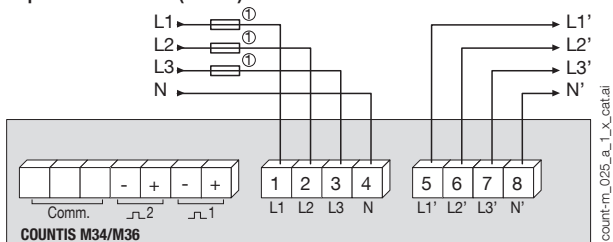
Single phase 2 wires (1P+N)



3 phases 3 wires (3P)

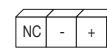


3 phases 4 wires (3P+N)



N - L: network input.
N' - L': network output.

Comm. terminals for RS485:



Comm. terminals for M-bus:



1. 100 A gG / Am fuses max.

References

Type	COUNTIS M34	COUNTIS M36
Direct 100A - RS485 MODBUS Communication + MID	Reference 48C0 3134	Reference
Direct 100A - M-Bus Communication + MID		48C0 3136