

COUNTIS P1x

Modular active-energy meters

single-phase - direct 100 A



The solution for

- > Energy
- > Industry
- > Buildings

Strong points

- > Compact design
- > MID certification
- > Extended temperature range
- > Complete ecosystem for easy integration
- > Multi-interfaces

Associated products

- > For a complete ecosystem, combine with a DIRIS Digiware M-70 or D-70 communication gateway.



Function

COUNTIS P1x units are single-phase modular electrical energy meters that enable viewing of the different energies consumed and produced, and also of powers and other measurements directly on the backlit LCD display. They enable direct connection up to 100 A and are suitable for use in sub-billing applications thanks to their MID certification.

Advantages

Compact design

Only two modules wide for measuring single-phase loads up to 100 A to save space in electrical panels.

MID certification

The whole range complies with the MID directive to guarantee accuracy and reliability when metering, compulsory for energy billing applications. The "module B+D" certification attests that an external laboratory has verified the design and production process of these devices.

Wide temperature range

Meters in the COUNTIS P series can operate over a temperature range of -40 to +70°C.

Complete ecosystem for easy integration

COUNTIS P1x meters are natively compatible with the WEBVIEW energy monitoring software. Thanks to the automatic detection of the meters for quick configuration, this software is very easy to use. It is accessible via a DIRIS Digiware M-70 or D-70 gateway.

Multi-interfaces

COUNTIS P1x meters are equipped with:

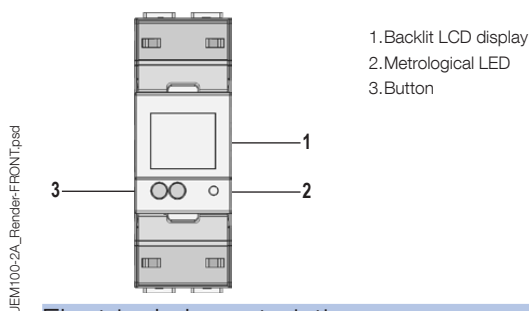
- Two pulse outputs, enabling energy consumption information to be emitted in the form of pulses.
- An RS485 (MODBUS RTU) or M-BUS communication output, which enables all meter data to be read remotely via the communication protocol.
- Digital input to manage 2 tariffs, or up to 4 tariffs via communication, to distinguish consumption according to tariff periods.

Conformity to standards

- > IEC 62053-21
- > IEC 62053-23
- > IEC 62053-31
- > IEC 62052-11
- > IEC 61010-1
- > EN 50470-1
- > EN 50470-3



Front panel

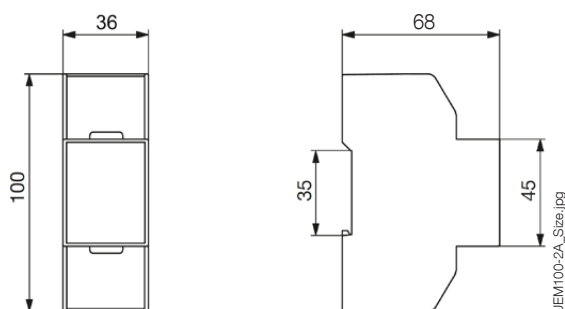


Electrical characteristics

Current measurement (TRMS)	
Type	Single-phase - direct 100 A
Max. consumption	5 VA
Transient overload	30 I _{max} 10 ms
Startup current (I _{st})	0.04 A
Base current (I _b)	10 A
Minimum current (I _{min})	0.5 A
Maximum Current (I _{max})	100 A
Voltage measurement (TRMS)	
Overvoltage category	300 V CAT III - UC1 in accordance with IEC 61010-1
AC voltage (U _n)	230 V, Overvoltage category III
Voltage range	176 - 276 VAC
Frequency	45-55Hz (MID), 45-65Hz (IEC)
Transient overvoltage withstand	4 kV 1 minute, 6kV 1.2 μs
Measurement accuracy	
U, V / I / F / P, Q, S / PF	0.5% / 1% / 0.2% / 1% / 1% in accordance with IEC61557-12
Active energy	Class B in accordance with EN 50470-1/3
Reactive energy	Class 1 in accordance with IEC 62053-21

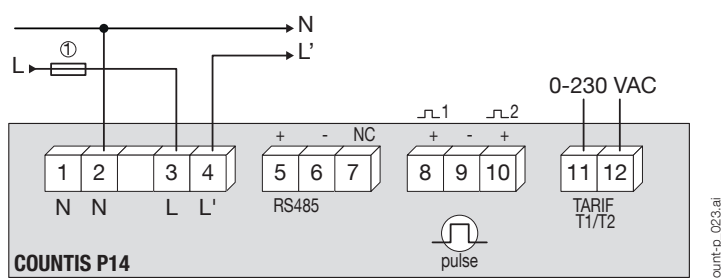
Tariff management	2 tariffs, via 0-230 V digital input 4 tariffs, via communication
Power supply	
Auxiliary power supply	Self-powered
Pulse output	
Number	2
Type of optocoupler	5-27 VDC - 27 mA max.
Pulse duration	60 / 100 / 200 ms
Pulse output 1	Configurable: 0.001 / 0.01 / 0.1 / 1 kWh per pulse
Pulse output 2	fixed at 1 Wh / pulse
Environment	
Operating temperature	-40 to +70°C
Ambient storage temperature	-40 to +75°C
Relative humidity	0 to 95%, condensation-free
Communication	
Link	RS485
Type	2-wire half duplex
Protocol	Modbus RTU
Speed	2.4 / 4.8 / 9.6 / 19.2 kbps

Dimensions (mm)



Type	modular
Number of modules	2
Front degree of protection	IP 51
Case degree of protection	IP20
Dimensions W x H x D	36 x 100 x 68 mm
Display type	Backlit LCD display
Connection cross-section and torque for measuring terminals (A & V)	4...45 mm ² / 2.5 Nm
Connection cross-section and torque for terminals S0, COM, tariff input	0.5...1.5 mm ² / 0.2 Nm

Connections



N - L: network input
N' - L': network output.
1. 100 A gG / 100 A class CC fuses.

References

COUNTIS P1x		
P14	100 A direct single-phase - 2 pulse outputs + MODBUS RS485 communication + MID	4850 5014