

COUNTIS E3x

Active energy meters for electrical distribution
three-phase - direct 100 A



COUNTIS E32 - MID

Function

The **COUNTIS E3x** is a modular electrical power meter. It shows power readings (kWh and kW) on its backlit LCD. These devices are intended for three-phase power metering and accommodate a direct connection up to 100 A.

The COUNTIS E3x is fully integrated into the SOCOMEC monitoring ecosystem (Webview, screens, gateways, configuration software, etc.).

COUNTIS E32, E34 and E36 are also MID-certified.

Advantages

Communication via RS485 (MODBUS or M-BUS) or pulse outputs

COUNTIS E3x units have either one pulse output or one RS485 MODBUS or M-BUS communication output.

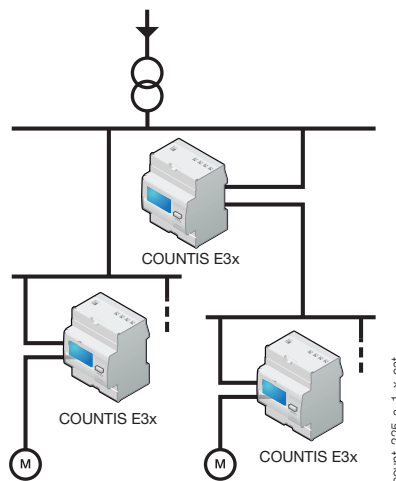
Connection error detection

The devices are protected against phase/neutral inversion and detect wiring errors. Easy to install and commission – reduces costs and ensures the proper functioning of the devices.

B+D module, MID-certified

COUNTIS E units meet MID standards and ensure accurate and reliable metering (crucial prerequisites of power-billing applications). The "module B+D" certification proves that an external laboratory has verified the design and production process of these devices.

Functional diagram



Multi-power monitoring and load curves

Shows electrical readings (I, U, V, P, Q, S, PF) and the load curve over a 7-day period via the communication methods.

Socomec monitoring ecosystem

Inherent compatibility with energy management systems and Socomec gateways (Webview, screens, gateways, etc.).

General characteristics

- Measurement accuracy: 1%
- Backlit LCD.
- Detects connection errors.

The solution for

- > Data centre
- > Building
- > Industrial process



Strong points

- > Communication via RS485 (MODBUS or M-BUS) or pulse outputs
- > Connection error detection
- > B+D modules are MID-certified, providing multi-power monitoring and load curves
- > Socomec monitoring ecosystem: user software, remote displays

MID certification

- > COUNTIS E units meet MID standards and provide accurate and reliable metering for power-billing applications.
- > The COUNTIS E MID has tamper-proof accessories to prevent fraud.



Compliance with standards

- > IEC 62053-21 Class 1
- > IEC 62053-31
- > IEC 62053-11
- > EN 50470-1
- > EN 50470-3



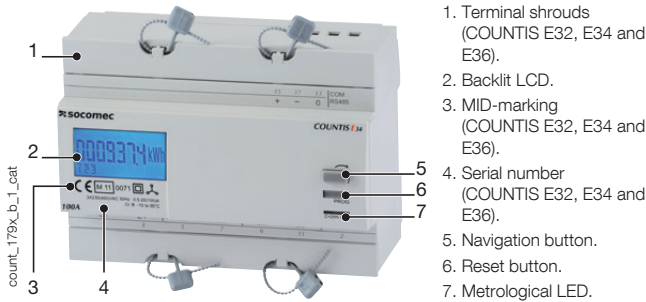
Associated current transformers



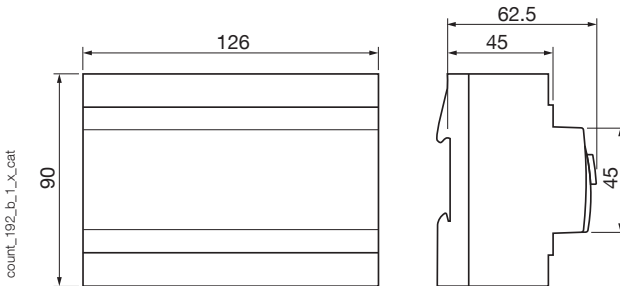
See "Current transformers".

Models	Main specifications
E30	Output (pulses)
E31	Dual-tariff (2 partial meters) + pulse output
E32	Dual-tariff + MID + pulse output
E33	Dual-tariff + communication via RS485 MODBUS
E34	Dual-tariff + communication via RS485 MODBUS + MID
E35	Dual-tariff + communication via M-BUS
E36	Dual-tariff + communication via M-BUS + MID

Front panel



Dimensions (mm)



Type	Modular
Number of modules	7
Dimensions W x H x D	126 x 90 x 62.5 mm
Casing protection degree	IP20
Front panel protection degree	IP51
Display type	Backlit LCD
Cross-section of rigid connecting cable	2.5 to 35 mm ²
Cross-section of flexible connecting cable	2.5 to 35 mm ²
Weight	490 g

Electrical characteristics

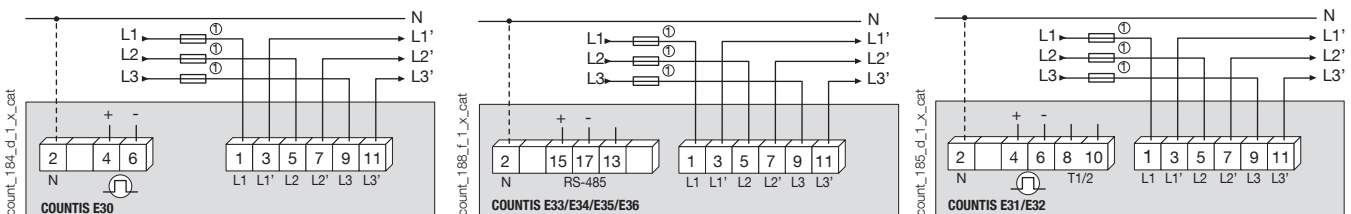
Current measurement		
Type	Three-phase - direct 100 A	
Input consumption	0.5 VA max. per phase	
Inrush current (I _{cfst} /c _f)	80 mA	
Minimum current (I _{min})	0.5 A ⁽¹⁾	
Transient current (I _{cftr} /c _f)	2 A ⁽²⁾	
Reference current (I _{ref})	20 A ⁽³⁾	
Permanent overload (I _{max})	100 A	
Transient overload	3000 A over 10 ms	
Voltage measurement		
Measurement range	230 to 400 V ± 20%	
Consumption (VA)	2	
Permanent overload	280 V phase-neutral / 480 V phase-phase	
Power monitoring accuracy		
Active (according to IEC 62053-21)	Class 1	
Active (according to EN 50470)	Class B	
Power supply		
Self-powered	Yes	
Frequency	50 / 60 Hz	
Output (pulse) (COUNTIS E30/E31/E32)		
Number	1	
Type of optical coupler	IEC 62053-31 Class A (20 to 30 VDC)	
Fixed pulses	100 Wh	
Pulse duration	100 ms	
Environment		
Operating temperature	-10 to 55°C	
Storage temperature	-20 to 70°C	
Relative humidity	85%	
Communication		
Link	COUNTIS E33/34	COUNTIS E35/E36
Type	RS485	Master/Slave
Protocol	2-wire half duplex	2-wire half duplex
Protocol	MODBUS in RTU mode	M-BUS
Baudrate	4800 to 38400 bauds	300 to 9600 bauds

(1) $I_{min} \leq 0.5 \cdot I_{tr}$

(2) Guaranteed accuracy between I_{tr} and I_{max} .

(3) $I_{ref} = I_{(b)}$ (base current) = $10 \cdot I_{(b)}$ for direct connection COUNTIS devices.

Connections



1. Max. 100 A gG / Am fuse

IMPORTANT: Neutral is optional on COUNTIS E3x (neutral is represented by the dashed line in the image opposite).

References

Type	COUNTIS E30 Reference	COUNTIS E31 Reference	COUNTIS E32 Reference	COUNTIS E33 Reference	COUNTIS E34 Reference	COUNTIS E35 Reference	COUNTIS E36 Reference
Direct 100 A	4850 3005						
Direct 100 A - Dual tariff		4850 3006					
Direct 100 A - Dual-tariff + MID			4850 3007				
Direct 100 A - Dual-tariff + MODBUS communication via RS485 ⁽¹⁾				4850 3012			
Direct 100 A - Dual-tariff + MODBUS communication via RS485 + MID ⁽¹⁾					4850 3013		
Direct 100 A - Dual-tariff + communication via M-BUS ⁽¹⁾						4850 3025	
Direct 100 A - Dual-tariff + communication via M-BUS + MID ⁽¹⁾							4850 3026

(1) 4-tariff via RS485 communication.

Accessories	Available for order in multiples of	Reference
10x sealing kits, 4U		4850 307U
Fuse disconnect switches for voltage input protection (RM type) 3-pole	2	5703 5003
gG 22x58 100 A fuses	10	6032 0100