



COUNTIS E2x

Active energy meters
three-phase - direct 63 A

new



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The solution for

- > Industry
- > Infrastructure
- > Data centres



Strong points

- > RS485 communication (MODBUS or M-BUS) or pulse output
- > Dual-tariff metering
- > Detection of connection errors
- > MID certified B+D module

Conformity to standards

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



MID certification

- > COUNTIS E comply with the MID directive, guaranteeing accuracy and reliability when metering, an indispensable function for energy billing applications.
- > COUNTIS E MID feature tamper-proof components to prevent fraud.



Services & Technical Assistance

- > Technical site audits and solution specification, commissioning, maintenance, training... Our Services & Technical Assistance experts offer you personalised support to ensure success with all your projects.

Function

The **COUNTIS E2x** is a modular active electrical energy meter displaying the energy and power consumed (kWh and kW) directly on its backlit LCD display. It is designed for three-phase load metering and is used for direct connections of up to 63 A.

Common characteristics

- Measurement accuracy: 1 %
- Backlit LCD display (only E20/E21)
- Detects connection errors

Advantages

RS485 communication (MODBUS or M-BUS) or pulse output

To enable the remote reporting of energy consumption, COUNTIS E2x are provided with either a pulse output or an RS485 communication output, with MODBUS or M-BUS protocol. In addition to their reporting functions, COUNTIS E2x with RS485 can be configured remotely and enable access to multi-measurement values.

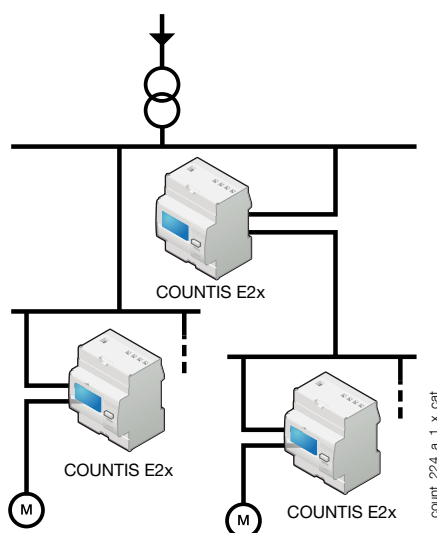
Dual-tariff metering

Two tariffs are available and can be easily accessed through the meter's display. Each tariff can be utilised to assign energy metering to different time slots (high and low demand hours) or different sources (normal/backup).

Detection of connection errors (E20/21)

The product is protected against phase/neutral inversion and detects wiring errors. This simplifies the installation and commissioning, thereby reducing associated costs, and ensures that the device operates correctly.

Principle diagram



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MID certified B+D module

COUNTIS E products with MID certification provide the guaranteed accuracy required for applications in which sub-billing of the electrical energy consumed is necessary. "Module B+D" certification guarantees that the design and manufacturing process of products are approved by an accredited laboratory.

Models	Key functions
E20	Pulse output
E21	Dual tariff (2 partial counters) + Pulse output
E23	Dual tariff + MODBUS RS485 communication
E24	Dual tariff + MODBUS RS485 communication + MID (Reset impossible)
E25	Dual tariff + M-BUS communication
E26	Dual tariff + M-BUS communication + MID (Reset impossible)

Front panel



1. Backlit LCD display.
2. Navigation key.
3. Reset key.
4. Metrological LED (1000 pulses/kWh).

Electrical characteristics

Current measurement	COUNTIS E20/E21	COUNTIS E23...E26
Type	three-phase direct 63 A	three-phase direct 63 A
Input consumption	0.8 VA max. per phase	0.8 VA max. per phase
Startup current (I_{st})	40 mA	15 mA
Minimum current (I_{min})	0.5 A ⁽¹⁾	0.25 A
Transition current (I_b)	1 A ⁽²⁾	0.5 A
Reference current (I_{ref})	10 A ⁽³⁾	5 A
Permanent overload (I_{max})	63 A	63 A
Intermittent overload	1890 A max for 10 ms	1890 A max for 10 ms
Voltage measurement		
Range of measurement	230 ... 400 V +/- 20 %	230 ... 400 V +/- 20 %
Consumption (VA)	2 VA max.	2 VA max.
Permanent overload	280 V phase-neutral / 480 V phase-phase	276 V phase-neutral
Energy accuracy		
Active (according to IEC 62053-21)	Class 1	
Active (according to EN 50470)	Class B	

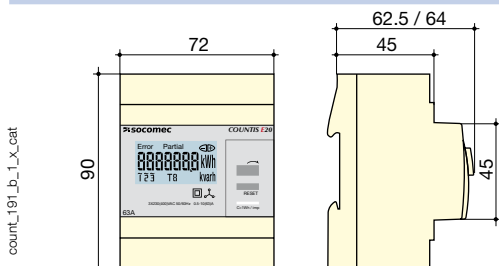
(1) $I_{min} \leq 0.5 \cdot I_{tr}$

(2) The accuracy class is guaranteed between I_b and I_{max} .

(3) $I_{ref} = I_{b0}$ (base current) = $10 \cdot I_{tr}$ for direct connection COUNTIS.

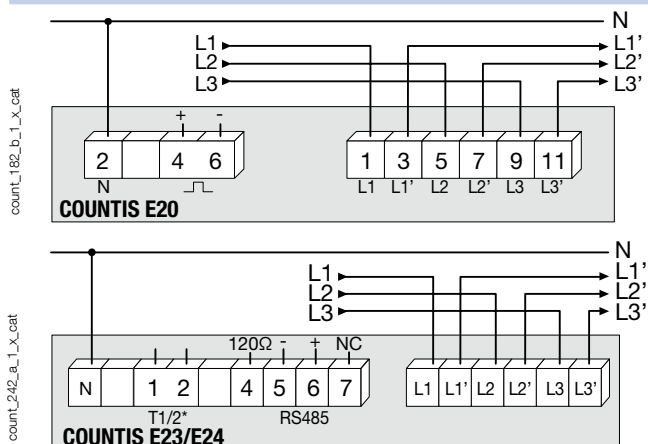
Power supply		
Self-supplied	yes	
Frequency	50 Hz	
Output (pulsed)	COUNTIS E20/E21	
Number	1	
Type of optocoupler	IEC 62053-31 Class A (20 ... 30 VDC)	
Fixed pulse weight	100 Wh	
Pulse duration	100 ms	
Operating conditions	E20 ... E21	E23 ... E26
Operating temperature	-10 to 55 °C	-25 to 55 °C
Storage temperature	-20 to 70 °C	-25 to 70 °C
Relative humidity	85 %	80 %
Communication	COUNTIS E23/E24	COUNTIS E25/E26
Link	RS485	Connection
Type	2 half duplex wires	2 half duplex wires
Protocol	MODBUS® RTU	M-BUS
Speed	1200 ... 38400 bauds	300 ... 9600 bauds

Case

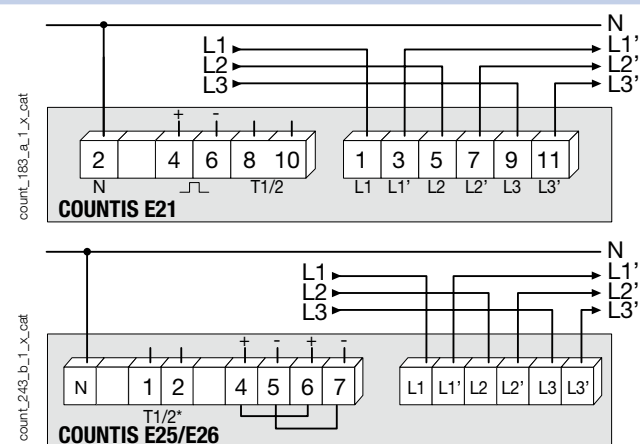


	COUNTIS E20/E21	COUNTIS E23...E26
Type	modular	modular
Number of modules	4	4
Dimensions W x H x D	72 x 90 x 62.5 mm	72 x 90 x 64 mm
Case degree of protection	IP20	IP20
Front degree of protection	IP51	IP51
Display type	Backlit LCD display	LCD display
Rigid cable cross-section	1.5 to 16 mm²	1.5 to 35mm²
Flexible cable cross-section	1 to 16 mm²	1.5 to 35mm²
Weight	245 g	245 g

Connection



* Not available on COUNTIS E23



* Not available on COUNTIS E25

References

Type	COUNTIS E20 Reference 4850 3003	COUNTIS E21 Reference 4850 3004	COUNTIS E23 Reference 4850 3035	COUNTIS E24 Reference 4850 3036	COUNTIS E25 Reference 4850 3037	COUNTIS E26 Reference 4850 3038
direct 63 A - three-phase						
direct 63 A - three-phase - Dual tariff						
direct 63 A - Dual tariff with MODBUS com. via RS485						
direct 63 A - Dual tariff with MODBUS com. via RS485 - MID						
direct 63 A - Dual tariff with M-BUS communication						
direct 63 A - Dual tariff with M-BUS communication - MID						