



# COUNTIS E2x

Active energy meters  
three-phase - direct 63 A

Metering, monitoring  
& power quality

**new**



COUNTIS E20

COUNTIS E23

## 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.

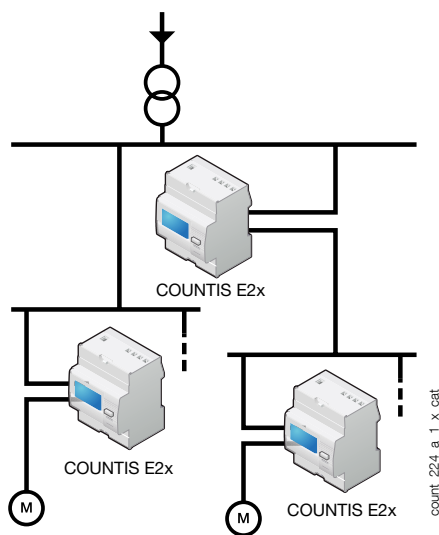
### Dual-tariff metering

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

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



### 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.

## 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.

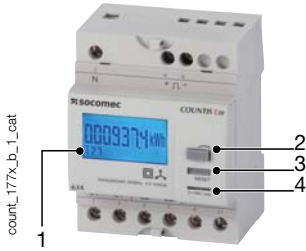


## Services & Technical Assistance

- > 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.

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

## Front panel



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

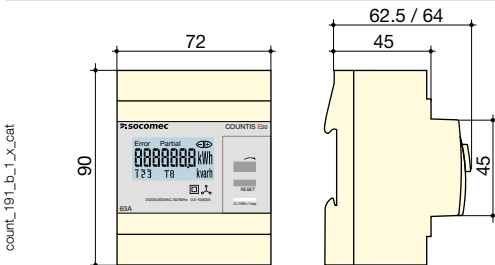
## Electrical characteristics

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 <sup>(1)</sup>	0.25 A
Transition current ( $I_t$ )	1 A <sup>(2)</sup>	0.5 A
Reference current ( $I_{ref}$ )	10 A <sup>(3)</sup>	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	
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	COUNTIS E20/E21	COUNTIS 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 %	85 %
Communication	COUNTIS E23/E24/E25/E26	
Link	RS485	
Type	2 ... 3 half duplex wires	
Protocol	MODBUS® RTU	
MODBUS speed	1200 ... 38400 bauds	
M-BUS speed	300 ... 9600 bauds	

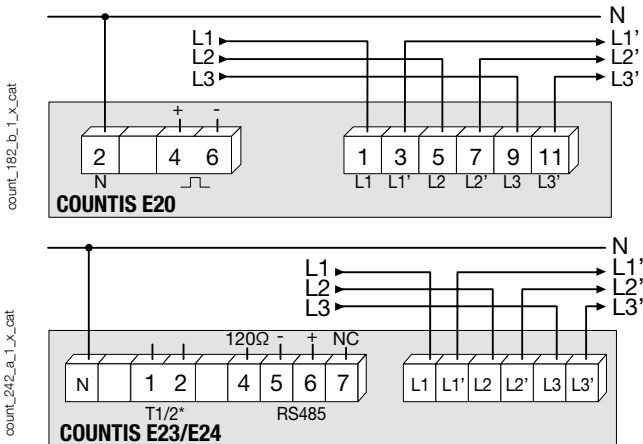
- (1)  $I_{min} \leq 0.5 \cdot I_{tr}$   
 (2) The accuracy class is guaranteed between  $I_{tr}$  and  $I_{max}$ .  
 (3)  $I_{ref} = I_{tr}$  (base current) =  $10 \cdot I_{tr}$  for direct connection COUNTIS.

## 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	LCD display	LCD display
Rigid cable cross-section	1.5 to 16 mm <sup>2</sup>	1.5 to 35mm <sup>2</sup>
Flexible cable cross-section	1 to 16 mm <sup>2</sup>	1.5 to 35mm <sup>2</sup>
Weight	245 g	245 g

## Connection



\* Not available on COUNTIS E23

## References

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