

COUNTIS E

Energy meters

2017



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COUNTIS E43x

Energy meters

Three-phase - up to 6000 A via CT

Energy meters



COUNTIS E43X

Overview

The Socomec COUNTIS E43X Meter is a three-phase four-wire rail-mounted energy meter, able to measure both active and reactive energy via CT connection. Featuring up to 4 rates, it supports RS485 communication.

Functions

The COUNTIS E43x utilizes a modular design, with both active and reactive energy values (kWh, kvarh) directly displayed on a backlit LCD monitor. This series of meters works in three-phase electricity networks via CT input.

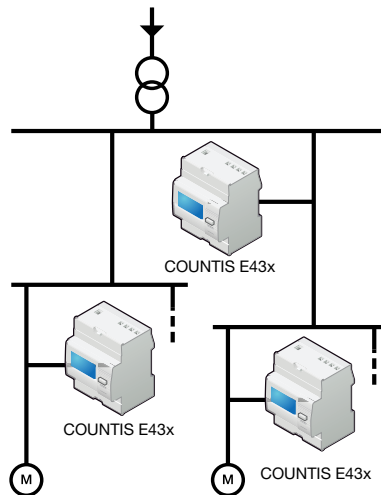
General Characteristics

- Measurement accuracy: 0.5
- LCD display

Advantages

- RS485 communication (MODBUS) or pulse output.
- To enable remote transmission of energy consumption, the COUNTIS E43x series of products offers pulse output and RS485 communication output (using MODBUS).
- In addition, for the remote transmission function, COUNTIS E43x with RS485 products can be configured remotely and collect multiple electrical parameters via communication.
- Multi-function measurement and load curves.
- Display of electrical parameters (I, U, V, P, Q, S, PF).

Applications



The solution for

- > High Rise Building
- > Industry
- > Infrastructure
- > Data centres



Strong points

- > RS485 communication (MODBUS) and pulse output
- > Multi-parameter measurement and load curves

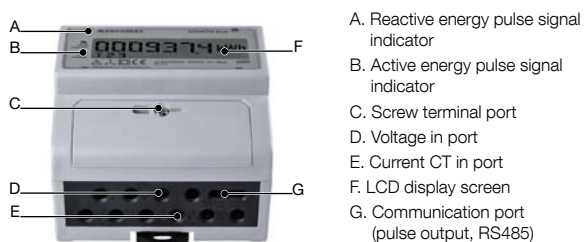
Conformity to standards

- > IEC 62053-22

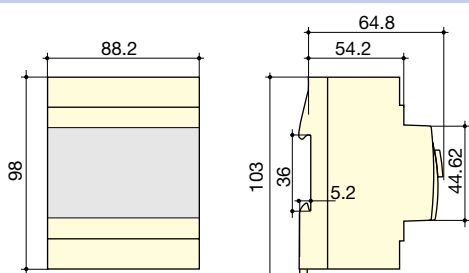


Model	Key functions
E43X	RS485 MODBUS communication + pulse output

Front panel



Dimensions



Type	Modular
Quantity	5
Dimensions Width x Height x Depth	88.2 x 103 x 64.8 mm
Case protection rating	IP20
Panel protection rating	IP51
Type of display	Backlit LCD display
Rigid cable connection section	1.5 - 10 mm ²
Flexible cable connection section	1 - 6 mm ²

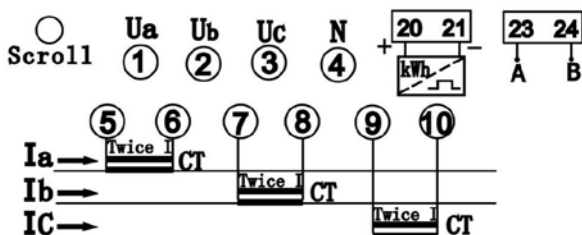
Electrical characteristics

Communication	
Interface	RS485
Type	2 wires or 3 half duplex wires
Protocol	MODBUS RTU
MODBUS [®] speed	9600 bauds

Connection

Recommendation:

- For IT earthing systems, it is recommended that the CT secondary is not grounded to earth.



Features and technical parameters

Features

- Measure three-phase active and reactive energy, analyse power quality and load conditions
- Standard DIN-RAIL mounting (conforms to German industry standard)
- CT input, supports 3x1.5(6)A.
- RS485 communication supported, protocol: Modbus-RTU
- LCD backlit for easy power readings in low light
- Automated cycling of LCD display data
- Casing material: Fire-retardant ABS

Technical Parameters

Item	Specification
Standard	IEC62053-22 2003
Rated voltage	3 x 230/400 V ± 20%
Nominal (maximum) current	1.5 (6) A
Pulse constant	12000 imp/kWh
Frequency	50 - 60 Hz
Accuracy rating	0.5
Display	6 + 2 LCD monitor
Operating temperature	- 20 to 70 °C
Storage temperature	- 45 to 80 °C
Power consumption	< 1 W and 7 VA
Average humidity	≤ 75%
Startup current	< 0.4% Ib
Material	Casing: ABS+PC alloy, hook: ABS

Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Fit the meter into the rail and pull the spring clips down, see Fig. 1.
3. As shown in Fig. 3, let the clips go to mount the meter onto the rail (see Fig. 4).
4. Connect as shown in the wiring diagram
5. Once connected, screw on the cover.

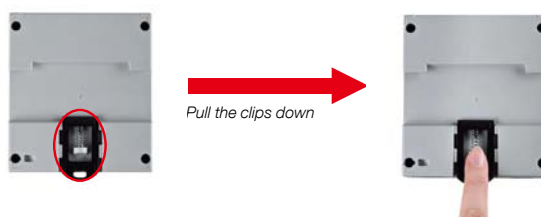


Fig. 1

Fig. 2



Fig. 3

Fig. 4

References

Type	COUNTIS E43X
CT input with RS485 MOSBUS communication ⁽¹⁾	Reference
	48C0 3017

(1) 4 rates are available via RS485 communication



COUNTIS E33x

Energy meters

Three-phase - direct 120 A

Energy meters



COUNTIS E33X

Overview

The SOCOMEC COUNTIS E33X meter is a three-phase four-wire rail-mounted energy meter with direct connection of 120 A current. Used to accumulate both active and reactive energy, and save the data to an internal memory, it supports RS485 communication and multiple-rate metering, and is suited to all electrical monitoring systems.

Functions

The COUNTIS E33X is a modular active electrical energy meter which can directly display both total active (kWh) and reactive energy (kVarh) on a backlit LCD screen. This series of products is intended for three-phase load metering for direct connections to 120 A.

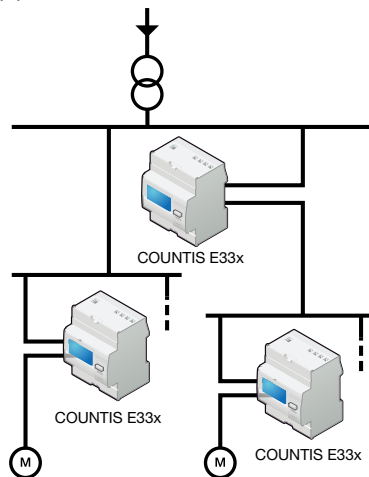
General Characteristics

- Measurement accuracy: 0.5
- Backlit LCD display

Advantages

- RS485 communication (MODBUS) or pulse output.
- To enable remote transmission of energy consumption, the COUNTIS E33x offers pulse output and RS485 communication output featuring the Modbus protocol.
- In addition, for the remote transmission function, COUNTIS E3x with RS485 products can be configured remotely and collect multiple electrical parameters.
- Multi-parameter measurement and load curves.
- Multiple electrical parameters (I, U, V, P, Q, S, PF).

Applications



The solution for

- > High Rise Building
- > Industry
- > Public buildings
- > Data centres



Strong points

- > RS485 communication (MODBUS) and pulse output
- > Multi-parameter measurement and load acquisition

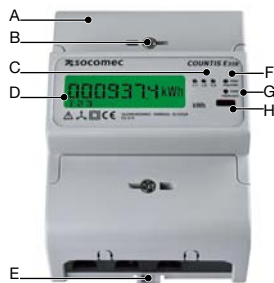
Conformity to standards

- > IEC62053-22



Model	Key functions
E33x	RS485 MODBUS communication + pulse output

Front panel



- A. Input port
- B. Screw terminal port
- C. L1, L2 and L3 3-phase voltage signal indicators
- D. LCD display
- E. Output port
- F. Active energy pulse signal indicator
- G. Reactive energy pulse signal indicator
- H. Infrared communication terminal

Features and technical parameters

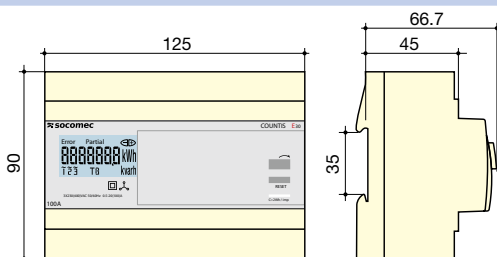
Features

- Measure three-phase active and reactive energy, analyse power quality and load conditions
- Standard DIN-RAIL mounting (conforms to German industry standard)
- Direct input of 120 A current
- RS485 communication supported, protocol: Modbus-RTU
- Multiple rate function supported
- LCD backlit for easy power readings in low light
- Automated cycling of LCD display data
- Casing material: Fire-retardant ABS

Technical parameters

Item	Specification
Standard:	IEC62053-22 2003
Rated voltage	3 x 230/400 V ± 20%
Nominal (maximum) current:	5 (120) A
Pulse constant:	1600 imp/kWh
Frequency:	50 Hz
Accuracy rating:	0,5
Display:	LCD monitor
Operating temperature:	-20 to 70 °C
Material:	Casing: ABS+PC alloy, hook: ABS

Dimensions



Type	Modular
No. of modules	5
Dimensions Width x Height x Depth	90 x 125 x 66.7 mm
Case protection rating	IP20
Panel protection rating	IP51
Type of display	Backlit LCD display
Rigid cable connection section	2.5 to 35 mm ²
Flexible cable connection section	2.5 to 35 mm ²

Mounting instructions

1. Select a 35 mm standard rail (length as required), and secure to the chosen position for mounting.
2. Push the clips down one tooth, see Figs.1 and 2.
3. As shown in Fig. 3, fit the meter into the rail, then push the clips up a tooth to mount the meter onto the rail (see Fig. 4).



Fig. 1



Fig. 2

Electrical characteristics

Communication	
Interface	RS485
Type	2 wires or 3 half duplex wires
Protocol	MODBUS RTU
MODBUS [®] speed	9600 bauds

Display screen



LCD content

Connection

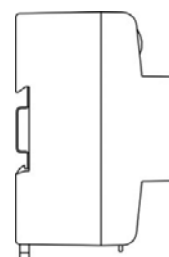
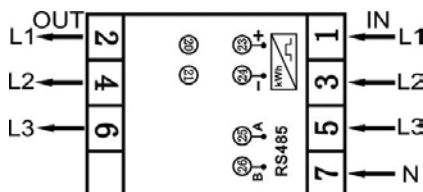


Fig. 3

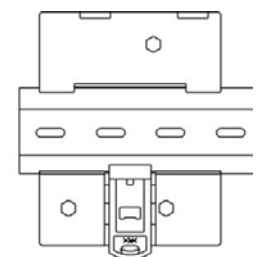


Fig. 4

References

Type	COUNTIS E33X
120 A direct with RS485 MODBUS communication ⁽¹⁾	Reference
	48C0 3012

⁽¹⁾ 4 rates are available via RS485 communication



COUNTIS E13x

Energy meters

Single-phase - direct 100 A

Energy meters



COUNTIS E13X

The solution for

- > High Rise Building
- > Outdoor venues
- > Docks
- > Data centres
- > Shopping centres



Strong points

- > Compact
- > RS485 communication (MODBUS)

Conformity to standards

- > IEC 62053-21



Overview

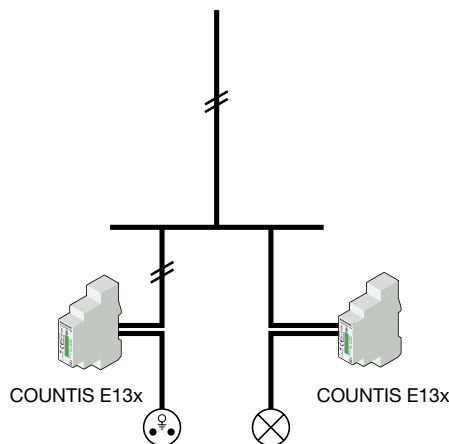
The SOCOMEC COUNTIS E13X Meter is an energy meter designed for single-phase metering and direct connection to 100 A. With multifunction monitoring and compact size in one module, it supports RS485 communication and is suited to domestic and commercial power distribution systems.

Functions

COUNTIS E13x is a modular electrical energy meter which can display both total active energy (kwh) and total reactive energy (kvarh) on an LCD screen.

The meter is intended to record single-phase load energy, with direct connection to 100 A.

Applications



General Characteristics

- Compact design
- Measurement accuracy: 1
- LCD display

Advantages

- Compact size, one module.
- RS485 communication (MODBUS).
- Energy values can be remotely transmitted via the communication output to a (PC/BMS/etc.) system for billing analysis, energy saving or energy cost management.

Model	Key functions
E13x	MODBUS RS485 communication

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