COUNTIS E

Modular active energy meters

direct 80 A or via current transformers

COUNTIS E18

COUNTIS E28

COUNTIS E48

The solution for

- Data centre
- Energy
- Building

Strong points

- Ethernet communication with embedded webserver
- MID certification
- Multi-tariff
- Complete ecosystem for easy integration

Associated products

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

DIRIS Digiware M-70 & D-70

Conformity to standards

- IEC 62053-21 classe 1
- IEC 62053-23 classe 2
- IEC 62053-31
- IEC 62052-11
- EN 50470-1
- EN 50470-3

Function

COUNTIS E is a range of modular electrical energy meters that provide an overview of energy consumed and produced, and also display power information and other measurements directly on the backlit LCD.

COUNTIS E meters have native Ethernet communication capability and are fully integrated into the SOCOMEC monitoring ecosystem including Webview, screens, gateways and configuration software.

Advantages

Ethernet communication with embedded webserver

COUNTIS E meters have native built-in Ethernet communication which enables data to be read remotely through MODBUS TCP protocol. Additionally, all meter information can be analysed through its integrated webserver page.

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.

Multi-tariff

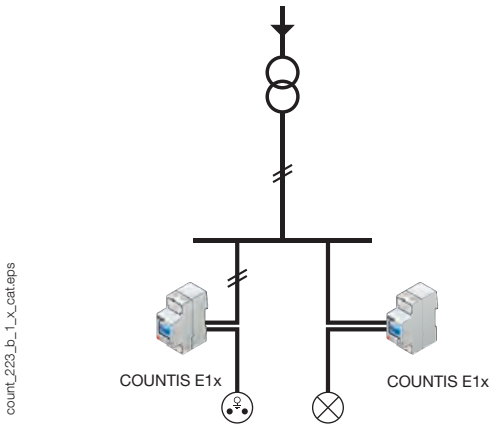
Up to 4 tariffs enable the assignment of different time slots (every hour, dip times) or different sources (normal, back-up) to your energy readings, enabling you to monitor your energy consumption in detail.

Complete ecosystem for easy integration

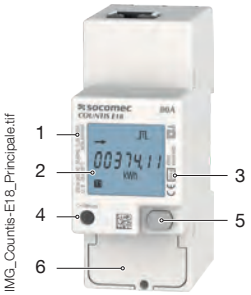
COUNTIS E meters are natively compatible with the WEBVIEW energy monitoring software. Thanks to the automatic detection of the meters for quick configuration, this software is very easy to use. It is accessible via a DIRIS Digiware M-70 or D-70 gateway.

Countis E18

Functional diagram

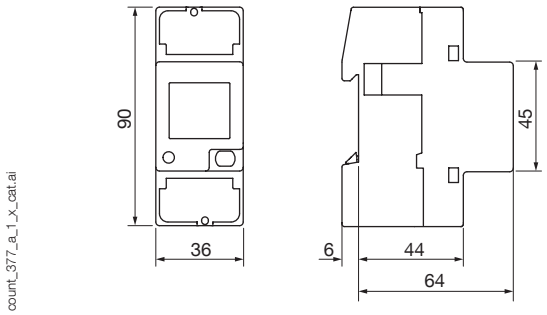


Front panel



1. Serial number.
2. Backlit LCD.
3. MID marking
4. Metrological LED.
5. Navigation button.
6. Voltage, current, neutral terminals with terminal shrouds.

Dimensions (mm)



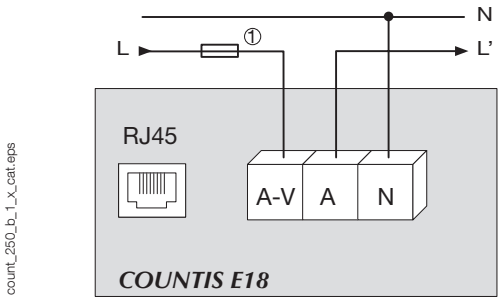
Type	Modular
Number of modules	2
Dimensions W x H x D	36 x 90 x 64 mm
Casing protection degree	IP 20
Front panel protection degree	IP 51(1)
Display type	Backlit LCD
Cross-section of rigid connecting cable	1.5 to 35 mm²
Cross-section of flexible connecting cable	1.5 to 35 mm²
Weight	215 g

(1) Cabinet installations require a protection degree of at least IP51.

Electrical characteristics

Measurement of currents	
Type	Single-phase - direct 80 A
Input consumption	Max. 0.5 VA
Inrush current (Icfst/cf)	20 mA
Minimum current (I_{min})	0.25 A
Transient current (Icftr/cf)	0.5 A
Reference current (I_{ref})	5 A
Permanent overload (I_{max})	80 A
Transient overload	30 I_{max} over 10 ms
Voltage measurement	
Measurement range	230 to 240 V ± 20%
Consumption (VA)	3.5 VA max.
Permanent overload	290 V phase-neutral
Power monitoring accuracy	
Active (according to IEC 62053-21)	Class 1
Active (according to EN 50470)	Class B
Reactive (according to IEC 62053-22)	Class 2
Power supply	
Self-powered	Yes
Frequency	50/60 Hz
Operating conditions	
Operating temperature	-25 to 55°C
Storage temperature	-25 to 75°C
Relative humidity	80%
Communication	**COUNTIS E18**
Link	RJ45
Type	Bi-directional mode (full duplex)
Protocol	MODBUS TCP, HTTP, NTP, DHCP
Baudrate	10/100 Mbps

Connections

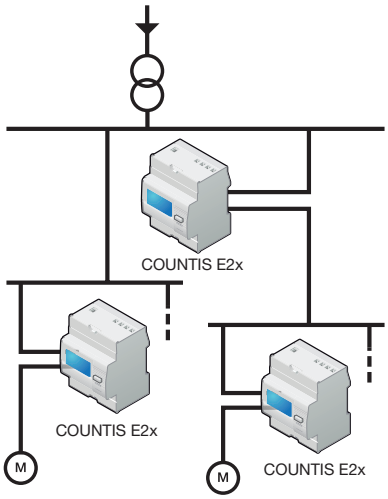


References

COUNTIS		
E18	Direct 80 A - Dual-tariff + Ethernet Modbus TCP communication + MID	4850 **3048**
Accessories	**Available for order in multiples of**	**Reference**
10x sealing kits, 2U		4850 **306U**
Fuse disconnect switches for voltage input protection (RM type) 1-pole	6	5703 **5001**
gG 22x58 80 A fuses	10	6032 **0080**

Countis E28

Functional diagram



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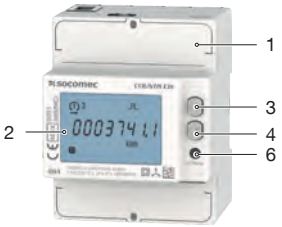
Front panel



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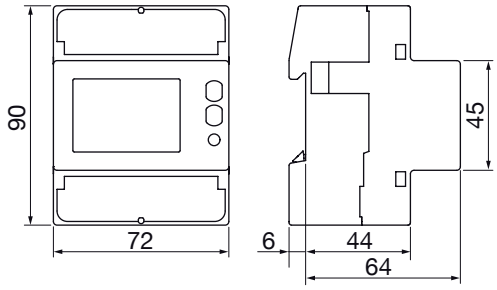
1. Neutral terminal.
2. Backlit LCD.
3. Navigation button.
4. ENTER key.
5. 5. Metrological LED.

Dimensions (mm)



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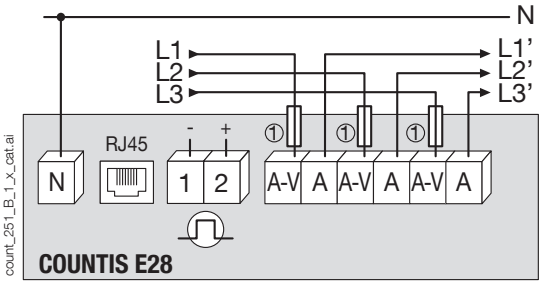
Type	Modular
Number of modules	4
Dimensions W x H x D	72 x 90 x 64 mm
Casing protection degree	IP 20
Front panel protection degree	IP 51(1)
Display type	Backlit LCD, 8 digits
Cross-section of rigid connecting cable	1.5 to 35 mm²
Cross-section of flexible connecting cable	1.5 to 35 mm²
Weight	440 g

(1) Cabinet installations require a protection degree of at least IP51.

Electrical characteristics

Measurement of currents	
Type	Three-phase - direct 80 A
Input consumption	0.5 VA max. per phase
Inrush current (Icfst/cf)	20 mA
Minimum current (I_{min})	0.25 A
Transient current (Icftr/cf)	0.5 A
Reference current (I_{ref})	5 A
Permanent overload (I_{max})	80 A
Transient overload	30 I_{max} over 10 ms
Voltage measurement	
Measurement range	230 to 240 V ±20%
Consumption (VA)	3.5 VA max. (1 W) per phase
Permanent overload	290 V phase-neutral / 500 V phase-phase
Power monitoring accuracy	
Active (according to IEC 62053-21)	Class 1
Active (according to EN 50470)	Class B
Reactive (according to IEC 62053-22)	Class 2
Power supply	
Self-powered	Yes
Frequency	50/60 Hz
Output (pulses)	
Optocoupler (IEC 62053-31)	27VDC 27mA max.
Number	1
Fixed pulse	100 Wh
Pulse duration	50 ± 2 ms ON time 30 ± 2 ms OFF time
Operating conditions	
Operating temperature	-25 to 55°C
Storage temperature	-25 to 75°C
Relative humidity	80%
Communication	**COUNTIS E28**
Link	RJ45
Type	Bi-directional mode (full duplex)
Protocol	MODBUS TCP, HTTP, NTP, DHCP
Baudrate	10/100 Mbps

Connections



count_251_B_1_x_cat.ai

1. Fuses 0,5 A gG/0,5 A classe CC.

IMPORTANT: Neutral connection is mandatory on COUNTIS E28 (neutral is represented by the solid line in the image opposite).

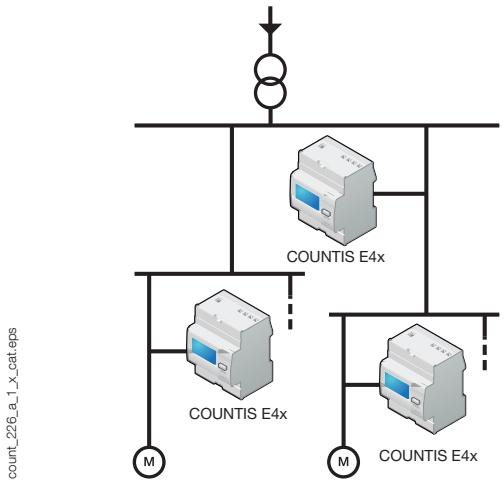
References

COUNTIS		
E28	Direct 80 A - Dual-tariff + Ethernet Modbus TCP + MID	4850 **3055**
Accessories	**Available for order in multiples of**	**Reference**
Panel mounting kit, 4 modules		192J **8015**
10x sealing kits, 4U(1)		4850 **309U**
Fuse disconnect switches for voltage input protection (RM type) 3-pole	2	5703 **5003**
gG 22x58 80 A fuses	10	6032 **0080**

(1) Seal kits are supplied with MID counters

Countis E48

Functional diagram



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Front panel

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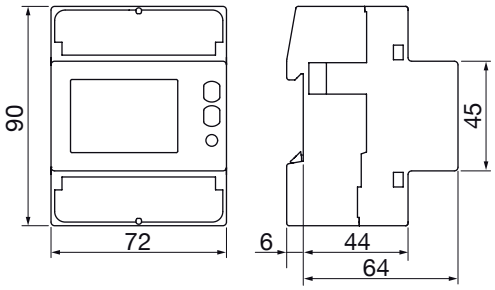
1. Terminal shroud
2. Backlit LCD.
3. Navigation button.
4. ENTER key.
5. Metrological LED.
6. Current/voltage terminals and terminal shrouds

Dimensions (mm)



count_378_a_1_x_cat.ai

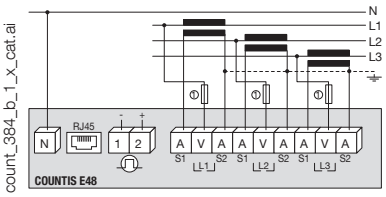
Type	Modular
Number of modules	4
Dimensions W x H x D	72 x 90 x 64 mm
Casing protection degree	IP20
Front panel protection degree	IP51
Display type	Backlit LCD, 8 digits
Cross-section of rigid connecting cable	1.5 to 6 mm^2
Cross-section of flexible connecting cable	1.5 to 6 mm^2
Weight	322 g

Electrical characteristics

Current measurement	
Type	Three-phase on CT 1 and 5A up to 12000 A
Input consumption	0.5 VA max. per phase
Inrush current (Icfst/cf)	1 mA - Class C 2 mA - Class 1
Minimum current (I_{min})	10 mA
Transient current (Icftr/cf)	50 mA
Reference current (I_{ref})	1 A
Permanent overload (I_{max})	6 A
Transient overload	120 A for 0.5 s
Voltage measurement	
Measurement range	230 to 240 V ± 20%
Consumption (VA)	Max. 3.5 VA (1 W) per phase
Permanent overload	290 V phase-neutral / 500 V phase-phase
Power monitoring accuracy	
Active (according to IEC 62053-21)	Class 1
Active (according to EN 50470)	Class C
Reactive (according to IEC 62053-22)	Class 2
Power supply	
Self-powered	Yes
Frequency	50 / 60 Hz
Output (pulses)	
Number	1
Type of optical coupler	27 V DC - 27 mA
Pulses	1 Wh ⇨ CT = 1 to 4 5 Wh ⇨ TC = 5 to 24 25 Wh ⇨ TC = 25 to 124 125 Wh ⇨ TC = 125 to 624 1000 Wh ⇨ CT = 625 to 3124 10000 Wh ⇨ TC = 3125 to 12000
Pulse duration	50 ± 2 ms ON time 30 ± 2 ms OFF time
Environment	
Operating temperature	-25 to +55°C
Storage temperature	-25 to +75°C
Relative humidity	80%
Communication	**COUNTIS E48**
Link	RJ45
Type	Bi-directional mode (full duplex)
Protocol	MODBUS CTP, HTTP, NTP, DHCP
Baudrate	10/100 Mbps

We recommend:

- Connecting CT secondaries is strictly prohibited with IT earthing arrangements; it is, however, optional in TT/TN earthing arrangements.
- When disconnecting the COUNTIS device, it is essential to short-circuit the secondaries of each current transformer. This operation can be carried out automatically by a PTI, which can be found in the SOCOMEC catalogue. Contact us



count_384_b_1_x_cat.ai

1. 0.5 A gG / 0.5 A class CC fuses.

ATTENTION : The neutral conductor must be connected on models COUNTIS E48 (the neutral conductor is represented by the solid line in the image).

References

COUNTIS		
E48	Via CT - Dual-tariff + communication via Ethernet Modbus CTP + MID(1)	4850 **3057**
Accessories	**Available for order in multiples of**	**Reference**
Panel mounting kit, 4 modules		192J **8015**
10x sealing kits, 4U(2)		4850 **309U**
Fuse disconnect switches to protect 3-pole voltage inputs(RM type)	2	5703 **5003**
gG 10x38 0,5 A fuses	10	6032 **0080**

(1) 4-tariff via RS485 communication. (2) Seal kits are supplied with MID counters.