Specifications

Electrical Characteristics	
Voltage DC input	Min. 100V DC, Max. 1000V DC
Auxiliary supply	Min. 9V DC, Max. 40V DC
DC shunt input	75mV (default)
Current range	COUNTIS EVDC 300: 2.5-50(300)A COUNTIS EVDC 600: 2.5-50(600)A
Voltage loop power consumption	≤0.5W
Current loop power consumption	COUNTIS EVDC 300: ≤36W COUNTIS EVDC 600: ≤72W
Auxiliary loop power consumption	≤2W
DC voltage withstand	6.2kV DC
Impulse voltage withstand	9.6kV - 1.2 / 50μS waveform
Pulse output	0,1 kWh/imp
Pulse duration	60, 100(default), 200mS
Pulse output indicate	Total kWh/ import kWh / export kWh
Display	LCD with backlit
Max. reading	999999.9999kWh
Accuracy	IEC62053-41 Class 1.0 / EN50470-4 Class B
Environmental Characteristics	
Operating temperature	-40°C to +70°C
Storage and transportation temperature	-40°C to + 80°C
Reference temperature	23°C± 2°C
Relative humidity	0 to 95%, non-condensing
Altitude	up to 2000m
Measuring category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protective class	II
Warm up time	3S
Mechanical Characteristics	
Din rail dimensions	36x100x63 (WxHxD) DIN 43880
Mounting	DIN rail 35mm
Ingress Protection	IP20 (Installed in an electrical cabinet with IP51 rating)
Material	Self-extinguishing UL94V-0
Installation environment	Dry environ ment
Communication	
Communication type	Rs485
Protocol	Modbus RTU
Baud rate	1200, 2400, 4800, 9600(default), 19200 bps
Parity	EVEN/ ODD / NONE
Stop bits	1 or 2

Technical Standards

[1] EN IEC 61326-1:2021 Electromagnetic Compatibility Directive - Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements.

[2] EN IEC 61326-2-3:2021 Electromagnetic Compatibility Directive.

[3] EN 61010-1:2010+AI:2019 Low Voltage Directive 2014/35/EU - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements.

[4] EN 61010-2-030:2010 Low Voltage Directive 2014/35/EU - Particular requirements for testing and measuring circuits.

[5] IEC 62052-11:2020 “Electricity metering equipment (d.c.) - General requirements, tests and test conditions - Part 11: Metering equipment”.

[6] EN IEC 62052-11/AII:2022 “Electricity metering equipment (d.c.) - Part 11: general requirements, tests and test conditions - Metering equipment” .

[7] EN 50470- 4:2023 “Electricity metering equipment (d.c.) - Part 4: Particular requirements - Static meters for DC active energy (class indexes A, B and C)”.

[8] IEC 62053-41:2021 “Electricity metering equipment (d.c.) - Particular requirements - Part 41: Static meters for DC energy (classes 0,5 and 1)”.

CORPORATE HQ CONTACT: SOCOMEC SAS, 1-4 RUE DE WESTHOUSE, 67235 BENFELD, FRANCE.
Print: 80 g/m² - Open: 297 x 420mm > Folded: 74 x 105mm - R/V - B&W - The bar code must be visible once the document is folded.

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DC Energy Meter for EV Chargers

COUNTIS EVDC

1000V DC
300A/600A

Safety

Warning

The General warning symbol calls attention to possible risks of injury.
Observe all the instructions listed un der the symbol to prevent injuries or even death.

Caution

Hazard of electric shock and failure to take the necessary safety precautions will result in death, serious injury or considerable material damage.

- The unit does not have internai fuses therefore external fuses must be used for protection and safety under fault conditions.
- Use only insulating tools.
- Do not connect while circuit is live (hot).
- Place the meter only in dry surroundings.
- Do not mou nt the meter in an explosive area or expose the meter in the dust, mildew and insects.
- Make sure the used wires or bus-bar are suitable for the maximum current of this meter.
- Make sure wiring correctly before activating the current/voltage to the meter.
- Do not touch the meter connecting the terminal directly with your bare hands, with metal, blank wire or other material as you may get an electrical shock.
- Make sure the protection caver is placed alter installation.
- Installation, maintenance and reparation should only be done by qualified personnel.
- Never break the seals and open the front caver as this might influence the functionality of the meter, and will avoid any warranty.
- Do not drop, or allow physical impact to the meter as there are high precision components inside that may break.
- An external switch or circuit-breaker should be installed on the power supply wires, which will be used to disconnect the meter and the de-vice supplying energy. Il is recommended that this switch or circuit-breaker is placed near the meter because that is more convenient for the operator. The switch or circuit breaker must comply with the specifications of the building’s electrical design and all local regulations.
- Although the auxiliary power supply is a low-voltage terminal, il still disconnects the power supply and then wire it.
- To connect the external shunt, it is necessary to disconnect the power supply and wear insulated gloves.

Product introduction

The COUNTIS EVDC series energy meters are tailored for use in DC installations, enabling comprehensive monitoring and measurement. Designed for DIN rail mounting, they accurately track essential DC parameters including voltage, current, power, and energy. These meters feature bi-directional measurement capability and are equipped with a pulse output. Data can be easily retrieved via RS485 communication using the Modbus RTU protocol. Powered by a DC supply, the meters support input voltages up to 1000V DC and offer flexible current measurement through external DC shunts.

Type code

Model	Shunt	Voltage Range	Current Range	Pulse Constant(Default)
COUNTIS EVDC 300	300A/75mV	100V-1000V	2.5-50(300)A	0,1 kWh/imp
COUNTIS EVDC 600	600A/75mV		2.5-50(600)A	0,1 kWh/imp

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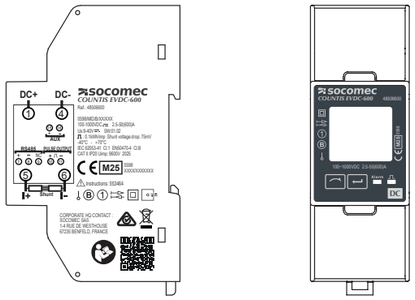
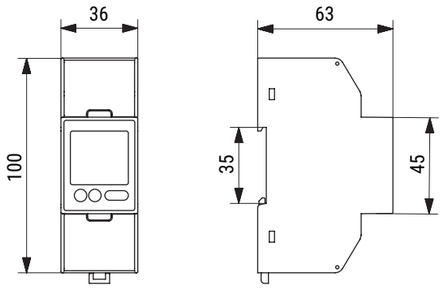
Innovative Power Solutions

Marking

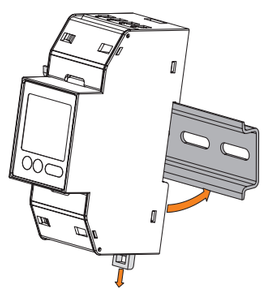


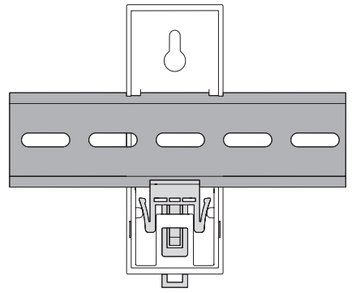
Installation

Dimensions (mm)



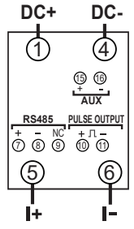
Installation



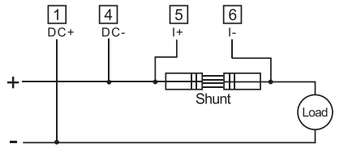


Wiring

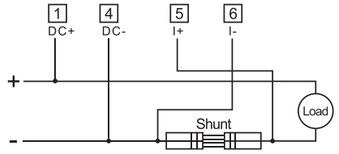
Terminal Connection



Shunt Connection



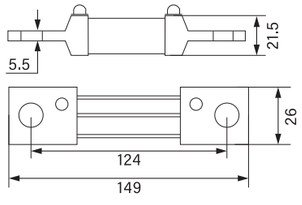
Shunt Connection: Positive Type



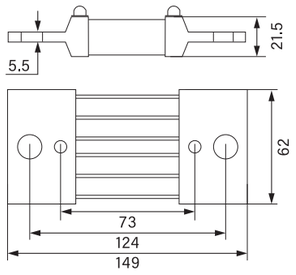
Shunt Connection: Negative Type

Shunt

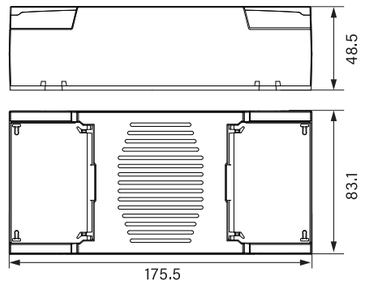
Primary Input	Rated Voltage Output	Accuracy	Dimension(mm)	Dimension{shell)(mm)
300A	75mV	0.2%	26x149x21.5	83.1X175.5X48.5
600A	75mV	0.2%	62x149x21.5	83.1X175.5X48.5



Shunt: 300A



Shunt: 600A



Shunt enclosure

Operation

Display

When it is powered on, the meter will initialize and do self-checking

Buttons function

There are two buttons on the front panel:

	> Scroll the display for data checking. > Changing option at Set-up mode. > Exit the Set-up mode.
	> Set-up mode entry. > Confirmation

Scroll Display

Alter the initialization and self-checking programs, the meter displays the measured values. The default page is total kWh. If the user wants to check other information, please press the scroll button on the front panel.

Total kWh → re-settable energy → Voltage → Current → Power → Pulse constant → Primary Current → Meter address → Baud rate → Parity → Software version

Set-up Mode

To gel into Set-up Mode, the user needs to press the «Enter» button for 3 seconds. Password, communication parameter, pulse parameter.

Page	Display	Descriptions
1	0000 PASS	Password Default password:1000
2	001 Add	Modbus address Options: 1-247
3	19200 bd	Baud rate Options: 1.2k, 2.4k, 4.8k, 9.6k(default), 19.2k
4	NONE PrtY	Parity Options: EVEN, ODD, NONE(default)
5	IMP PLSOUt kWh	Type of pulse output Options: total kWh, IMP kWh, EXP kWh
6	100 tIn	Pulse width Options: 60, 100, 200 Unit: ms

Page	Display	Descriptions
7	60 dIt	DIT(Demand Integration Time). Options: 0, 5, 8,10,15, 20, 30, 60(default).
8	00 SCrL	Scroll display time option: 0-60s. Default: Os, represent do not scroll display.
9	60 LP	Use to select the backlit lime option. Keep pressing for 3 seconds, the current selection will flash, use and to enter the options: 0, 5, 10, 20, 30, 60 minutes. 0 means the light is always on. Default: 60minutes.
10	1000 PASS	The range is from 0001 to 9999. Default: 1000.
11	n CnnE	Shunt wiring Option: N, P N: Negative type(default) P: Positive type

Error code

1	Er EEI	Memory error