



CcM1-DC

INDIVIDUAL CONSUMPTION CURRENT METER

CcM1-DC is one of the devices from the CcM product family, designed to **measure direct current** through a magnetic sensor and deliver the data through a Modbus RS-485 connection.

CcM meters product family consists of a set of devices aimed to monitor electrical parameters in electric switchboards of **single- and three-phase installations**. They should preferably be inserted into thermal-magnetic switches or residual-current circuit breakers.

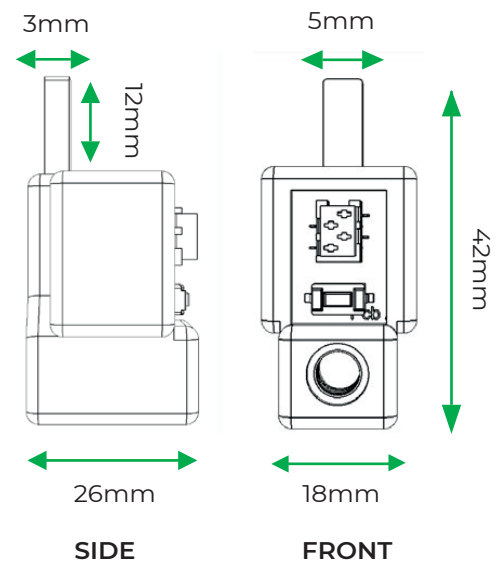
One section of the CcM devices is oriented to the solar sector, providing a perfect and universal solution for self-consumption installations. **It is possible to know the power consumption and the power production in real time, to generate the photovoltaic load curve or to regulate the inverters to prevent the overturn to the grid** (zero discharge).

In particular, the CcM1-DC is one of the “secondary” CcM devices of the product family because **they only exist within the secondary bus and require a master to interrogate them**. This master can be a PLC or the CcM-Solar Master, for photovoltaic applications. The CcM1-DC needs to be powered externally through a 12V source, or through the CcM-Solar Master. The CcM1-DC can be installed in the base fuse holders of a combiner box of a photovoltaic system, on both the positive or negative pole.

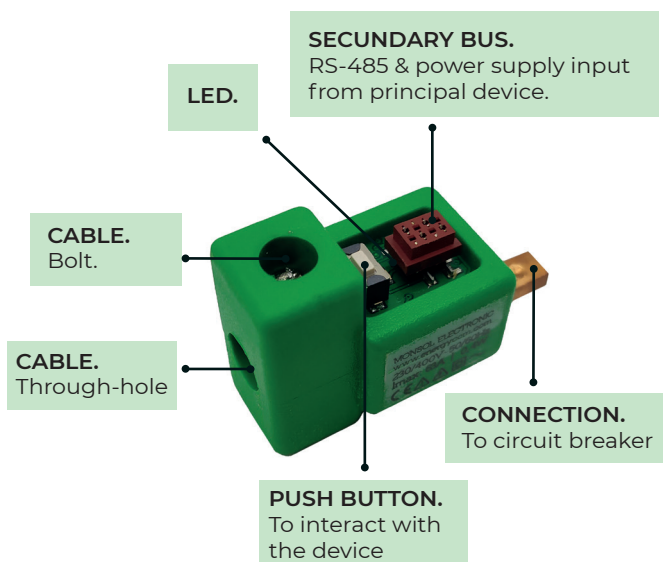


DIMENSIONS

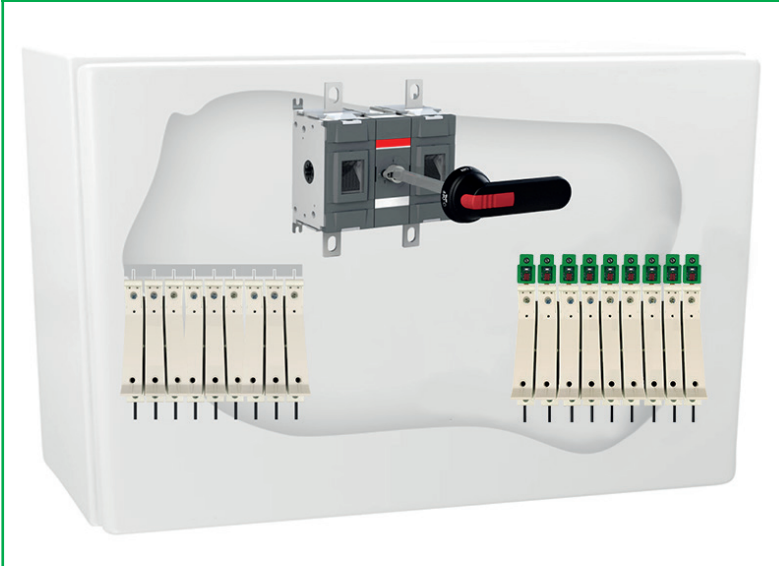
Total dimensions	42 x 18 x 26 mm
Comb dimensions	12 x 5 x 3 mm



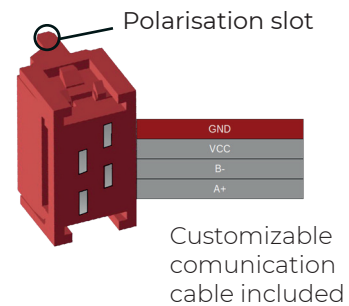
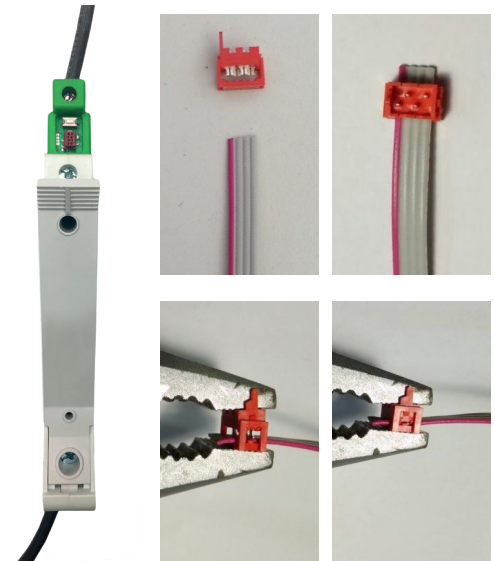
Maximum operating current	±50 A
DC current measurement range	[-30, +30] A
Current measurement error	< 1 % F.S.
Communication protocol	Modbus RTU
Average response time	0.1 s
Operating temperature	-25...+50 °C
Maximum consumption	100 mW
Typical power supply	12 Vdc



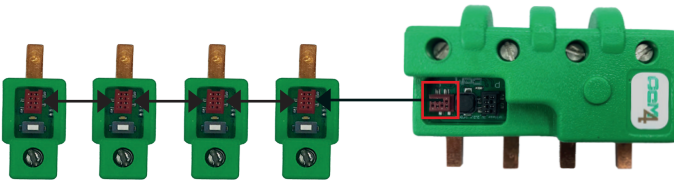
COMBINER BOX



INSTALLATION



CCM1-DC CONNECTION TO "PRINCIPAL" CCM DEVICES



MEMORY MAP

ID AND MEASUREMENT REGISTERS

Description	Modbus register	Length	Type	Unit
Product identification code	0	1	R	hex
RMS current	2	1	R	Arms x 100
Modbus ID	5	1	R/W	-
Serial Number	6	2	R	hex

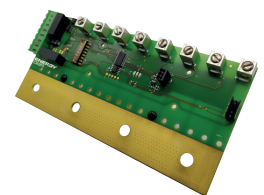
SIMILAR DEVICES

The **CcM3-Solar 30A** is designed to measure current in busbar boxes of 1st level series located in the photovoltaic trackers.

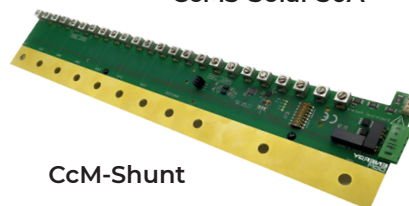
Our **CcM-Hall** and **CcM-Shunt** meter devices are designed to measure the current of individual photovoltaic series or 2 series in parallel, together with the panel voltage. They are able to measure current up to 20 A and electrically connect them through a busbar in the same measuring device of up to 24 current inputs (or 48 series), in the same combiner box.



CcM3-Solar 30A



CcM-Hall



CcM-Shunt