



# CCM3 SOLAR 30 A

## Photovoltaic DC Current Meter

The **CcM3 SOLAR 30 A** is one of the devices of the CcM family, which is used to measure direct current using magnetic sensors and delivering the data through a Modbus RTU connection over TCP using an RS-485 cable.

The **CcM3 SOLAR 30 A** is designed to measure current in photovoltaics strings to be placed in photovoltaic trackers and string boxes into a solar installation.

It is naturally placed on the fuse bases and measure the string currents for 1,000 and/or 1,500 V installations.

If the device is installed in the 1st level combiner box for trackers solar systems, it communicates with the solar tracker controller to obtain individual monitoring of the solar strings and improve the solar tracker production.

If the device is installed in the second level combiner box (String combiner Box) you can measure currents up to 30 A\* for each of its 3 inputs (combs) up to a maximum of 90 A per device from several pre-busbar series.

**The solar "SCADA" or Control Center will obtain the values through the master tracking controller or directly from the string box (combiner boxes)** through the communication buses, depending on their location.



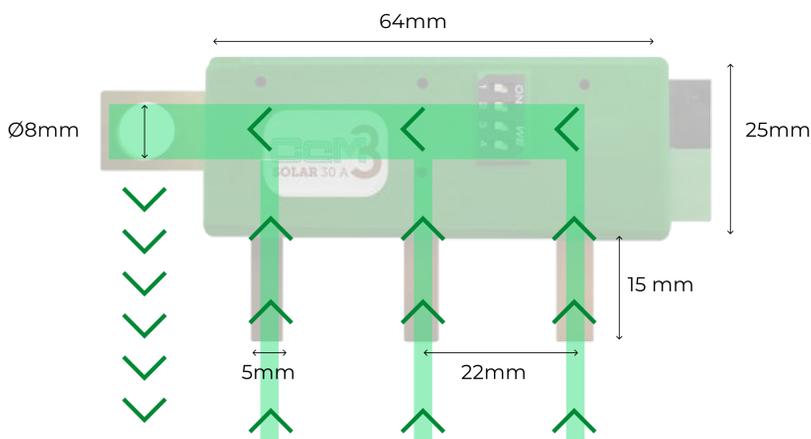
Instalación del CcM3 SOLAR 30 A

## Technical specifications

- Maximum working intensity 30 A dc
- Current measurement range in DC [-30, +30] \* A dc
- Intensity measurement error <1% F.S.
- Modbus RTU communication protocol over TCP
- Average response time 0.1 s
- Maximum consumption 0.3 W
- Typical power 12-24 VDC
- Overall dimensions 88 x 40 x 14 mm
- Dimensions comb 5 x 15 x 3 mm

## Environmental conditions

- Working altitude 0... 2000 m
- Working temperature -25... + 70 ° C
- Overvoltage category III (according to IEC 61010-1 + IEC 61010-2-030)
- IP20 Protection
- Pollution Degree 2
- Relative humidity 0 ... 95% at 45 ° C
- Overcurrent protection. External device (circuit breaker or differential switch)



Dimensions and energy flow

**\* This device comes from the factory conditioned to measure 30 A per input (comb) up to a max. of 90 A. If you want to measure higher currents (up to 30 A per input), you must say so when you order the device.**

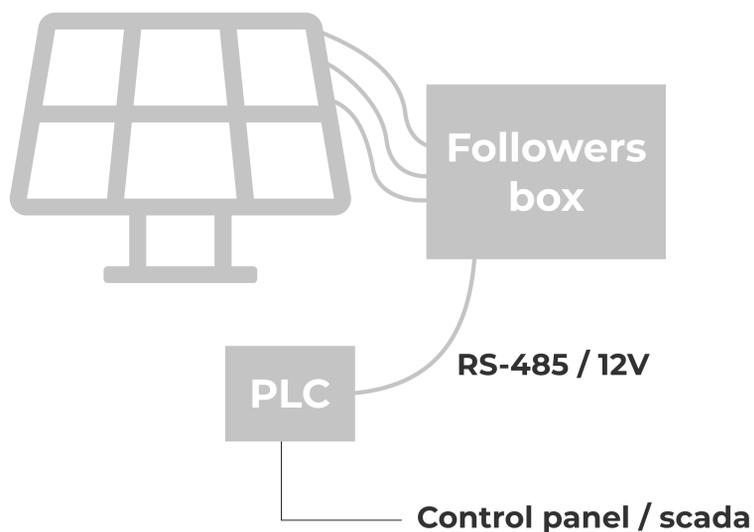
# Installation

This equipment of the CcM solar family has a “retrofit” design in order not to have to modify the existing combiner box (String boxes), being **very easy to install from the beginning in new panels or to add later on in pre-installed combiner box** and without the need for any major changes, since it does not take up much space.

It measures direct current with great precision and its most common use is in the series combined box located in the 3-series solar tracker, or in second-level photovoltaic string boxes where the current of series already pre-busted converge in parallel.

## Trackers

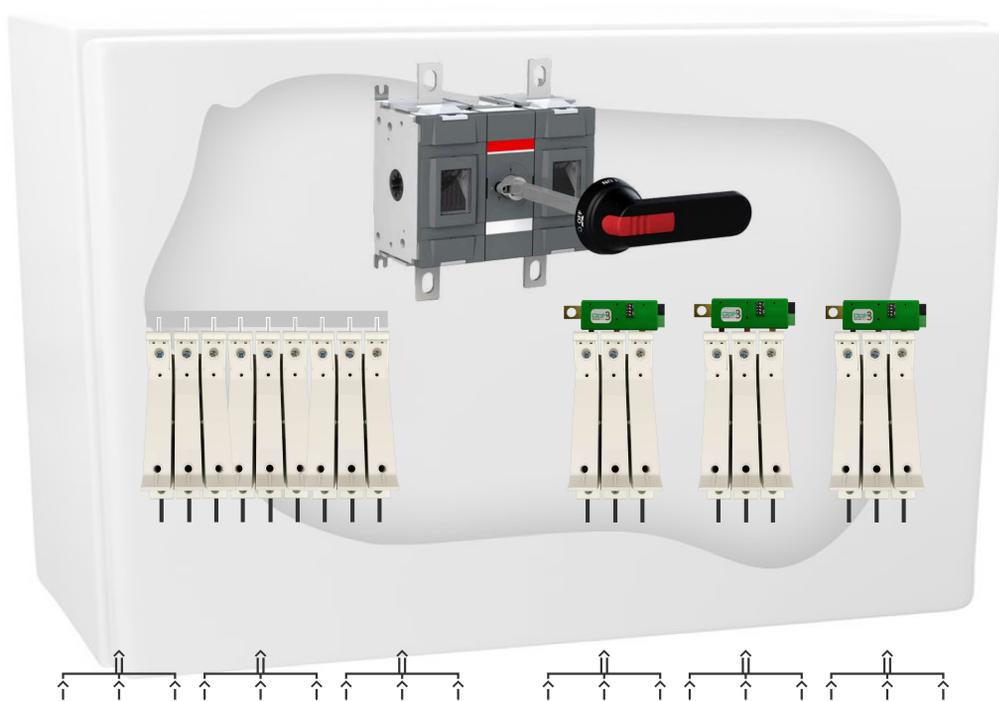
The main advantage of using this device in the combiner box of the solar tracker is that it **saves communications wiring and power in the second level boxes (combiner boxes)**. It also allows individual monitoring of each series as well as improving the production or calculation of follow-up in line with the solar tracker's master.



## Combiner Box (Detail)



## String boxes (combiner box)

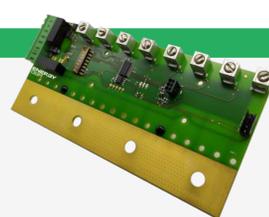


The main advantage of using this device in the boxes of the second level series (combiner boxes) is that **you can join up to 30 A of current (5 strings) per input and have a very precise measurement in a second or third level combiner boxes**, saving a large number of measuring equipment for previous solar string combiner boxes.

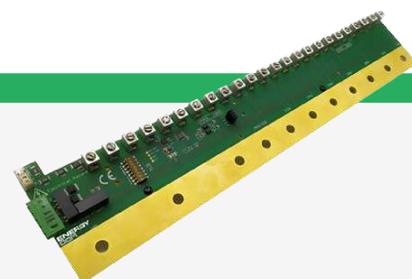
It can measure up to 90 A per device or the current of 3 busbar series.

## Similar equipment

Our current measuring equipment CcM Hall and CcM Shunt to measure the current of individual series or 2 series in parallel and voltage, allow to measure currents of up to 20 A per input and load them in the same measuring device of up to 24 current inputs or 48 series in the same busbar.



CcM Hall



CcM Shunt



CcM Voltage