

# SUBMETERING ELECTRICAL BOXES

monitoring for  
smart buildings

HOSPITALS

HOTELS

INDUSTRIES

**ENERGY**  
**CCM** ENERGY METERS

SHOPPING  
CENTER

PUBLIC  
BUILDINGS

NEIGHBOURHOOD  
COMMUNITIES

**INDUSTRIAL**  
*Perfect TOOL*

- Analysis
- Energy Efficiency

**DOMESTIC**  
*Perfect SOLUTION*

- Save Energy
- Alerts & phone

**Take care** of YOUR PLANET...  
...**Take care** of YOURSELF



# CcM Devices

The CcM devices are installed in thermal-magnetic switches and they use Modbus RTU via an RS-485 cable to communicate with a superior master or WiFi to communicate with the server or the cloud. They are the perfect tool for submetering, for the creation of energy efficiency policies or for consumption monitoring in existing distribution boards (Retrofit).



## Principal CcM devices



**CcM2-W**  
Single-phase+N



**CcM2**  
Single-phase+N



**CcM4-125**  
Three-phase



**CcM4**  
Three-phase+N

Our network analysers or smart meter provide metering of all the electric parameters of the installation from basic values (current and voltage) to more complex values (harmonics distortion, energies, etc).

Their metering has an energy precision of 1% and it takes 4.000 measurements per second displaying the average per second.

They are self-powered; they power the secondary devices (slaves) via a secondary bus (4-wire) and answer with the requested data.

The CcM principal devices are able to communicate with the secondary CcM devices as well as with any other Modbus device from a different product range than the CcM devices such as photovoltaic inverters, PLCs, etc.

The WiFi module makes them autonomous, they do not need a superior local master to send their data to the cloud and allow saving the data for up to 3 months.

## Secondary CcM devices

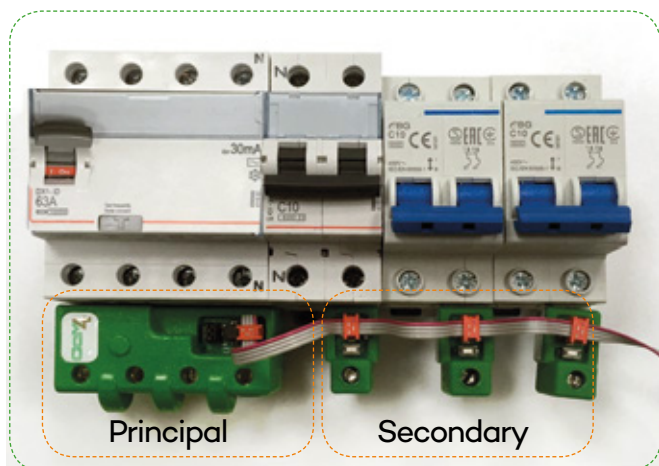


**CcM1**



**CcM3-C**

Secondary devices only measure current with a precision error below 1% on the full scale; they need to be powered and to receive requests from an external source, so they depend on a principal CcM. They have a very competitive price for its use.



Technical characteristics CcM Series		
	Secondary (Current meter)	Principal (Energy meter)
Rated voltage (power supply)	12 VDC	80 - 300 Vrms (phase - N)
Frequency	50/60 Hz	50/60 Hz
Maximum operating current*	63 A rms	125 A rms
Output Power supply	None	12 VDC (vers. 485)
Maximum consumption	12 W	1 W
Measurement Meter Class 1 (IEC 62053-21)	N/A	Yes
-Starting current	200 mA	200 mA
-Base current	N/A	10 A
-Active Energy error	N/A	< 1% RD
-Active Power error	N/A	< 1% RD
-Current error	< 1% F.S.	< 0.5% RD
-Voltage error	N/A	< 0.2% RD
-Power factor error	N/A	< 0.2% RD
Safety IEC 61010-1- Category III	Yes	Yes
EMC certified (IEC 61326-1)	Yes	Yes
Operating temperature (Delta 20° C)	-25°C to +50°C	-25°C to +50°C
Storage temperature	-40°C to + 80°C	-40°C to + 80°C
Altitude	< 2000 m	< 2000 m
Degree of protection	IP20	IP20
Communication protocol	Modbus RTU	Modbus RTU
Communication output **	RS-485	RS-485 (WiFi optional)
Optional WiFi for CcM2 (version 485), CcM3 & CcM4	N/A	24 GHz - 802.11 b/g/n

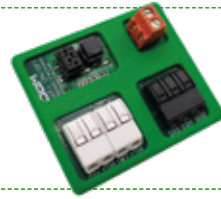
\* Only CcM4-125. All other devices 63 A

\*\* CcM2-W: WiFi included

# CcM WiFi Devices

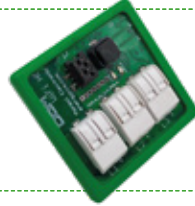


**CcM EXTRAS:** These devices are embedded in the Principal devices and they provide WiFi connectivity and other extra functionalities to the Principal CcM devices, thus increasing the possibilities and versatility of solutions provided to our clients. Their objective is to cover practically all the energy-related needs of a business both in terms of analysis (passively) and in terms of regulation (actively).



## CcM-W ON/OFF

- 2 digital inputs or pulse counters (gas and water)
- 2 outputs to command contactors or reclosers
- 1 RS-485 output to send requests to other devices (PV inverters)



## CcM-W HC

- 3 inputs to install 3 current transformers with voltage output; up to 10,000 A.
- It saves data up to 3 months in case of connection loss

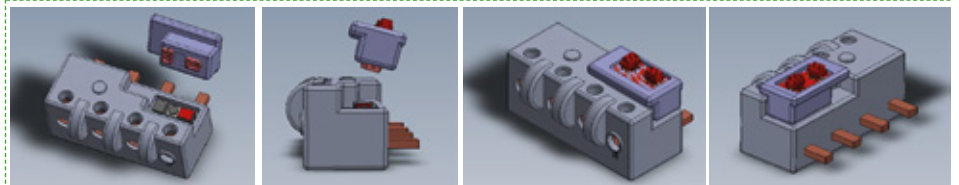
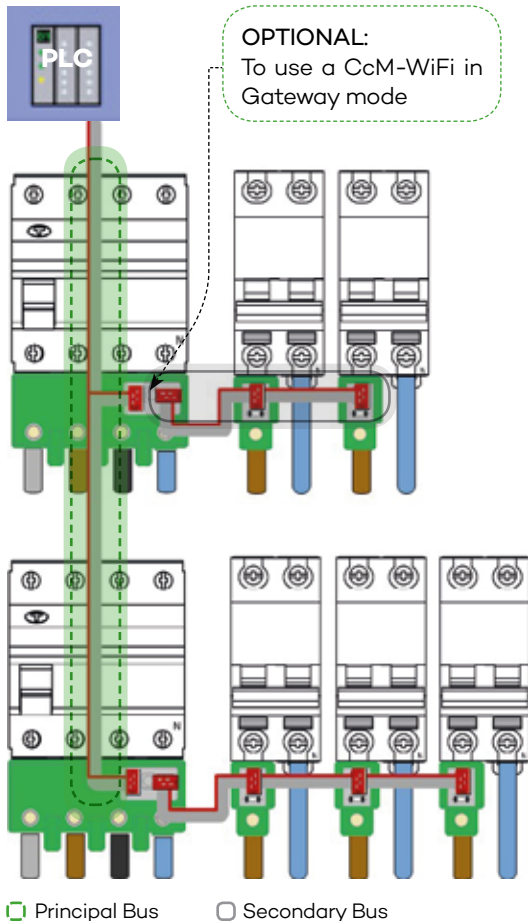


## CcM-W Pt100

- 1 highly precise analogue Pt100 input to measure temperature
- 1 outputs to command electrical contactors or reclosers
- 1 RS-485 output to send requests to other devices (PV inverters)
- It saves data up to 3 months in case of connection loss

## Installation and connection of the CcM devices

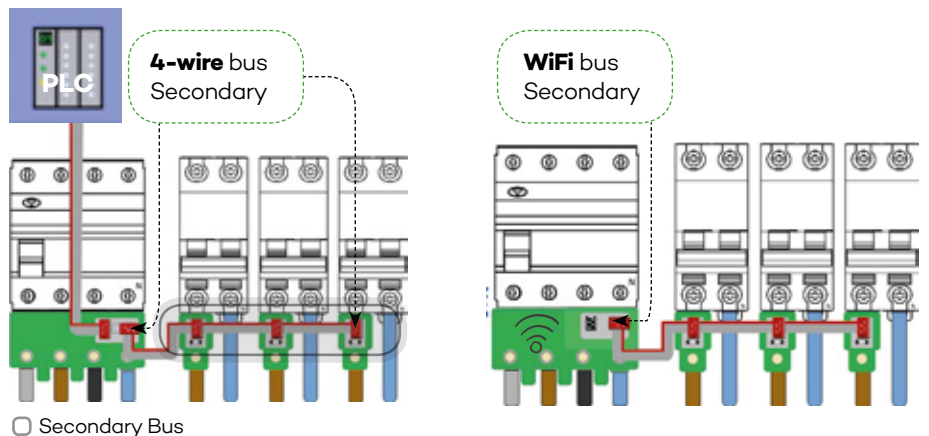
### Principal RS-485 ModBus bus



The secondary WiFi Bus and all the CcM devices with a WiFi enable the configuration of:

- **Cloud Mode:** Reports directly to the server or URL factory-configured in the firmware, by default to the Energy CcM server. The address may be configured upon specific client request.
- **FTP Mode:** It may be configured via the Energy CcM app, it sends a CSV file to the client FTP server address.
- **Gateway Mode:** Converts the CcM WiFi in a transparent gateway to receive requests from an external device.

### Bus Secondary



# MORE THAN METERING



- ✓ 1 Module
- ✓ DIN rail

The intelligent multi-device hub designed to provide **up to six possible connectivity solutions**

The **CcMaster** allows not only to read natively the Energy CcMfamily devices, but also to **read IEC and DLMS meters, control and read Modbus inverters and CcMdevices for submetering**, obtaining information and commanding other equipment through reclosers, relays, etc

# ENERGY CcM

## CcMaster



	LITE	LITE PLUS	LITE NB/2G	"PRO"
Wifi	✓	✓	✓	✓
Bluetooth	✓	✓	✓	✓
CcM Native Bus	✓	✓	✓	✓
Rs-232 (DLMS y IEC)	✓	✓	✓	✓
Rs-485 ModBus RTU	✓	✓	✓	✓
NBIoT/2G	✗	✗	✓	✓
Ethernet	✗	✓	✗	✓



HEADQUARTERS  
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