

## Application

The new range of **CEM** multi-function energy meters is designed especially for submetering applications. They enable the measurement, monitoring and management of electrical energy installations that have different consumers. Shopping centres, infrastructures, fairs and exhibition centres, apartment buildings and homes.

- » Allocation of energy costs
- » Control the partial consumption of machinery or installations.
- » Manufacturing cost controls.
- » Energy allocation, production hours and Kg CO<sub>2</sub> per part

To manage and control consumption in:



Airports and large infrastructures



Shopping centres and department stores



Apartment buildings and homes

## Technical features

<b>Connection</b>	<b>CEM-C10:</b> Direct single-phase <b>CEM-C20:</b> Direct three-phase <b>CEM-C30:</b> Indirect three-phase	
<b>Power circuit</b>	Rated voltage	<b>CEM-C10:</b> Self-powered <b>CEM-C20:</b> 230 V <sub>ac</sub> / 127 V <sub>ac</sub> ± 20% <b>CEM-C30:</b> 230 V <sub>ac</sub> / 127 V <sub>ac</sub> ± 20%
	Frequency	50...60 Hz
<b>Voltage measurement circuit</b>	Rated voltage	<b>CEM-C10:</b> 230 V <sub>ac</sub> / 127 V <sub>ac</sub> <b>CEM-C20:</b> 3 x 127/220...3 x 230/400 V <sub>ac</sub> <b>CEM-C30:</b> 3 x 57/100...3 x 230/400 V <sub>ac</sub>
	Consumption	< 2 W / 10 VA
<b>Current measurement circuit</b>	Nominal current I <sub>n</sub>	5 A
	Maximum current I <sub>max</sub>	<b>CEM-C10:</b> 65 A <b>CEM-C20:</b> 65 A <b>CEM-C30:</b> 10 A
<b>Accuracy</b>	Self-consumption	< 0.1% of I <sub>n</sub>
	Active Energy	Class B (EN 50470) Class 1 (IEC 62053-21)
	Reactive Energy	Class 2.0 (IEC 62053-23)
<b>Impulse output</b>	Type	Optocoupled
	Electrical features	max. 24 V <sub>dc</sub> 50 mA
<b>Environmental features</b>	Operating temperature	-25 °C...+70 °C
	Relative humidity	5%...95% without condensation
<b>Standards</b>	EN 50470-1, EN 50470-3, IEC 62052-11, IEC 62053-21, IEC 62053-23.	

## References

Type	Code	Parameters measured	Certification
CEM-C10-212	Q21112	V, A, kW, kWh, kvar, kvar-h, PF	IEC
CEM-C10-212 MID	Q21114	V, A, kW, kWh, kvar, kvar-h, PF	MID
CEM-C20-312	Q22312	V, A, kW, kWh, kvar, kvar-h, PF	IEC
CEM-C20-312 MID	Q22314	V, A, kW, kWh, kvar, kvar-h, PF	MID
CEM-C30-312	Q23422	V, A, kW, kWh, kvar, kvar-h, PF	IEC
CEM-C30-312 MID	Q23424	V, A, kW, kWh, kvar, kvar-h, PF	MID
Type	Code	Communications	Port
CEM-M-RS-485	Q23100	Modbus	RS-485

[www.circuitor.com](http://www.circuitor.com)

CIRCUTOR, SA - Vial Sant Jordi, s/n  
08232 Viladecavalls (Barcelona) Spain  
Tel. (+34) 93 745 29 00 - Fax: (+34) 93 745 29 14  
[central@circutor.com](mailto:central@circutor.com)

[@circutor](https://www.youtube.com/c/circutoroficial) [youtube.com/circutoroficial](https://www.youtube.com/c/circutoroficial) [in](https://www.linkedin.com/company/circutor) [circutor](https://www.linkedin.com/company/circutor)

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 Quality & Metering

# CEM

## Multi-function electrical energy meters

*Much more than an energy meter*



 **CIRCUTOR**  
Technology for energy efficiency

Code: C2Q253-02

# Multi-function electrical energy meters

The new **CEM** energy meters for assembly on DIN Rail are static single-phase and three-phase energy meters that measure Class B/1 active energy (**EN 50470 / IEC 62053-21**) and Class 2 reactive energy (**IEC 62053-23**). They are equipped with an LCD display (7 digits) with a rotating screen system and 2 buttons (1 sealable) for viewing all the measurement data.



2 modules

### CEM-C10

Direct single-phase meter up to 65 A



4 modules

### CEM-C20

Direct three-phase meter up to 65 A



4 modules

### CEM-C30

Indirect three-phase meter up to 10 A



2 modules

### CEM-M

Communications module for CEM energy meters

## OSC system, pure versatility

The **CEM-M** module enables communication with any **CEM-C** model by coupling it to an optical port. This system enables adapting the energy meters to any infrastructure with existing protocols.



A different communications protocol can be obtained according to the **CEM-M** model coupled to the energy meters. Besides making possible adaptation to any existing installation, this also enables upgrading our communications protocol without having to change energy meters.

## Submetering, the whole is the sum of the parts

Point-to-point measurements can be made throughout the entire installation with the **CEM**, thereby controlling partial and total consumptions.

## Powerful in a small space

Packed in a small size (2~4 Din rail modules), the **CEM** has all the features needed to take correct measurements and compile the most amount of data on the installation.



Electrical parameter measurement



Measurements in 2 or 4 quadrants



1 impulse output



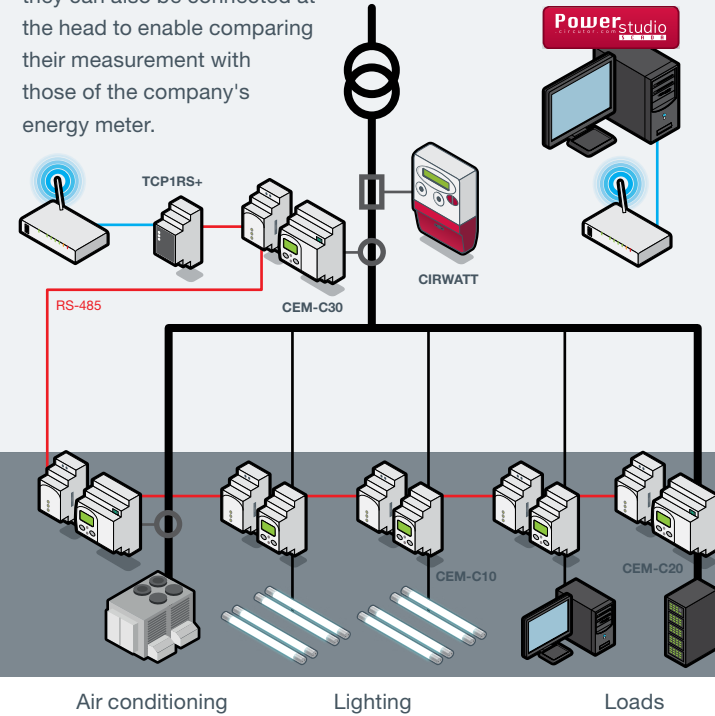
MID certification  
Class B - IEC 50470  
Class 1 - IEC 62053-21



Sealable

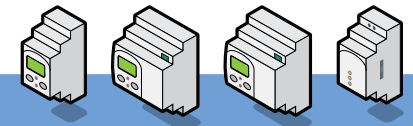
## Application type

The **CEM** energy meters can be installed on individual loads, but they can also be connected at the head to enable comparing their measurement with those of the company's energy meter.



## CERTIFICATION

MID  
MID



**CEM** energy meters carry the **MID Certification**, which certifies that an external laboratory has tested the design and manufacturing procedure. Mandatory in energy rebilling applications.