

CEM-C

Electrical energy meters with built-in communication

Control your expenses and your facility



Applications

CEM-C energy meters are designed for energy sub-metering applications. All **CEM-C** meters are designed according to current regulations for billing meters (**IEC 62052-11**, **IEC 62053-21** and **IEC 62053-23**).

The main applications of the **CEM-C** range are:

- › Multi-user supplies requiring broken-down cost allocation.
- › Control of manufacturing costs by calculating the energy cost for the final product.
- › Allocation of energy, manufacturing hours and CO₂ emissions per facility or production process (for **CEM-C21** and **CEM-C31** only).

Technical features

Connections	Circuit type	CEM-C5: Direct single-phase CEM-C6: Direct single-phase CEM-C21: Direct three-phase CEM-C31: Indirect three-phase
	Power circuit	Rated voltage CEM-C5: Self-powered 230 Vac CEM-C6: Self-powered 230 Vac CEM-C21: 230 Vac / 127 Vac* ±20% CEM-C31: 230 Vac / 127 Vac* ±20%
Voltage measuring circuit	Frequency	50-60 Hz
	Rated voltage	CEM-C5: 230 Vac CEM-C6: 230 Vac CEM-C21: 3x127/220...3x230/400 Vac CEM-C31: 3x57/100...3x230/400 Vac
	Consumption	CEM-C5 / CEM-C6: ≤ 8 VA, ≤ 0.4 W CEM-C21 / CEM-C31: ≤ 10 VA, ≤ 8 W
Current measuring circuit	Nominal current I_n	CEM-C6: 10 A CEM-C5 / CEM-C21 / CEM-C31: 5 A
	Maximum current I_{max}	CEM-C5: 50 A CEM-C6: 100 A CEM-C21: 65 A CEM-C31: .../5 A
Precision	Active Energy	Class 1 (IEC 62053-21)
	Reactive Energy	CEM-C6 / CEM-C21 / CEM-C31: Class 2.0 (IEC 62053-23)
Communications (CEM-C6/CEM-C21/CEM-C31)	Protocol	Modbus/RTU
	Port	RS-485
Impulse output	Type	Optocoupled (CEM-C5 / CEM-C21 / CEM-C31)
	Electrical specifications	CEM-C5: 12...27 Vdc; ≤ 27 mA CEM-C21 / CEM-C31: 24 Vdc; ≤ 50 mA
Environmental specifications	Working temperature	CEM-C5: -25...+55°C CEM-C6: -25...+65°C CEM-C21 / CEM-C31: -25...+70°C
	Relative humidity	5...95%
	Standards	IEC 62052-11, IEC 62053-21, IEC 62053-23

* According to model.

References

Type	Code	Parameters measured
CEM-C5	Q25112.	kWh
CEM-C6	Q26112.	kWh, kvarh, V, A, kW, kVAR, KVA, cosφ
CEM-C21	Q22332.	kWh, kvarh, V, A, kW, kVARL, kVARC, KVA, PF, costs, kg CO ₂ and hours
CEM-C31	Q23442.	kWh, kvarh, V, A, kW, kVARL, kVARC, KVA, PF, costs, kg CO ₂ and hours



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C2Q263

Airports



Large-scale infrastructure



Shopping centres and major retail outlets



Hotels and industry



CEM-C

Electrical energy meters with built-in communication

Complete solution for energy consumption management



1 module

CEM-C5

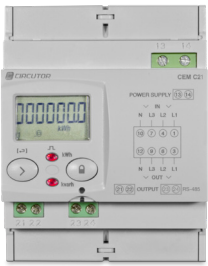
Direct single-phase meter up to 50 A



1 module

CEM-C6

Direct single-phase meter up to 100 A



3 modules

CEM-C21

Direct three-phase meter up to 65 A



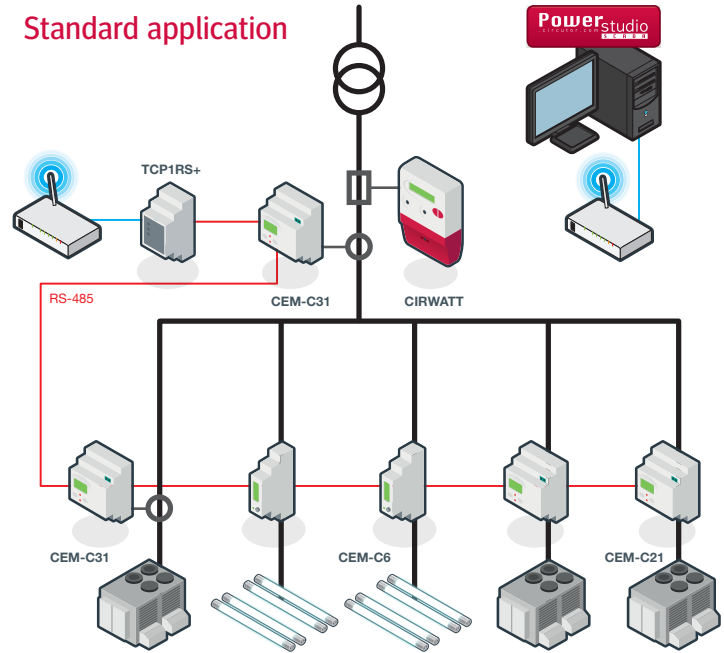
3 modules

CEM-C31

Indirect three-phase meter .../5 A

The meters in the **CEM-C** series are units for assembly on DIN rail, designed to take electrical energy readings. They can be used to manage energy consumption information for any type of industrial, commercial or production line facility.

The units can report all information to our **PowerStudio SCADA** system via RS-485 communications (Modbus RTU) in order to prepare and automatically send simulated electricity bills, thus allowing energy costs to be distributed among different users. Moreover, the units report the electrical variables required for complete management of the facility.



Anti-Fraud System



All **CEM-C** energy meters are fitted with an anti-fraud system which uses sealable covers to prevent any tampering with the wiring. Moreover, all the units accumulate the power in a single log, preventing erroneous readings due to incorrect wiring or attempted fraud.

More than just energy metering

CEM-C units can also be used as power analyzers and installed in facilities with direct or indirect connection, depending on the model. Not only do they manage active or reactive energy, they also measure voltage, current, power, $\cos\phi$ and other electrical variables in order to check that the facility works correctly.



CEM-C5

The **CEM-C5** meter is the ideal product in facilities which require active energy metering, simulating a mechanical meter. This device has only one impulse output, proportional to the energy registered, in order to send active energy values to any external receiver.

