

# CEM-C31

## Three-phase electrical energy meter with indirect measurement, assembly on DIN rail



### Description

Three-phase electrical energy meter with indirect measurement, 5(10)A. Built-in LCD display (7 digits) with rotating screen system. Features built-in RS-485 communications. Also features 2 buttons (1 sealable button) for viewing all the measured information.

Other features include:

- Class 1 active energy, Class 2 reactive energy
- Complies with the IEC 62052-11 standards (international standards)
- Compact size (4 modules, 72 mm)
- Resettable partial meter
- 1 programmable impulse output, in accordance with DIN 43864 (CEM-C31-T1)
- 1 Digital input for Tariff selection and impulse count (CEM-C31-DS)
- Indicates bad connections on the screen
- Energy storage, even in the case of bad connections

### Applications

- Redundant meter for verifying the energy allocated by the energy provider.
- Energy consumption report sent to a remote system (PLC/BMS).
- Cost control for achieving a high consumption/unit ratio in industrial processes.
- Display of electrical parameters (V, A, kW, kW-h, PF, etc.), per phase and three-phase.

### Technical features

<b>Power circuit</b>	Rated voltage	230 Vac
	Tolerance	± 20%
	Frequency	50...60 Hz
	Consumption	< 2 W / 10 VA
<b>Voltage measurement circuit</b>	Connection	Three-phase
	Reference voltage	3 x 57/100...3 x 230/400 Vac
	Frequency	50 / 60 Hz
	Self-consumption	< 2 W / 10 VA
<b>Current measurement circuit</b>	Nominal current $I_n$	5 A
	Maximum current	10 A
	Self-consumption	< 0.1% of $I_n$
<b>Accuracy</b>	Active Energy	Class 1 (IEC 62053-21)
	Reactive Energy	Class 2.0 (IEC 62053-23)
<b>Communications</b>	Hardware	RS-485
	Protocol	Modbus
	Baud rate	9600, 19200, 38400 bps
<b>Impulse output (CEM-C31-T1)</b>	Type	Optocoupled
	Electrical features	max. 24 Vdc 50 mA
<b>Digital input (CEM-C31-DS)</b>	Type	Potential-free contact NPN
	Isolation	Optoisolated
	Function	Tariff selection (T1/T2) and impulse count
<b>Environmental features</b>	Operating temperature	-25 °C...+70 °C
	Relative humidity	5%...95% without condensation
<b>Mechanical features</b>	Protection degree	IP 51 installation / IP 40 terminals
	Dimensions	70 x 90 x 64 mm
	Weight	230 g
	Material	ABS + V0 self-extinguishing polycarbonate
<b>Standards</b>	IEC 62052-11, IEC 62053-21, IEC 62053-23, MID	

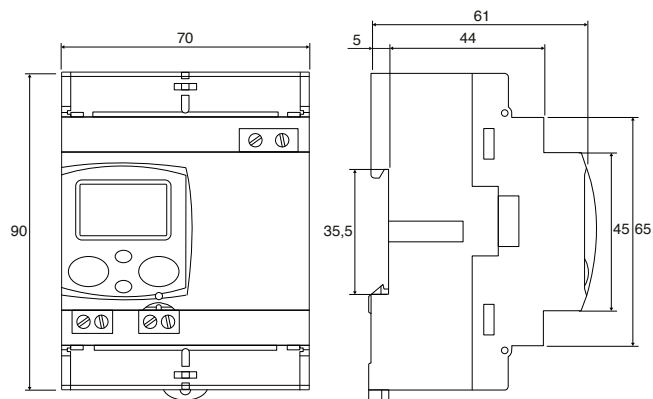
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### References

Type	Code	Parameters measured	Digital Input	Impulse output	RS-485	MID
CEM-C31-T1	Q23511.	V, A, kW, kWh, kvar, kvarh, PF	-	1	-	-
CEM-C31-DS	Q23541.	V, A, kW, kWh, kvar, kvarh, PF	1	-	-	-
CEM-C31-485-T1	Q23521.	V, A, kW, kWh, kvar, kvarh, PF	-	1	Yes	-
CEM-C31-485-DS	Q23531.	V, A, kW, kWh, kvar, kvarh, PF	1	-	Yes	-
CEM-C31-T1-MID	Q23512.	V, A, kW, kWh, kvar, kvarh, PF	-	1	-	Yes
CEM-C31-DS-MID	Q23542.	V, A, kW, kWh, kvar, kvarh, PF	1	-	-	Yes
CEM-C31-485-T1-MID	Q23522.	V, A, kW, kWh, kvar, kvarh, PF	-	1	Yes	Yes
CEM-C31-485-DS-MID	Q23532.	V, A, kW, kWh, kvar, kvarh, PF	1	-	Yes	Yes

### Dimensions



### Connections

CEM-C31-T1

CEM-C31-DS

