

CEM-C31-485-T1-MID, Indirect three-phase energy meter with communications and MID certificate

Code: Q23522.

- > Protocol: Modbus/RTU
- > Módules: 4
- > Tariff: 1
- > Certification: MID
- > Communications: RS-485
- > Transistor output: 1
- > System: Three-phase
- > Measure: Indirect
- > Measurement Range (V): 3 x 57/100...3 x 230/400
- > Measurement Range (A): .../ 5 (10) A
- > Max. Current (A): 10

#### Description

Three-phase electrical energy meter with indirect measurement, 5(10)A (, CEM-C31), direct measurement 65 A (CEM-C21) or single-phase energy meter (CEM-C10).

Built-in LCD display (7 digits) with rotating screen system. It can have integrated RS-485 communications, depending on the model.. Also features

2 buttons (1 sealable button) for viewing all the measured information.

Other features include:

- MID certification, module B+D (depending on the type)
- Class 1 active energy (Class B, in accordance with MID), Class 2 reactive energy
- Complies with the EN 50470 (MID European standards) or IEC 62052-11 standards (international standards), depending on the type.
- Compact size (CEM-C10: 2 modules, 36 mm, CEM-C21 y CEM-C31: 4 modules, 72 mm)
- Resettable partial meter
- 1 programmable impulse output, in accordance with DIN 43864 (CEM-C10, CEM-C31-T1, CEM-C21-T1 models)
- 1 Digital input for Tariff selection and impulse count (CEM-C31-D, CEM-C21-DS)
- Indicates bad connections on the screen
- Energy storage, even in the case of bad connections

#### Application

- Redundant meter for verifying the energy allocated by the energy provider.
- $\circ~$  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.

Circutor



Energy meter for DIN rail mounting

Code: Q23522.

## Specifications

Installation category	CAT III 300 V
Consumption	< 2 W, 10 VA
Frequency	50 60 Hz
Nominal voltage	230 V / 400 V ~ (± 20 %)
Nominal Voltage	
lechanical characteristics	
Size (mm) width x height x depth	70 x 90 x 64 (mm)
Weight (kg)	0,389
invironmental characteristics	
Relative humidity (without condensation)	5 95 %
urrent measurement circuit	
Consumption	0.3 VA 10 A
Reference current (Iref)	5 A
Maximum current	10 A
Minimum current measurement	0.050 A
Transition current	0.25 A
/oltage measurement circuit	
Consumption	< 2W , < 10VA (In, Vref)
Nominal frequency	50 / 60 Hz
Nominal voltage	3 x 127/220 3 x 230/400 V ~
lectrical characteristics	
Insulation voltage, circuit	4 kV RMS 50 Hz durante 1 min
itandards	
Electrical safety, Maximum height (m)	2000
Standards	EN 50470-1, EN 50470-3, IEC 62053-21, IEC 62053-23
Jser interface	
LED	2 LED: kWh, 20000 imp/kW, kvarh, 20000 imp/kvarh
Keyboard	2 Keys
Display type	LCD
Maximum value	999999.9 kWh

Circutor



Energy meter for DIN rail mounting

Code: Q23522.

Digital transistor outputs

Quantity

1



## Energy meter for DIN rail mounting

### Code: Q23522.

Pulse output, time period (Ton / Toff)	Ton: 40 ms	
Maximum current	50 mA	
Maximum voltage	24 Vcc	
Measurement accuracy		
Reactive energy measurement (kvarh)	Class 2.0 (IEC 62053-23)	
Reactive energy measurement (kvarh) Active energy measurement (kWh)	Class 2.0 (IEC 62053-23) Class B (EN 50470)	

RS-485

#### CEM-C

Energy meter

Technology / Type

ТҮРЕ	Measurement Range (V)	Measurement Range (A)	Communications	Protocol	Transistor output	Digital inputs	Tariff	Certification
ree-phase								
CEM-C21-T1	3 x 127/2203 x 230/400	5 (65) A	-	-	1	-	1	IEC
CEM-C21-485-T1	3 x 127/2203 x 230/400	5 (65) A	RS-485	Modbus/RTU	1	-	1	IEC
CEM-C21-485-DS	3 x 127/2203 x 230/400	5 (65) A	RS-485	Modbus/RTU	0	1	2	IEC
CEM-C21-T1-MID	3 x 127/2203 x 230/400	5 (65) A	-	-	1	-	1	MID
CEM-C21-485-T1-MID	3 x 127/2203 x 230/400	5 (65) A	RS-485	Modbus/RTU	1	-	1	MID
CEM-C21-485-DS-MID	3 x 127/2203 x 230/400	5 (65) A	RS-485	Modbus/RTU	0	1	2	MID
hree-phase								
CEM-C31-T1	3 x 57/1003 x 230/400	/ 5 (10) A	-	-	1	-	1	IEC
CEM-C31-485-T1	3 x 57/1003 x 230/400	/ 5 (10) A	RS-485	Modbus/RTU	1	-	1	IEC
CEM-C31-485-DS	3 x 57/1003 x 230/400	/ 5 (10) A	RS-485	Modbus/RTU	0	1	2	IEC
CEM-C31-T1-MID	3 x 57/1003 x 230/400	/ 5 (10) A	-	-	1	-	1	MID
CEM-C31-485-T1-MID	3 x 57/1003 x 230/400	/ 5 (10) A	RS-485	Modbus/RTU	1	-	1	MID
CEM-C31-485-DS-MID	3 x 57/1003 x 230/400	/ 5 (10) A	RS-485	Modbus/RTU	0	1	2	MID
	ree-phase CEM-C21-T1 CEM-C21-485-T1 CEM-C21-485-DS CEM-C21-485-DS CEM-C21-485-T1-MID CEM-C21-485-DS-MID hree-phase CEM-C31-T1 CEM-C31-485-T1 CEM-C31-485-DS CEM-C31-485-DS	ree-phase    CEM-C21-T1  3 x 127/2203 x 230/400    CEM-C21-485-T1  3 x 127/2203 x 230/400    CEM-C21-485-DS  3 x 127/2203 x 230/400    CEM-C21-T1-MID  3 x 127/2203 x 230/400    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400    CEM-C21-485-T1  3 x 57/1003 x 230/400    CEM-C31-T1  3 x 57/1003 x 230/400    CEM-C31-485-T1  3 x 57/1003 x 230/400    CEM-C31-485-DS  3 x 57/1003 x 230/400    CEM-C31-485-DS  3 x 57/1003 x 230/400	TYPE  Measurement Range (V)  Range (A)    ree-phase  2  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A    CEM-C21-485-T1  3 x 57/1003 x 230/400 / 5 (10) A    CEM-C31-T1  3 x 57/1003 x 230/400 / 5 (10) A    CEM-C31-485-T1  3 x 57/1003 x 230/400 / 5 (10) A    CEM-C31-485-DS  3 x 57/1003 x 230/400 / 5 (10) A    CEM-C31-485-T1  3 x 57/1003 x 230/400 / 5 (10) A    CEM-C31-485-T1  3 x 57/1003 x 230/400 / 5 (10) A	TYPE  Measurement Range (V)  Range (A)  Communications    ree-phase  CEM-C21-T1  3 x 127/2203 x 230/400  5 (65) A  -    CEM-C21-485-T1  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485    CEM-C21-485-T1  3 x 57/1003 x 230/400 / 5 (10) A  -    CEM-C31-T1  3 x 57/1003 x 230/400 / 5 (10) A  RS-485    CEM-C31-485-DS  3 x 57/1003 x 230/400 / 5 (10) A  RS-485    CEM-C31-485-DS  3 x 57/1003 x 230/400 / 5 (10) A  RS-485    CEM-C31-485-T1-MID  3 x 57/1003 x 230/400 / 5 (10) A  RS-48	TYPE  Measurement Range (V)  Range (A)  Communications  Protocol    ree-phase  -	TYPE  Measurement Range (V)  Range (A)  Communications  Protocol  output    ree-phase	TYPE  Measurement Range (V)  Range (A)  Communications  Proceon  output  inputs    ree-phase  CEM-C21-T1  3 x 127/2203 x 230/400  5 (65) A  -  -  1  -    CEM-C21-485-T1  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  0  1    CEM-C21-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  0  1    CEM-C21-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  0  1    CEM-C21-485-DS-MID  3 x 57/1003 x 230/400 / 5 (10) A  RS-485  Modbus/RTU  1  -    CEM-C31-485-DS  3 x 57/1003 x 230/400 / 5 (10) A  R	THE  Measurement Range (V)  Range (A)  Communications  Process    ree-phase    CEM-C21-T1  3 x 127/2203 x 230/400  5 (65) A  -  -  1  -  1    CEM-C21-485-T1  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -  1    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  0  1  2    CEM-C21-485-DS  3 x 127/2203 x 230/400  5 (65) A  -  -  1  -  1    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -  1    CEM-C21-485-T1-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  1  -  1    CEM-C21-485-DS-MID  3 x 127/2203 x 230/400  5 (65) A  RS-485  Modbus/RTU  0  1  2    CEM-C31-T1  3 x 57/1003 x 230/400 / 5 (10) A  RS-485  Modbus/RTU  1  -  1    CE

CEM-C10 and CEM-C21/C31 without built-in RS-485 communications can optionally communicate with CEM-M-ETH and CEM-M-RS485 modules.

Devices with absolute measurements (Abs). For 2 or 4 quadrants, see the Aditional table

Frecuency: 50/60 Hz. Parameters: V, A, kW, kVA, kWh, cos phi

CEM-XXX-TI encoding table - Devices with pulse output (transistor) CEM-XXX-DS-Devices with digital input for tariff change and impulse meter





Energy meter for DIN rail mounting

Code: Q23522.

<b>D</b> '					
U	m	er	۱SI	101	าร

# Connections

×

×

