

# C series

## Product brief

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### Key applications

- Landlord sub-metering
- Object metering

### Meter performance

- Direct connected up to 40 A
- Active energy
- Low power consumption
- Alarm function

### Communication

- Pulse output

### Installation

- Small size - 1 DIN (single phase) or 3 DIN (three phase) modules width
- Wide temperature range
- Easy configuration

### Approvals

- MID type approval “annex B”
- MID initial verification “annex F”
- IEC type approval

# C series

## Description



The EQ meters, C series are truly compact meters for single phase and three phase metering. The C series is mounted on a DIN rail and is suitable for installation in distribution boards and small consumer units.

### General features

The C series is a very compact meter only one module wide for single phase and three modules for three phase applications. The meters have an LCD with large digits showing energy register and instrumentation values. The meters have a wide temperature range which makes it possible to install the meters in many locations. Navigating the meters are easily done via the push-button below the display.

### Instrumentation

The C series meters support reading of instrument values. A number of electrical properties can be read:

- Power factor
- Active power
- Current
- Voltage

### Outputs

The C series meters have an output that can be used as pulse output or alarm output. The alarm quantity and levels is easily configured on the meter with the push button. The output can be used for controlling external apparatus like a contactor or an alarm indicator (connected via an external relay).

### Approvals

The C series meters are type approved according to IEC and MID. MID is the Measuring Instruments Directive 2004/22/EC from the European Commission. The type approval is according to standards that covers all relevant technical aspects of the meter. These include climate conditions, electromagnetic compatibility (EMC), electrical requirements, mechanical requirements and accuracy.

MID versions have initial verification according to annex F of the Measuring Instruments Directive.

# C11 and C13

## Single and three phase meter

### 40A

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C11

#### Description C11

Direct connected electricity meter. IEC approval. Instrument values. Alarm function. Optional - Verified and approved according to MID, 1 DIN.

#### Ordering details

| Voltage V     | Accuracy Class  | I/O          | Communi-cation | Type                        | Order Code      | Pkg qty | Weight 1 pc |
|---------------|-----------------|--------------|----------------|-----------------------------|-----------------|---------|-------------|
| <b>Steel</b>  |                 |              |                |                             |                 |         |             |
| Active energy |                 |              |                |                             |                 |         |             |
| 1 x 230 V AC  | Class B (Cl. 1) | Pulse output | -              | C11 110 - 100 <sup>*)</sup> | 2CMA100014R1000 | 1       | 0.07        |
|               | Class 1         |              |                | C11 110 - 300               | 2CMA170550R1000 | 1       | 0.07        |

<sup>\*)</sup> MID approval



C13

#### Description C13

Direct connected electricity meter. IEC approval. 3 element metering. Instrument values. Alarm function. Optional - Verified and approved according to MID.

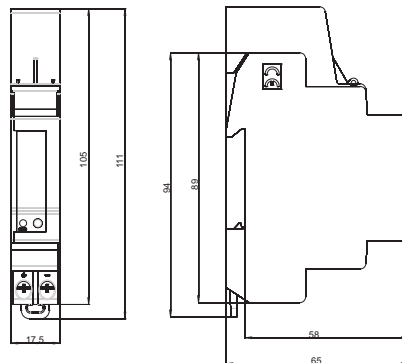
#### Ordering details

| Voltage V        | Accuracy Class  | I/O          | Communi-cation | Type                        | Order Code      | Pkg qty | Weight 1 pc |
|------------------|-----------------|--------------|----------------|-----------------------------|-----------------|---------|-------------|
| <b>Steel</b>     |                 |              |                |                             |                 |         |             |
| Active energy    |                 |              |                |                             |                 |         |             |
| 3 x 230/400 V AC | Class B (Cl. 1) | Pulse output | -              | C13 110 - 100 <sup>*)</sup> | 2CMA100191R1000 | 1       | 0.17        |
|                  | Class 1         |              |                | C13 110 - 300               | 2CMA100192R1000 | 1       | 0.17        |

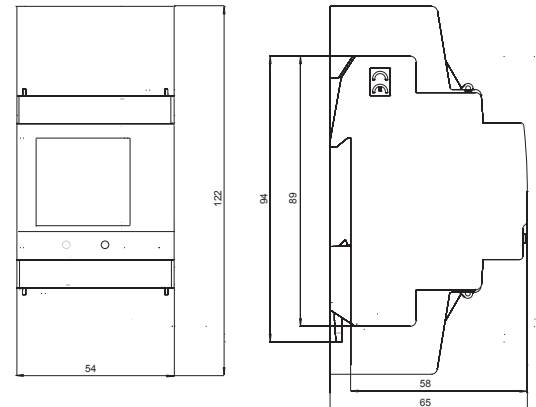
<sup>\*)</sup> MID approval

#### Dimensions

##### C11



##### C13



# C series

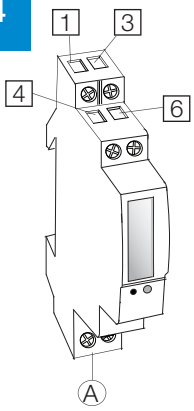
## Technical data

|                                        | C11                                                                                                                                 | C13                                              |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| <b>Voltage/current inputs</b>          |                                                                                                                                     |                                                  |
| Nominal voltage                        | 230 V AC                                                                                                                            | 3x230/400                                        |
| Voltage range                          | 230 V AC (-20% - +15%)                                                                                                              | 3x220-240 V AC (-20% - +15%)                     |
| Power dissipation voltage circuits     | < 0.8 VA (0.2 W) total                                                                                                              | 1.5 VA (0.6 W) total                             |
| Power dissipation current circuits     | 0.02 W at 230 V AC and $I_b$                                                                                                        | 0.04 VA (0.04 W) per phase at 230 V AC and $I_b$ |
| Base current $I_b$                     | 5 A                                                                                                                                 |                                                  |
| Rated current $I_n$                    | -                                                                                                                                   |                                                  |
| Reference current $I_{ref}$            | 5 A                                                                                                                                 |                                                  |
| Transitional current $I_{tr}$          | 0.5 A                                                                                                                               |                                                  |
| Maximum current $I_{max}$              | 40 A                                                                                                                                |                                                  |
| Minimum current $I_{min}$              | 0.25 A                                                                                                                              |                                                  |
| Starting current $I_{st}$              | < 20 mA                                                                                                                             |                                                  |
| Terminal wire area                     | 1 - 10 mm <sup>2</sup>                                                                                                              | 0.5 - 10 mm <sup>2</sup>                         |
| Recommended tightening torque          | 0,8 Nm                                                                                                                              |                                                  |
| <b>General data</b>                    |                                                                                                                                     |                                                  |
| Frequency                              | 50 or 60 Hz ± 5%                                                                                                                    |                                                  |
| Accuracy Class                         | B (Cl.1)                                                                                                                            |                                                  |
| Active energy                          | 1%                                                                                                                                  |                                                  |
| Display of energy                      | 6 digits LCD                                                                                                                        |                                                  |
| <b>Communication</b>                   |                                                                                                                                     |                                                  |
| Terminal wire area                     | -                                                                                                                                   |                                                  |
| Recommended tightening torque          | -                                                                                                                                   |                                                  |
| <b>Pulse indicator (LED)</b>           |                                                                                                                                     |                                                  |
| Pulse frequency                        | 1000 imp/kWh                                                                                                                        |                                                  |
| Pulse length                           | 40 ms                                                                                                                               |                                                  |
| <b>Environmental</b>                   |                                                                                                                                     |                                                  |
| Operating temperature                  | - 25°C - +70°C                                                                                                                      |                                                  |
| Storage temperature                    | - 25°C - +85°C                                                                                                                      |                                                  |
| Humidity                               | 75% yearly average, 95% on 30 days/year                                                                                             |                                                  |
| Resistance to fire and heat            | Terminal 960°C, cover 650°C (IEC 60695-2-1)                                                                                         |                                                  |
| Resistance to water and dust           | IP20 on terminal block without protective enclosure and IP51 in protective enclosure, according to IEC 60529.                       |                                                  |
| Mechanical environment                 | Class M2 in accordance with the Measuring Instrument Directive (MID), (2004/22/EC).                                                 |                                                  |
| Electromagnetic environment            | Class E2 in accordance with the Measuring Instrument Directive (MID), (2004/22/EC).                                                 |                                                  |
| <b>Outputs</b>                         |                                                                                                                                     |                                                  |
| Current                                | 2 - 100 mA                                                                                                                          |                                                  |
| Voltage                                | 5 - 40 V DC                                                                                                                         |                                                  |
| Pulse output frequency                 | 100 (imp/kWh)                                                                                                                       |                                                  |
| Pulse length                           | 200 ms                                                                                                                              |                                                  |
| Terminal wire area                     | 0.5 - 6 mm <sup>2</sup>                                                                                                             |                                                  |
| Recommended tightening torque          | 0.8 Nm                                                                                                                              |                                                  |
| <b>EMC compatibility</b>               |                                                                                                                                     |                                                  |
| Impulse voltage test                   | 6 kV 1.2/50 µs (IEC 60060-1)                                                                                                        |                                                  |
| Surge voltage test                     | 4 kV 1.2/50 µs (IEC 61000-4-5)                                                                                                      |                                                  |
| Fast transient burst test              | 4 kV (IEC 61000-4-4)                                                                                                                |                                                  |
| Immunity to electromagnetic HF-fields  | 80 MHz - 2 GHz at 10 V/m (IEC 61000-4-3)                                                                                            |                                                  |
| Immunity to conducted disturbance      | 150 kHz - 80 MHz, (IEC 61000-4-6)                                                                                                   |                                                  |
| Immunity to disturbance with harmonics | 2kHz - 150kHz                                                                                                                       |                                                  |
| Radio frequency emission               | EN 55022, class B (CISPR22)                                                                                                         |                                                  |
| Electrostatic discharge                | 15 kV (IEC 61000-4-2)                                                                                                               |                                                  |
| Standards                              | IEC 62052-11, IEC 62053-21 class 1, GBT 17215.211-2006, GBT 17215.321-2008 class 1, GB 4208-2008, EN 50470-1, EN 50470-3 category B |                                                  |
| <b>Mechanical</b>                      |                                                                                                                                     |                                                  |
| Material                               | Glass reinforced polycarbonate                                                                                                      |                                                  |
| <b>Dimensions</b>                      |                                                                                                                                     |                                                  |
| Width                                  | 17,5 mm                                                                                                                             | 54 mm                                            |
| Height                                 | 111 mm                                                                                                                              | 122 mm                                           |
| Depth                                  | 65 mm                                                                                                                               | 65 mm                                            |
| DIN modules                            | 1                                                                                                                                   | 3                                                |

# C series

## Wiring diagrams

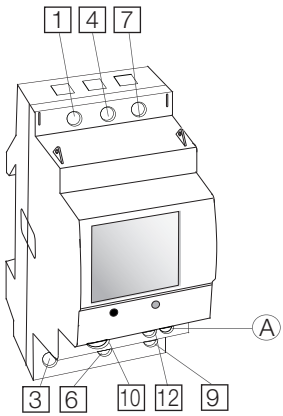
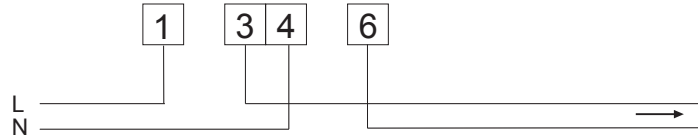
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- 1 Phase in
- 3 Phase out
- 4 6 Neutral

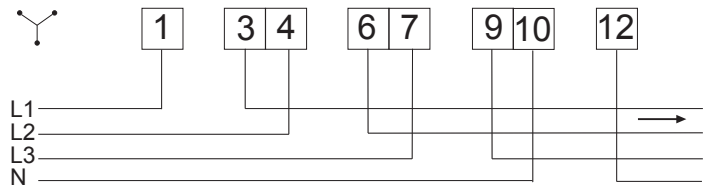
### Terminal blocks

C11

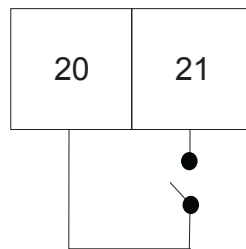


- 1 4 7 Phase in
- 3 6 9 Phase out
- 10 12 Neutral

C13



**Output** (A) = Please see the pictures on the left



External power supply needed 5-40 VDC...