

## RC10: Current monitoring      RV10: Voltage monitoring

### 4 metering inputs in each module

### Adjustments for setpoint, hysteresis and time delay

### Selectable relay inversion, time delay and AC/DC mode

### DC supply or AC supplies up to 230 VAC

### Made in accordance with the $\text{CE}$ and EMC regulations



C-mac<sup>®</sup> current monitoring relay, type RC10, and voltage monitoring relay, type RV10, are universal metering relays, each supplied with 4 metering ranges, from 0,4 mA to 6 A or 40 mV to 600 V AC or DC, respectively.

The input range is chosen by use of the appropriate input terminal, and the choice of AC/DC metering is made by connection/disconnection of terminal 8 to common (terminal 7).

By means of 2 push-buttons on the back of the unit you can select relay and time-delay function.

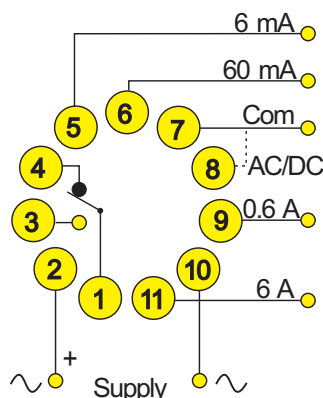
When the module is AC metering, the average value is metered, and the level adjustment is then calibrated to the r.m.s. value of a sinusoidal signal.

### Common technical data:

|                            |                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------|
| <b>Supply voltage, AC:</b> | 24, 115 and 230 VAC +/- 10%                                                              |
| <b>Supply frequency:</b>   | 40-70 Hz                                                                                 |
| <b>Variable supply:</b>    | 12-50 VDC or 48-250 VDC                                                                  |
| <b>Isolation voltage:</b>  | Supply - input - output: 3.75 kV                                                         |
| <b>Supply voltage, DC:</b> | 24 VDC +/- 10%                                                                           |
|                            | Note: With this DC-supply there is no isolation between supply and internal electronics. |
| <b>Power consumption:</b>  | 2,5 VA                                                                                   |
| <b>Operation temp.:</b>    | -20°C to +60°C                                                                           |
| <b>Humidity:</b>           | 0 - 90% RH, non-condensing                                                               |
| <b>Adjustments:</b>        |                                                                                          |
| Level:                     | Potentiometer, scale 0.4 to 6                                                            |
| Hysteresis:                | Potentiometer, scale 5 to 50%                                                            |
| Time-delay:                | Potentiometer, scale 0 to 10 sec.                                                        |
| <b>Indications:</b>        |                                                                                          |
| Green LED:                 | Supply voltage connected                                                                 |
| Red LED:                   | Set-point exceeded                                                                       |
| Red LED:                   | Relay active                                                                             |
| <b>Accuracy, scale:</b>    | 5 %                                                                                      |
| <b>Temp. coefficient:</b>  | typ 0,1 % / °C                                                                           |
| <b>Max. load, relay:</b>   | 1-pole: 8 A - 250 VAC<br>ohmic load                                                      |

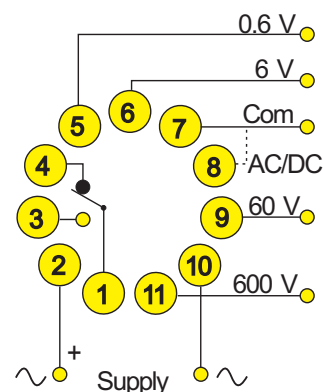
### Metering ranges, max. input signals and input impedances ( $R_{in}$ ):

| Module | Range       | max. input | input res.      |
|--------|-------------|------------|-----------------|
| RC 10  | 0.4 - 6 mA  | 80 mA      | 35 $\Omega$     |
|        | 4 - 60 mA   | 200 mA     | 0.5 $\Omega$    |
|        | 40 - 600 mA | 800 mA     | 0.35 $\Omega$   |
|        | 0.4 - 6 A   | 8 A        | 0.033 $\Omega$  |
| RV 10  | 40 - 600 mV | 20 V       | 1 k $\Omega$    |
|        | 0.4 - 6 V   | 50 V       | 11 k $\Omega$   |
|        | 4 - 60 V    | 150 V      | 111 k $\Omega$  |
|        | 40 - 600 V  | 650 V      | 1.11 M $\Omega$ |



### Connections RC10.

DC metering: 7-8 open  
AC metering: 7-8 closed

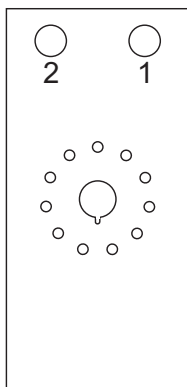


### Connections RV10.

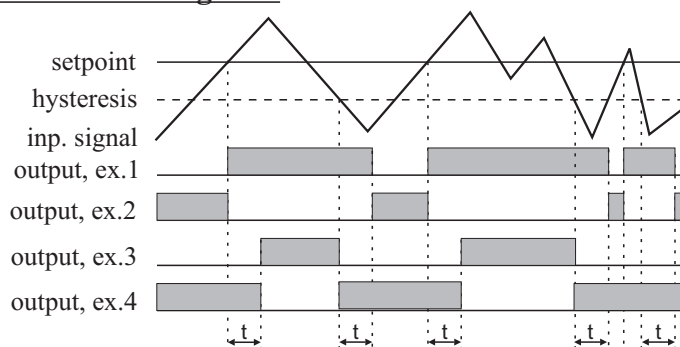
DC metering: 7-8 open  
AC metering: 7-8 closed

### Function selection:

- Button 1:** Delay on operate /  
delay on release
- Button 2:** Relay inversion
- Ex 1:** 1 on, 2 off.  
Delay on release, when level  
drops below setpoint.
- Ex 2:** 1 off, 2 on.  
Delay on operate, when level  
drops below setpoint.
- Ex 3:** 1 off, 2 off.  
Delay on operate, when  
setpoint is exceeded.
- Ex 4:** 1 on, 2 on.  
Delay on release, when  
setpoint is exceeded.



### Functional diagram:



### EMC and safety regulations.

**Emmision:** EN 50 081 - 1  
**Immunity:** EN 50 082 - 2  
**Safety:** EN 60 730

**Approvals:** The units are produced in accordance with the CE og low voltage regulations.

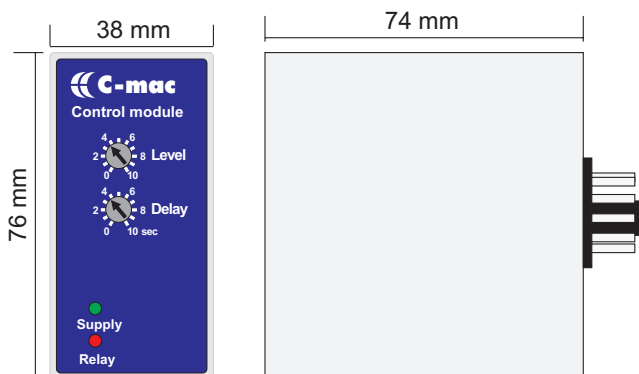
### Ordering guide, RC10:

| supply    | type number  |
|-----------|--------------|
| 12-50 VDC | RC10-1-4-012 |
| 24 VDC    | RC10-1-0-024 |
| 24 VAC    | RC10-1-1-024 |
| 115 VAC   | RC10-1-1-115 |
| 230 VAC   | RC10-1-1-230 |

### Ordering guide, RV10:

| Supply    | type number  |
|-----------|--------------|
| 12-50 VDC | RV10-1-4-012 |
| 24 VDC    | RV10-1-0-024 |
| 24 VAC    | RV10-1-1-024 |
| 115 VAC   | RV10-1-1-115 |
| 230 VAC   | RV10-1-1-230 |

### Mechanical dimensions:



### Materials and weight:

**Housing:** NORYL-SE-1, grey, self-extinguishing

**Housing bottom:** NORYL SE-1, GFN-2, black, self-extinguishing

**Terminals:** Nickel-plated brass

**Weight:** 190 g