



### Model Number

#### KC-LCD-48-1R-24VDC

LCD batch controller with 1 relay output and 24 V<sub>DC</sub> supply voltage

### Features

- Counter/Timer
- Adding/subtracting via 2 separate inputs
- Batch controller with 1 pre-selection
- Easy-to-read, 2-line LCD display with symbols for indicated pre-selection and output status
- Display range and preselection range from -999999 up to 999999  
Overflow will be evaluated correctly up to 1 decade
- PNP and NPN sensors can be connected
- Degree of protection IP65 (front only)

### Technical data

#### General specifications

|               |                    |
|---------------|--------------------|
| Pre-selection | single             |
| Data storage  | > 10 years, EEPROM |
| Programming   | keypad-driven menu |

#### Indicators/operating means

|               |  |
|---------------|--|
| Type          | 2-line, 2 x 6-digit LC display with leading sign |
| Display value | digit height 9 mm                                |
| Pre-selection | digit height 7 mm                                |
| Key interlock | via "high" potential at "LOCK" input             |
| Decimal point | 0 to max 5 fractional digits                     |
| Scale factor  | 0.0001 ... 99.9999                               |
| Reset         | manually or external                             |

#### Electrical specifications

|                   |                               |
|-------------------|-------------------------------|
| Fusing            | 11 ... 30 V DC: T 0.2 A       |
| Operating voltage | U <sub>B</sub> 11 ... 30 V DC |
| Power consumption | P <sub>0</sub> max. 4 W       |

#### Input

|                        |   |
|------------------------|---|
| Connection             | Counter inputs: A and B<br>Control/reset inputs: LOCK, RESET  |
| Signal voltage         |   |
| High                   | 3.5 ... 30 V DC   |
| Low                    | 0 ... 2 V DC  |
| Counting frequency     | 30 Hz / 5 kHz   |
| Minimum pulse duration | Control/reset inputs: static / 1 ms   |
| Impedance              | 10 kOhm   |
| Count modes            |   |
| Pulse counter          | Counting with counting direction (cnt.dir),<br>difference counting (up.dn),<br>up/down counting (quad),   |
| Timer                  | Time measurement via GATE input (FrErUn),<br>counter input A: Start, counter input B: Stop (InpA.InpB.),<br>counter input B: Start/Stop (InpB.InpB.), |

#### Output

|                   |   |
|-------------------|---|
| Relay             | changeover contact                                      |
| Switching voltage | max. 250 V AC / 110 V DC                                |
| Switching current | max. 3 A AC/DC, min. 30 mA DC,                          |
| Switching power   | max. 750 VA / 90 W                                      |
| Mechanical life   | 2 x 10 <sup>7</sup> switching cycles                    |
| Electrical life   | 5 x 10 <sup>4</sup> cycles at 3 A                       |
| Response time     | < 15 ms pulse counter<br>< 10 ms time counter           |
| Sensor supply     | connected power supply is looped through,<br>max. 50 mA |

#### Ambient conditions

|                     |                                    |
|---------------------|------------------------------------|
| Ambient temperature | -10 ... 50 °C (14 ... 122 °F)      |
| Storage temperature | -25 ... 75 °C (-13 ... 167 °F)     |
| Relative humidity   | ≤ 93 % at 40 °C<br>(noncondensing) |
| Altitude            | 0 ... 2000 m                       |

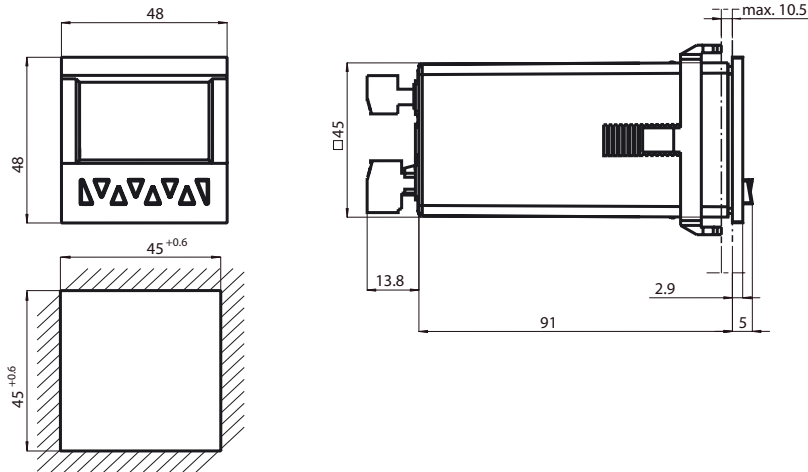
#### Mechanical specifications

|                      |                          |
|----------------------|--------------------------|
| Degree of protection | IP65 (front)             |
| Mass                 | approx. 117 g            |
| Dimensions           | 48 mm x 48 mm x 109.8 mm |

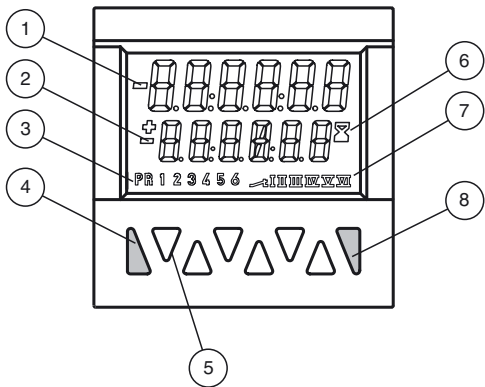
#### Compliance with standards and directives

|                             |  |
|-----------------------------|--|
| Directive conformity        |  |
| EMC Directive 2004/108/EC   | EN 61000-6-2:2005, EN 50295:1999   |
| Standard conformity         |  |
| Emitted interference        | DIN EN 55011:2009, Class B   |
| Mech. capacity              | EN 60068-2-6:2008<br>10 ... 55 Hz / 1 mm / XYZ<br>30 min in each direction |
| Shock and impact resistance | EN 60068-2-27:1995<br>100 G / 2 ms / XYZ<br>3 times in each direction      |

**Dimensions**

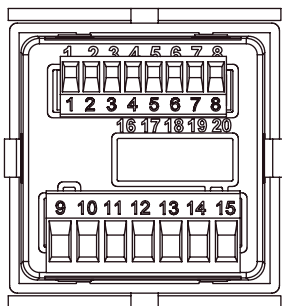


**Indicators / Operating means**



- 1 Current count value
- 2 Preset value
- 3 Indicator preset value (at 9)
- 4 Reset key
- 5 Decade keys 1 to 6 / Keys for programming
- 6 Run display for timer
- 7 Shows the active output
- 8 Prog/Mode key

**Electrical connection**



**Signal and control inputs**

- 1 Sensor supply voltage
- 2 GND (0V)
- 3 INP A (Signal input A)
- 4 INP B (Signal input B)
- 5 RESET (Reset input)
- 6 LOCK (Input Keypad lock)
- 7 not connected
- 8 not connected

**Supply voltage and outputs**

- 9 not connected
  - 10 not connected
  - 11 Relay contact C.
  - 12 Relay contact N.O.
  - 13 Relay contact N.C.
  - 14 11 ... 30 V DC
  - 15 GND (0V)
- } Output
- } Supply voltage

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