



### Model Number

#### KC-LCDC-48-2R-24VDC

LCD batch controller with 2 relay outputs and 24 V<sub>DC</sub> supply voltage

### Features

- Counter/Timer/Tachometer
- Adding/subtracting via 2 separate inputs
- Batch controller with 2 pre-selections
- Easy-to-read backlit 2-line LCD display with icons for the displayed pre-selection and the status of both outputs
- Multicolor display
- 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 | 2-fold             |
| Data storage  | > 10 years, EEPROM |
| Programming   | keypad-driven menu |

#### Functional safety related parameters

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 410 a |
| Mission Time (T <sub>M</sub> ) | 10 a  |
| Diagnostic Coverage (DC)       | 0 %   |

#### Indicators/operating means

|               |   |
|---------------|---|
| Type          | 2-line, 2 x 6-digit LC display with leading sign<br>Multicolor, backlit |
| 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            | 10 ... 30 V DC: T 0.2 A       |
| Operating voltage | U <sub>B</sub> 10 ... 30 V DC |
| Power consumption | P <sub>0</sub> max. 1.5 W     |

#### Input

|                        |   |
|------------------------|---|
| Connection             | Counter inputs: A and B<br>Control/reset inputs: LOCK, RESET, GATE, MPI   |
| Signal voltage         |   |
| High                   | 0.6 x U <sub>e</sub> ... 30 V DC  |
| Low                    | 0 ... 0.2 x U <sub>e</sub>  |
| Counting frequency     | 30 Hz / 55 kHz  |
| Minimum pulse duration | Control/reset inputs: 10 ms / 1 ms  |
| Impedance              | 5 kOhm  |
| Count modes            |   |
| Pulse counter          | Counting with counting direction (cnt.dir),<br>difference counting (up.dn),<br>up/down counting (quad),<br>Cumulative counting (up.up),<br>up/down counting x 2 (quad 2),<br>up/down counting x 4 (quad 4),<br>additional functions for counter input A and counter input B:<br>A/B, (A-B)/A x 100% |
| Frequency counter      | functions for input A and input B:<br>A, A-B, A+B quad, A/B, (A-B)/A x 100 %  |
| 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.),<br>time measuring via RESET input (auto)  |

#### Output

|                   |   |
|-------------------|---|
| Relay             | changeover contact, Make 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                                      |
| Sensor supply     | connected power supply is looped through,<br>max. 80 mA |
| Output I          | Relay with make contact, NC or NO progr.                |
| Mechanical life   | 2 x 10 <sup>7</sup> switching cycles                    |
| Electrical life   | 1 x 10 <sup>5</sup> switching cycles at 3 A             |
| Output II         | Relay with changeover contact                           |
| Mechanical life   | 2 x 10 <sup>7</sup> switching cycles                    |
| Electrical life   | 5 x 10 <sup>4</sup> cycles at 3 A                       |
| Response time     | Relay: approx. 7 ms<br>Frequency counter: 100/600 ms    |

#### Ambient conditions

|                     |                                 |
|---------------------|---------------------------------|
| Ambient temperature | -20 ... 65 °C (-4 ... 149 °F)   |
| Storage temperature | -25 ... 75 °C (-13 ... 167 °F)  |
| Relative humidity   | ≤ 93 % at 40 °C (noncondensing) |
| Altitude            | 0 ... 2000 m                    |

#### Mechanical specifications

|                      |                          |
|----------------------|--------------------------|
| Degree of protection | IP65 (front)             |
| Mass                 | approx. 138 g            |
| Dimensions           | 48 mm x 48 mm x 109.8 mm |

#### Compliance with standards and directives

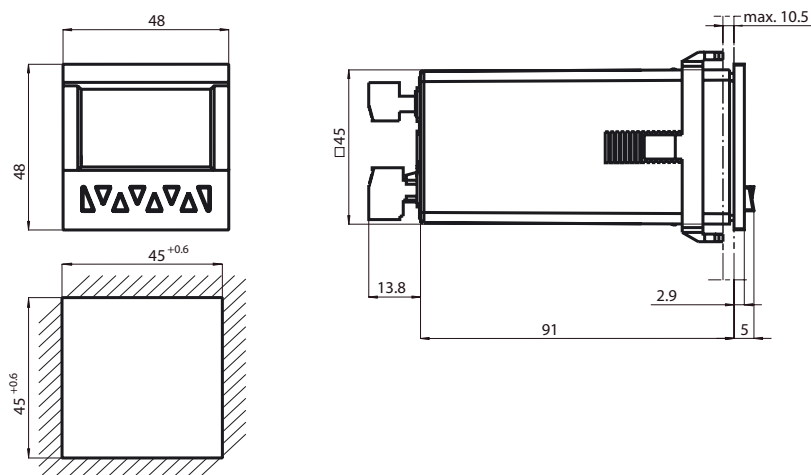
|                           |                            |
|---------------------------|----------------------------|
| Directive conformity      |                            |
| EMC Directive 2004/108/EC | EN 61000-6-2:2005          |
| Standard conformity       |                            |
| Emitted interference      | DIN EN 55011:2009, Class B |



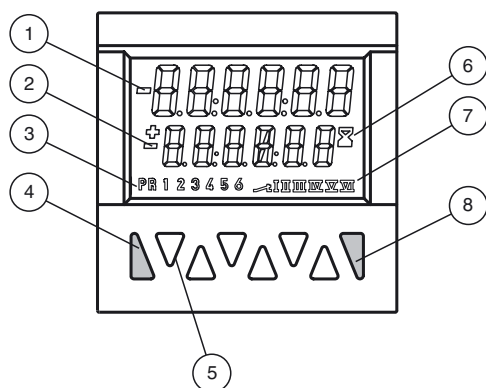
|                             |  |
|-----------------------------|--|
| Mech. capacity              | EN 60068-2-6:2008<br>10 ... 55 Hz / 1 mm / XYZ<br>30 min in each direction |
| Shock and impact resistance | EN 60068-2-27:1995<br>100 G / 2 ms / XYZ<br>3 times in each direction      |

Release date: 2016-09-12 10:30 Date of issue: 2016-09-12 214741\_eng.xml

**Dimensions**

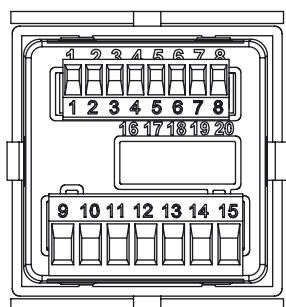


**Indicators / Operating means**



- 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 GATE (Gate input)
- 8 MPI (User input)

**Supply voltage and outputs**

- 9 Relay contact C. } Output 1
- 10 Relay contact N.O. }
- 11 Relay contact C. } Output 2
- 12 Relay contact N.O. }
- 13 Relay contact N.C. }
- 14 10 ... 30 V DC } Supply voltage
- 15 GND (0V) }

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".