



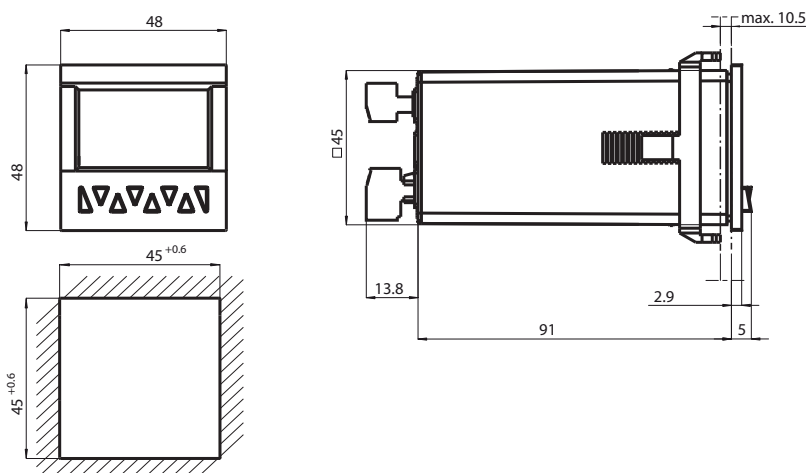
## Timer, Counter, Tachometer KC-LCDC-48-6T-230VAC

- Counter/Timer/Tachometer
- Adding/subtracting via 2 separate inputs
- Batch controller with 6 pre-selections
- 6 floating optocoupler outputs
- Easy-to-read, 2-line LCD display with symbols for indicated pre-selection and the status of the two 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)

LCD batch controller with 6 optocoupler outputs and 90 ... 260 VAC supply voltage



### Dimensions



### Technical Data

#### General specifications

|               |                    |
|---------------|--------------------|
| Pre-selection | 6-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                                                      |

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

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 **PEPPERL+FUCHS**

## Technical Data

|                                                 |                      |                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reset                                           | manually or external |                                                                                                                                                                                                                                                                                                     |
| <b>Electrical specifications</b>                |                      |                                                                                                                                                                                                                                                                                                     |
| Fusing                                          |                      | 90 ... 260 V AC: T 0.1 A                                                                                                                                                                                                                                                                            |
| Operating voltage                               | U <sub>B</sub>       | 90 ... 260 V AC                                                                                                                                                                                                                                                                                     |
| Power consumption                               | P <sub>0</sub>       | max. 8 VA                                                                                                                                                                                                                                                                                           |
| <b>Input</b>                                    |                      |                                                                                                                                                                                                                                                                                                     |
| Connection                                      |                      | Counter inputs: A and B<br>Control/reset inputs: LOCK, RESET, GATE, MPI                                                                                                                                                                                                                             |
| Signal voltage                                  |                      |                                                                                                                                                                                                                                                                                                     |
| High                                            |                      | 12 ... 30 V DC                                                                                                                                                                                                                                                                                      |
| Low                                             |                      | 0 ... 4 V DC                                                                                                                                                                                                                                                                                        |
| Counting frequency                              |                      | max. 50 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 (FrEr <sub>un</sub> ),<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)                                                                                         |
| <b>Output</b>                                   |                      |                                                                                                                                                                                                                                                                                                     |
| Sensor supply                                   |                      | 20.4 ... 27.6 V DC,<br>max. 80 mA                                                                                                                                                                                                                                                                   |
| Response time                                   |                      | Add/Sub/autorepeat < 6 ms<br>A/B; (A-B)/A: < 23 ms                                                                                                                                                                                                                                                  |
| Optocoupler                                     |                      | output 1 to 6, NPN-Opto coupler<br>output 3 to 6 with common emitter<br>Schaltleistung 30 V DC / 10 mA                                                                                                                                                                                              |
| Signal voltage                                  |                      | U <sub>CESAT</sub> with IC = 10 mA: max. 2 V<br>U <sub>CESAT</sub> with IC = 5 mA: max. 0.4 V                                                                                                                                                                                                       |
| <b>Compliance with standards and directives</b> |                      |                                                                                                                                                                                                                                                                                                     |
| Directive conformity                            |                      |                                                                                                                                                                                                                                                                                                     |
| Low Voltage Directive 2006/95/EC                |                      | EN 61010-1:2001; protection class: 2                                                                                                                                                                                                                                                                |
| 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                                                                                                                                                                                                                               |
| <b>Ambient conditions</b>                       |                      |                                                                                                                                                                                                                                                                                                     |
| Ambient temperature                             |                      | -20 ... 65 °C (-4 ... 149 °F)                                                                                                                                                                                                                                                                       |
| Storage temperature                             |                      | -25 ... 75 °C (-13 ... 167 °F)                                                                                                                                                                                                                                                                      |
| Relative humidity                               |                      | ≤ 93 % at 40 °C<br>(noncondensing)                                                                                                                                                                                                                                                                  |
| Altitude                                        |                      | 0 ... 2000 m                                                                                                                                                                                                                                                                                        |
| Pollution degree                                |                      | 2                                                                                                                                                                                                                                                                                                   |
| <b>Mechanical specifications</b>                |                      |                                                                                                                                                                                                                                                                                                     |
| Degree of protection                            |                      | IP65 (front)                                                                                                                                                                                                                                                                                        |
| Mass                                            |                      | approx. 151 g                                                                                                                                                                                                                                                                                       |

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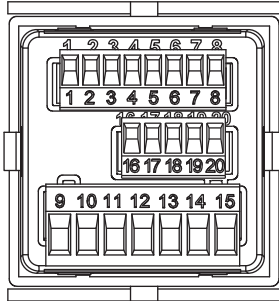
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## Technical Data

Dimensions

48 mm x 48 mm x 109.8 mm

## Connection



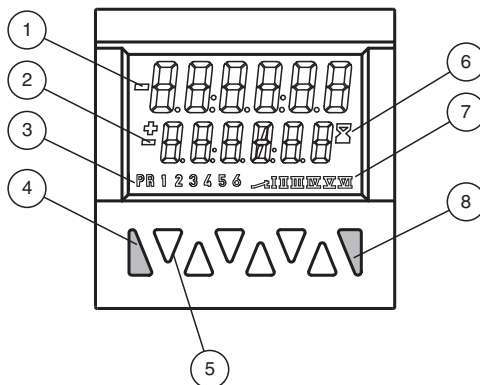
### Signal and control inputs

- |   |                          |
|---|--------------------------|
| 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  | Collector      | } | Output 1       |          |
| 10 | Emitter        |   |                |          |
| 11 | Collector      | } | Output 2       |          |
| 12 | not connected  |   |                |          |
| 13 | Emitter        | } | Supply voltage |          |
| 14 | 10 ... 30 V DC |   |                |          |
| 15 | GND (0V)       | } | Output 3 - 6   |          |
| 16 | Common Emitter |   |                |          |
| 17 | Collector 6    |   |                | Output 6 |
| 18 | Collector 5    |   |                | Output 5 |
| 19 | Collector 4    |   | Output 4       |          |
| 20 | Collector 3    |   | Output 3       |          |

## Assembly



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