



### Model Number

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

LCD batch controller with 2 optocoupler 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
- 2 potential-free optocoupler outputs
- Easy-to-read 2-line LCD display, color, with icons for the displayed preselection 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
- Protection degree 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 Multicolor, backlighted
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 Control/reset inputs: LOCK, RESET, GATE, MPI
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#### 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), difference counting (up.dn), up/down counting (quad), Cumulative counting (up.up), up/down counting x 2 (quad 2), up/down counting x 4 (quad 4), additional functions for counter input A and counter input B: A/B, (A-B)/A x 100%

Frequency counter functions for input A and input B: A, A-B, A+B quad, A/B, (A-B)/A x 100 %

Timer Time measurement via GATE input (FrErun), counter input A: Start, counter input B: Stop (InpA.InpB.), counter input B: Start/Stop (InpB.InpB.), time measuring via RESET input (auto)

#### Output

Sensor supply connected power supply is looped through, max. 80 mA

Response time approx. 1 ms

Optocoupler Schaltleistung 30 V DC / 10 mA

Signal voltage U<sub>CESAT</sub> bei IC = 10 mA: max. 2 V  
U<sub>CESAT</sub> bei IC = 5 mA: max. 0.4 V

#### Ambient conditions

Ambient temperature -20 ... 65 °C (253 ... 338 K)

Storage temperature -25 ... 75 °C (248 ... 348 K)

Relative humidity ≤ 93 % at 40 °C  
(non-condensing)

Altitude 0 ... 2000 m

#### Mechanical specifications

Protection degree IP65 (front)

Mass approx. 130 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

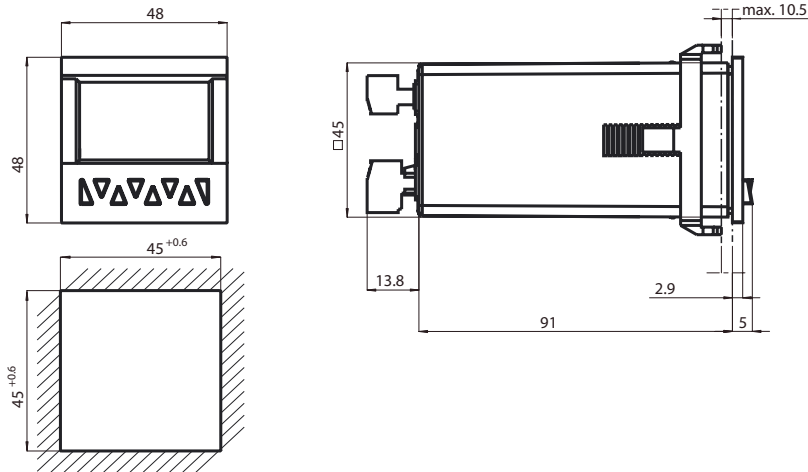
##### Standard conformity

Emitted interference DIN EN 55011:2009, Class B

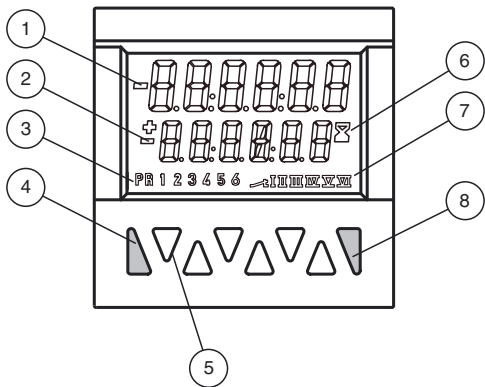
Mech. capacity EN 60068-2-6:2008  
10 ... 55 Hz / 1 mm / XYZ  
30 min in each direction

Shock and impact resistance EN 60068-2-27:1995  
100 G / 2 ms / XYZ  
3 times in each direction

Dimensions

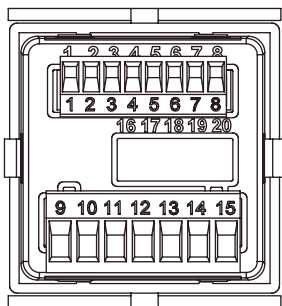


Indicators / Operating means



- 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 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 }
- 14 10 ... 30 V DC } Supply voltage
- 15 GND (0V) }

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