# LED on-site indication, programmable
## Müller Industrie-Elektronik CULO-L CL
## Type series PH1520



### Features

- LED on-site indication suitable for stainless steel field housing Ø 60 mm

- Display: LED with 7-segments, 8 mm high

- Input: 4...20 mA, current loop

- Display range:  -999...9999, freely adjustable

- With 3 keys programmable

- Minimum/Maximum memory

- Digit  (°C / °F, bar, mbar, . . .)

- Encapsulated electronics

### Options

- Explosion protection

### Application

The LED on-site indication is for use in the whole range of measurement technics where the standard signal of 4..20 mA is available. The display can be adjusted continuously, ensuring good readability of the 7-segment LED display from any viewing angle. The 3-button control panel makes it easy to assign display parameters.

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**Case design**
stainless steel with thread M52x1
suitable for LABOM field housing Ø 60 mm
case: material stainless steel
window: Macrolon
degree of protection: IP 67

**Input**
4...20 mA, Ri < 160 Ohm (U < 3.2 V)

**Accuracy**
resolution
· -999...+9999 digit
· ± 0.2 % of measuring range
  ± 1 digit
temperature drift: 100 ppm/K

**Indication**
red LED with 7-segments, 8 mm high
4 digits = indication 9999
overflow/underflow
to HI/to LO
indication time:
0,1s - 1s - 10s (adjustable)
el. connection:
with plug-in connector up to 1.5 mm²
display continuously adjustable

**Ambient conditions**
operating temperature        0...+60 °C
storage temperature         -20...+80 °C

**Programmable features**
· range of indication
· indication time
· unit (inscription as in writing)
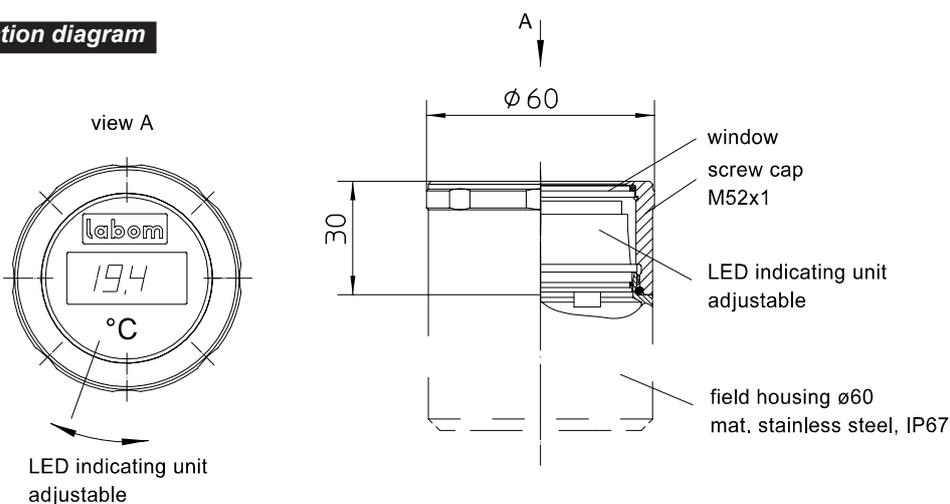  · C, F
  · bar, mbar
others upon request

**Ex-protection**
Müller Industrie-Elektronik CULO-L,
Type series CL1
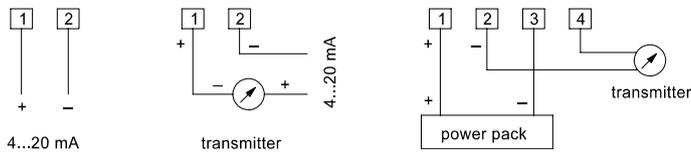ZELM 05 ATEX 0252 X
⟨Ex⟩ II 2G Ex ia IIC T6

**Design**
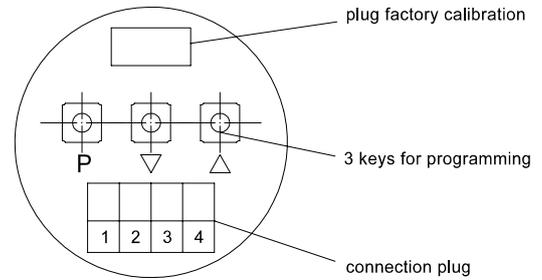The LED on-site indication is suitable for
all LABOM field housings Ø 60 mm.

## Connection diagram



view A

LED indicating unit
adjustable

A

Ø 60

30

window
screw cap
M52x1

LED indicating unit
adjustable

field housing ø60
mat. stainless steel, IP67

4...20 mA    transmitter    power pack    transmitter

plug factory calibration

3 keys for programming

connection plug

## Program table for programming the indicator

| P | description | range | factory set [1] |
|---|---|---|---|
| 0 | Calibration mode<br>0 = sensor calibration (one calibration point can be set)<br>1 = programming of indication (4/20 mA) | 0/1 | 1 |
| 1 | Final value (Programming indicated value at 20 mA, e.g 600) | -999...9999 | 250 |
| 2 | Initial value ( Programming indicated value at 4 mA, e.g. 100) | -999...9999 | 0 |
| 3 | Selection of decimal point or unit<br>(Programming a unit the indication in the display<br>shifts to the left) | 0<br>0.0<br>0.00<br>0.000 | °C |
| 4 | Indication and reading rate in seconds | 0,5...10,0 | 1,0 |
| 5 | Offset base characteristic (the ± range<br>where 0000 is indicated) | 0...100 | 1 |
| 50 | Locking of programming (activating/deactivating<br>locking function for programming) | 0000...9999 | 0000 |
| 51 | Releasing code (definition of release code for the<br>programming locking function under PN50) | 0000...9999 | 0000 |
| 100 | Number of calibration setpoints (calibration points for sensor<br>calibration only, calibration points reduce the measuring rate) | 0...30 | 0 |
| 101...130 | Calibration points | -999...9999 | 0 |

[1] at factory setting

## Programming of indication

1. Connect the instrument according to the wiring diagram.

2. Switch power of the current loop on (current between 4...20 mA). This is followed by an initalisation and a segment test with subsequent switching ot the operation mode.

3. Press the key **P**, indication of program number **P 0**

4. Change the program number by simultaneous pressing of **P** and ▲ -key or **P** and ▼ -key.

5. With the desired program number being chosen, go to the allovated value by pressing the **P**-key.

6. Short pressing of **P** results in a change of digit  erfolgt. The value of the chosen digit is changed by pressing the or ▲ or ▼ .

7. Storing of the new settings is effected by pressing the **P** for approx. 2 sec. This procedure is acknowledged by transversal bars in the display.

8. If no other key is actuated, the unit switches to its operation mode after seven seconds.

**Additional key functions in standard mode for indication of min/max values**

The key ▲ serves for indicating the value of the Max memory in the display for some seconds.
The key ▼ serves for indicating the value of the Min memory in the display for some seconds.
Simultaneous pressing of the ▲ and ▼ keys erases the value of the memory shown in the display.

**Order Details**        - please give additional specifications for models not listed -

| LED on-site indication Müller Industrie-Elektronik CULO-L CL | | | PH1520 | | | |
|---|---|---|---|---|---|---|
| case design | suitable for field housing Ø 60 mm | | | A1 | | |
| programming of indication | not adjusted, without unit on label | | | | F11 | |
| | adjusted (please indicate)<br>initial value<br>final value<br>indication time        standard 1s<br>                    (0,1s - 1s - 10s)<br>display unit        °C  or °F<br>                    bar or mbar<br>                    without<br>                        others upon request | | | | F12 | |

| Additional features (to be indicated if required) | | | | |
|---|---|---|---|---|
| Ex-proof design<br>(Müller Industrie-Elektronik CULO-L CL1) | ⟨Ex⟩II 2G Ex ia IIC T6; ZELM 05 ATEX 0252 X | | S68 | |
| order code (example): | | PH1520 | A1 | F11 | |