

# LCD DISPLAY 4-20 mA ST0028



## DESCRIPTION

ST0028 is an intrinsically safe ATEX and IECEx LCD display, loop powered, that shows, in engineering units, the 4-20 mA loop current value. The instrument is designed to be connected to an "Head-mounted" type transmitter.

ST0028 is self-powered through a small voltage drop on the loop. Using the three buttons, it's possible to modify the main reading parameters and to calibrate the A/D converter. All configuration and calibration values are stored in a non-volatile memory type EEPROM.

The instrument has a bypass connection: it has two inlet terminals and two outlet wires to be connected to the transmitter. ST0028 can be easily installed through three holes.

The buttons are mounted on the back panel but on request they can be supplied on the front panel. The front panel can be supplied in any color and it can feature the customer Logo and any other personalization.

## ELECTRICAL AND PHYSICAL SPECIFICATIONS

- **Connections:** 4 terminals 0.2 - 2.5 mm<sup>2</sup> (AWG 24÷12) + 2 wires
- **Ambient temperature:** -40 / +70 °C. For the Ex i version -20 / +60 °C
- **Storage temperature:** -40 / +80 °C
- **Humidity:** 0 - 90 % non-condensing
- **Inlet signal:** 4-20 mA
- **Operating range:** 3.6 - 22 mA (max 2.5 - 30 mA)
- **Over-load limits:** 3.6 - 22 mA
- **Voltage drop on loop:** max 2.5 V (@ 22 mA)
- **Indication:** LCD display 4 digits, 7 segments h = 12 mm
- **Display:** TN reflective positive; visual angle h 6:00
- **Calibration and programming memory:** non-volatile memory EEPROM
- **Data storage:** 10 years
- **Mounting:** three holes Ø 3.2 mm



## OPERATING SPECIFICATIONS

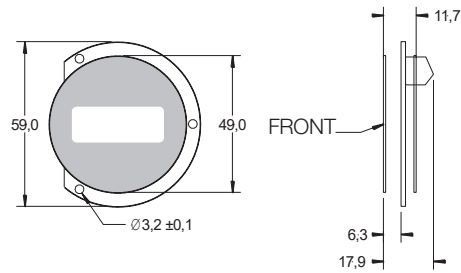
- **Settable values:** zero, full scale, decimal point position
- **Indication range:** -1999 / 9999
- **Settable value:** any included in the indication range
- **Decimal point position:** 0, 1, 2 or 3 decimal digits
- **Applicable reading functions:** filter on reading, over- load limits selection, resolution selection, root extraction
- **Filter setting:** from 1 to 8 averages on reading
- **Update time:** 0.25 - 2 s depending on filter
- **Resolution:** settable from 1 to 10 points
- **Calibration:** zero (4 mA) and full scale (20 mA) values with data storing on EEPROM

## PERFORMANCE

- **Accuracy:** 0.1 % of the selected range ± 1 digit
- **Temperature drift:** 100 ppm/°C
- **EMC:** according to EN61000-6-4 and EN61000-6-2 with correctly installed instrument

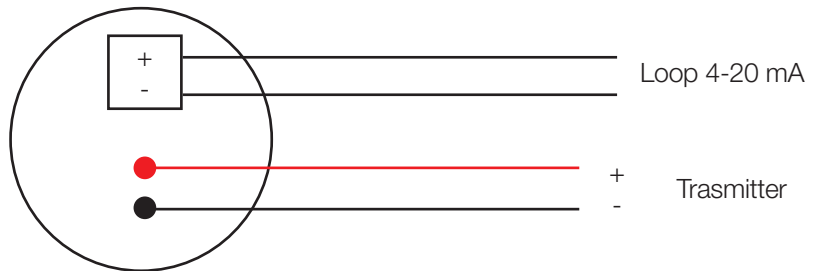
## DIMENSIONS

Dimensions in mm. Tolerance where not indicated:  $\pm 0.2$  mm.  
Installation holes are placed at  $120^\circ$  on a 54 mm diameter.



## WIRING

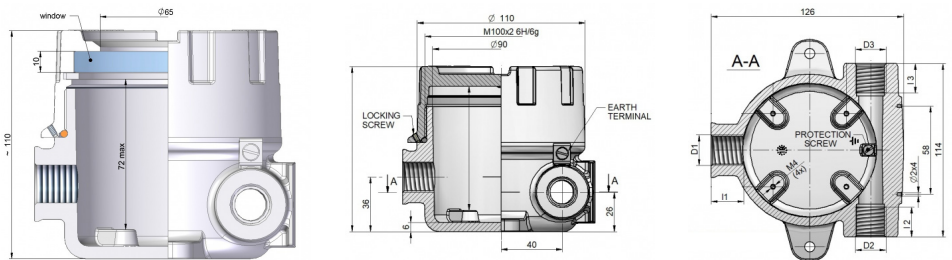
If used without a transmitter, connect the two cable ends between them.



## HOUSING VERSION

If requested, the display can be supplied inside an IP68 die-cast aluminium Ex d enclosure.

- T amb -40 / +85 °C
- Up to three electrical connections
- Certified Exd reductions or cable glands on request



## APPROVALS

When it needs to be installed in an IP54 enclosure or an IP20 enclosure in a pollution degree 2 environment, ST0028 can be supplied with certifications:

- ATEX II 1G Ex ia IIC T5 Ga
- IECEx Ex ia IIC T5 Ga

When installed in an IP66 enclosure:

- ATEX II 1G Ex ia IIC T5 Ga / II 1D Ex ia IIIC T80°C Da
- IECEx Ex ia IIC T5 Ga / Ex ia IIIC T80°C Da

For the explosion-proof enclosure:

- ATEX II 2G Ex db IIC Gb / II 2D Ex tb IIIC Db
- IECEx Ex db IIC Gb / Ex tb IIIC Db



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