

## Characteristics:

### General Description:

The single channel 4 ½ digit Intrinsically Safe 4-20 mA Loop Indicator type T3010S provides process variable reading in Hazardous Area field.

It is a loop powered 4-20 mA unit with less than 1 V voltage drop.

It monitors 4-20 mA current, 0-100 % percentage or process variable between -19999 to +19999 range with a 20 mm height 7-segments LCD display.

Blinking display indicates over range or under range condition.

An internal protected slot-in label is provided, after the last digit, to allow the unit measurement indication. Also loop tag indication can be provided.

The indicator is housed in a moulded reinforced polyamide 66 / polycarbonate IP 66 case to allow installation in field area. It can be mounted on flat surface, front panel or 2" pipe or post. The housing is divided in two parts, one for cable connection and the other for indicator parameters setting.

### Field Configurability:

4 push button provided, protected with a cover, allows the configuration of the indicator parameters: decimal point position, low and high scale indication.

### EMC:

Fully compliant with CE marking applicable requirements.

## Technical Data:

### Input Range:

4 to 20 mA nominal (3 to 22 mA reading).

**Voltage drop:** ≤ 1.0 V, loop powered.

**Over range protection:** ≤ 200 mA without damage.

### Visualization:

4 ½ digit, 20 mm height, 7 segments LCD display.

**Range indication:** -19999 to +19999.

**Decimal point:** any position or disabled.

**Setting:** any value within range, direct or reverse indication.

**Out of range indication:** ≤ 3.5 mA or ≥ 20.5 mA blinking display.

**Engineering value:** internal slot-in label.

**Reading rate:** 2 measures per second.

### Performance:

Ref. conditions 4-20 mA range, 23 ± 1 °C ambient temperature.


**Calibration accuracy:** ≤ ± 5 digit.

**Linearity error:** ≤ ± 3 digit.

**Series mode rejection:** ≤ ± 1 digit for 1 mA peak-peak 50 Hz signal.

**Temperature influence:** ≤ ± 0.2 digit for a 1 °C change.

### Compatibility:

 CE mark compliant, conforms to 94/9/EC Atex Directive and to 2004/108/CE EMC Directive.

### Environmental conditions:

**Operating:** temperature limits -20 to + 60 °C,

relative humidity max 95 % non condensing, up to 35 °C.

**Storage:** temperature limits - 45 to + 80 °C.

### Safety Description:



II 1 G D EEx ia IIC T5/T6 T85°C/100°C IP66, II 3GD EEx nA IIC T5 T100°C IP66 intrinsically safe apparatus.

Ui/Vmax = 30 V, li/lmax = 200/100 mA, Pi/Pi = 850 mW, Ci = 0 µF, Li = 0 µH,

Uo/Voc = 1.2 V, Io/Isc = 81 mA, Po/Po = 25 mW at input terminals.

-20 °C ≤ Ta ≤ 60 °C.

### Approvals:

DNV-2004-OSL-ATEX-0066 conforms to EN50014, EN50020, EN50281-1-1, EN50284, FM & FM-C No. 3024643, 3029921C, conforms to Class 3600, 3610, 3611, 3810 and C22.2 No.142, C22.2 No.157, C22.2 No.213, E60079-0, E60079-11, E60079-15, Russia according to GOST 12.2.007.0-75, R 51330.0-99, R 51330.10-99 [Exia] IIC X.

### Mounting:

flat surface, front panel or 2" pipe/post using appropriate accessories.

**Weight:** about 650 g.

**Connection:** by disconnection of clamp terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup>.

**Location:** Hazardous Area Zone 0 (Zone 20) IIC T5/T6 (T85°C/100°C),

Hazardous Locations Class I, Div. 1, Groups A, B, C, D, T-code T5,

Class I, Zone 0, IIC T5 installation as Intrinsically Safe equipment.

Hazardous Area Zone 2 (Zone 22) IIC T5 (T100°C),

Hazardous Locations Class I, Div. 2, Groups A, B, C, D, T-code T5,

Class I, Zone 2, IIC T5 installation as non-incendive equipment.

**Protection class:** IP 66, panel mounting IP 40 standard or

IP 65 with gasket provided in mounting kit OPT92 or OPT93.

**Dimensions:** Width 144 mm, Depth 61 mm, Height 144 mm.

**Cut-out for panel mounting:** 139 x 139 mm.

## Features:

- Hazardous Area Zone 0 (Zone 20) IIC T5/T6 (T85°C/100°C IP66) for ATEX installation.
- Hazardous Locations Class I, Div. 1, Groups A, B, C, D, T-Code T5, Class I, Zone 0, IIC T5 for FM & FM-C installation.
- Hazardous Area Zone 2 (Zone 22) IIC T5 (T100°C IP66) for ATEX installation as non-incendive equipment.
- Hazardous Locations Class I, Div. 2, Groups A, B, C, D, T-Code T5, Class I, Zone 2, IIC T5 for FM & FM-C as non-incendive equipment.
- 4-20 mA loop powered, voltage drop < 1 V.
- 4 ½ digit 20 mm height LCD display.
- -19999 to +19999 visualization range.
- High Accuracy.
- IP 66 enclosure for field mounting.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- In-field programmability by push-button.
- ATEX, FM & FM-C, Russian Certifications.
- High Reliability, SMD components.

## Ordering Information:

Model:	T3010S	
suitable for flat surface mounting		blank
front panel mounting kit		/OPT92
2" pipe/front panel mounting kit		/OPT93

Images:



Function Diagram:

HAZARDOUS AREA ZONE 0 (ZONE 20) IIC T5/T6 (T85°C/100°C)  
 HAZARDOUS LOCATIONS CLASS I, DIVISION 1, GROUPS A, B, C, D, T-CODE T5  
 CLASS I, ZONE 0, GROUP IIC T5

SAFE AREA/NON HAZARDOUS LOCATIONS

