

# 4 1/2 digit Intrinsic Safety 4-20 mA Loop Indicator Model T3010S

## Characteristics:

### General Description:

The single channel 4 1/2 digit Intrinsic Safety 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-digit 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. The certification as "non energy storing" simple apparatus permits the use into any IS loop without need of further certification.

### Field Configurability:

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

### EMC:

Fully compliant with CE marking applicable requirements.

## Features:

- 4 1/2 digit 20 mm height LCD display.
- -19999 to +19999 visualization range.
- 4-20 mA Loop Powered.
- Voltage drop < 1 V.
- Non energy storing apparatus.
- Hazardous Area Zone 0, IIC T5/T6 installation.
- IP 66 Enclosure for field mounting.
- High Accuracy.
- EMC Compatibility to EN61000-6-2, EN61000-6-4.
- Field programmability by Push-button.
- ATEX Certification.
- High Reliability, SMD components.

## Technical Data:

### Input Range:

4-20 mA nominal (3 to 22 mA reading).  
**Voltage drop:** ≤ 1.0 V, loop powered.  
**Over range protection:** ≤ 200 mA without damage.


### Visualization:

4 1/2 digit, 20 mm height, 7 segment 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 89/336/CEE EMC Directive.

### Environmental conditions:

**Operating:** Temperature limits -20 to + 60 °C,  
relative humidity max 95 % non condensing, up to 35 °C.  
**Storage:** Temperature limits - 40 to + 80 °C.

### Safety Description:

 II 1 G D EEx ia IIC T5/T6 "non energy storing" simple apparatus.  
U<sub>o</sub>/V<sub>oc</sub> ≤ 1.2 V, I<sub>o</sub>/I<sub>sc</sub> ≤ 100 mA, P<sub>o</sub>/P<sub>o</sub> ≤ 25 mW, C<sub>eq</sub>=0, L<sub>eq</sub>=0,  
U<sub>i</sub> ≤ 30 V, I<sub>i</sub> ≤ 200/100 mA, P<sub>i</sub> ≤ 0.85 W at input terminals +1, -2.  
Can be connected into any IS loop without further certification.  
-20 °C ≤ T<sub>a</sub> ≤ 60 °C.

**Approvals:** DNV-2004-OSL-ATEX-0066 conforms to EN50014, EN50020.

### 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 IIC T5/T6 installation.  
**Protection class:** IP 66, panel mounting IP40 standard or IP65 with gasket provided in mounting kit OPT93.  
**Dimensions:** Width 144, Depth 61 mm, Height 144 mm.

## Ordering Information:

<b>Model:</b>	<b>T3010S</b>	
Suitable for flat surface mounting 2" Pipe/Front Panel Mounting Kit		Blank /OPT93



**Function Diagram:**

