

INTRINSIC SAFETY MEASURE TRANSMITTER

for DC current or voltage

TMP-OSI

The **TMP-OSI** has an **intrinsic safety output**:

This is an associated equipment, placed in safe area. Its input can only be connected to a sensor placed in safe area and a standardized output which can go to the hazardous area.

This device has obtained a **UE** examination certificate of the type according to the prescriptions of the standards EN 60079-0 (2006), EN 60079-11 (2007), EN 60079-26 (2007), EN 61241-0 (2006) and EN 61241-11 (2006) in accordance with the directive ATEX 2014/34/UE: marking Ex II(1)GD, [Exia]IIC and [Ex iaD]

• Type:

The **TMP-OSI** is an **insulated measure transmitter** which can convert a DC current or voltage into a standardized 0-20mA, 4-20mA or 0-10V signal for INTRINSIC SAFETY.

• Accessibilities:

- Reduced casing
- Plug-off connectors for screwed connectings
- Internal selection of the input caliber and the type of output by jumpers accessible behind the rear face

• Functions:

- Galvanic insulation:
Output / [input, supply]: 3.8 kV
- broad supply range
- Low response time: 10ms



TMP-OSI

Applications

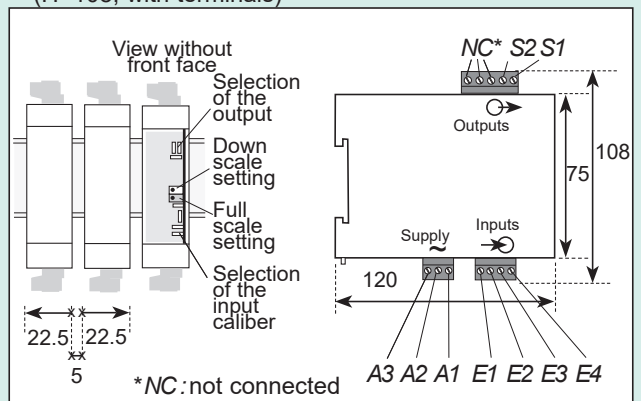
- ♦ IS barrier for analog signals
- ♦ Control of positioners
- ♦ Display, regulation, recording, watching of signals.

Environment

- ♦ Operating temperature : -10°C to +60°C.
- ♦ Storage temperature : -30°C to +80°C.
- ♦ CE according to IEC 61000-6-4, IEC 61000-6-2 (industrial environment).
- ♦ Disturbance immunity according to the standard IEC 61000-6-2 (IEC 61000-4-3 level 3, IEC 61000-4-4 level 4, IEC 61000-4-6 level 3)

Description

- ♦ **Housing:** (H x L x D) 75 x 22.5 x 120 mm (H=108, with terminals)



- ♦ **Protection:** Case / terminals : IP 20
- ♦ **Housing:** Self-extinguishing case of black UL 94V0 ABS, for latching on symmetrical DIN rail (mounts the instruments vertically and provide a 5 mm space between each). Plug-off connectors for screwed connectings (2.5mm², flexible or rigid).
- ♦ **Weight:** 130g (with packaging).

Technical features at 23°C

INPUTS

- Voltage** 9 voltage calibers from +/-100mV to +/-150V
uni or bi-directionnal.
input resistance: 100kΩ for U<1V (terminals E2/E3)
input resistance: 1MΩ for U≥1V (terminals E2/E4)
- Current** 5 current calibers from +/-5mA to 40mA
uni or bi-directionnal
input resistance: 20Ω

- Integrated supply for 2-wire sensor
20V +/-15% (I max.: 25 mA)
- Fine settings by multi-turn potentiometers.
- Possibility to achieve shifted scales.

OUTPUTS



INTRINSIC SAFETY

current 0-20mA, 4-20mA, (Lr* < 650Ω)

Voltage 0-10V (Lr* > 2kΩ)

POWER SUPPLY

- 2 Versions : High or low voltage
(specify on order)
- High voltage** 90...265 VAC 50/60/400 Hz
& 88 ...350 VDC
- Low voltage** 20...40 VAC 50/60/400 Hz
& 20...64 VDC

Power draw : on load < 4 VA (2W)
empty < 3 VA (1.3W)

TRANSFER

- Accuracy rating** : ≤ 0.2
- Ripple** : ≤ 0.5%
- Galvanic partition** : output / [input, supply]
3.8kV eff. 50Hz 1min.
input / supply
2kV eff. 50Hz 1min.

Response time : ≤ 250ms [Tr]

Pass-band : 1.5 Hz (-3 decibels) [Bp = 0.35/Tr]

Temperature coefficient : ≤ 0.015%/°C

OPTIONS

- Shifted or inverted scales.
- Short response time : > 10 ms
- Long response time : < 40 s

*Lr : load resistance

ELECTRICAL PARAMETERS RELATING TO THE INTRINSIC SAFETY

Terminals	Uo (Vdc)	Io (mA dc)	Po (mW)	Lo (mH)	Co (μF)
S1, S2	24.1	105	640	3	0.120

Um < 375 Vdc and Um < 265 Vac

Coding

TMP-OSI

Supply: High or low voltage (specify)

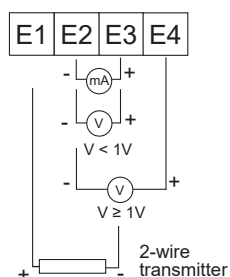
- (2) high voltage : 90...265 VAC or 88...350 VDC
(3) low voltage : 20...40 VAC or 20...64 VDC

Order example:

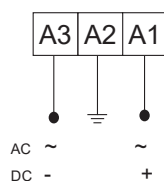
For a **TMP-OSI** supplied in 230 V / 50Hz,
request reference: **TMP-OSI 2**

Wiring

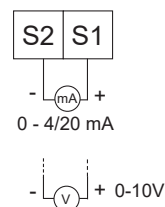
Entrées



Power supply



INTRINSIC SAFETY current or voltage output



This appliance is dedicated to industrial applications. It has to be mounted in an electrical switchbox, or equivalent.



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