

Temperature probe with embedded transmitter interchangeable with M12 connector

SPM12-TR18

LOREME

• **SPM12-TR18:** Assembly of PT100 probe and 4...20mA transmitter

• **TR18:** Transmitter alone

- PT100 input, 3 or 4 wires (4 pins female M12)
- Loop powered
- M12 male 4 pins or 5 pins compatible
- Configurable measure range (via USB link)

• **SPM12:** Temperature probe alone

- All version to define:
straight, screw connection, with cable, ...
- Connection with 4 pins M12 male.



The assembly SPM12 - TR18 form a temperature sensor transmitter with a M12 connection. Each element remains interchangeable quickly to facilitate the maintenance and reduce costs. The transmitter is configurable with an USB-rs232 link. This allowing to manage only one model.

Description of SPM12 temperature probe:

The SPM12 series probes are designed for temperature measurement in low cost application. Equipped with a mechanically welded protection sheath, there are suitable for wide use of industrial applications. There can have direct output or a 4...20mA output signal.

- Wiring

IP67 4 pins M12 male connector

- Measure elements

PT100, PT1000 single or double vibrated, glued and waterproof

2, 3 or 4 wires mounting or 2x2 wires

(3 wires PT100 mounting if TR18 transmitter)

PT100 element class A, B, 1/3 or 1/10 class B

- mounting

1/2 G cyl. stainless steel connector welded on sheath

Sliding connection (RC)

Straight pipe (R0)

Welded or sliding flange

other connection type on request

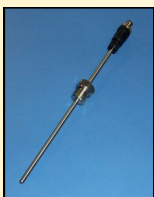
- protective sheath

Stainless steel 316 L 6mm diameter, 0.4mm wall thickness

Useful length (including threading): 20 ... 500 mm

Operating temperature : -50 ... +600°C

The operating temperature for the transmitter should be under the 85°C limit, if needing, remote the transmitter with a M12 cable.



Description of TR18 transmitter:

- PT100 sensor measurement
- 3 wires mounting element or 4 wires (TR18 -4F)

Sensor correction / signal treatment:

- Linearization and line resistance compensation
- Security value programmable if sensor breaking detection
- Response time programmable from 0.2 to 60sec (Measure variations filtering)
- Output normal or reverse
- Measure offset adjustment
- neutralization of thermal environment variation effects

Features / Mounting and wiring:

- stainless steel enclosure. 18 mm diameter, electronic recover of silicon resin
- Wiring on IP67 M12 connector
- protected against reverse polarity

Performance / Environment

- Long term stability 0.1 %/year
- Operating temperature: up to 85 °C
- Great EMC performance (full shielding)
- Resistant, protected against shock and vibration (conformal coating)

Configuration:

- Configurable with USB - M12 specific cable available separately (terminal mode, without specific software)



TR18

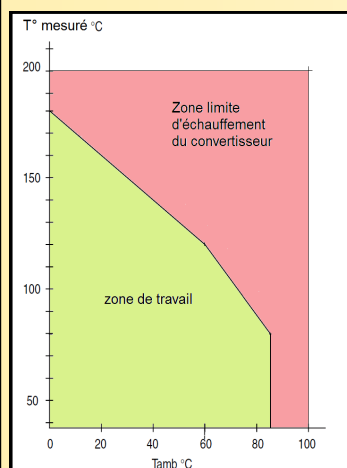


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Order code											
SP	M12	-	TR18	Ti 100	ER	-	RS	/	L 150	/	D 6
Platinum	Model		Optional	Extension length	If		Connection type		Useful length		external sheath
probe				(Intermediate pipe)	Reduced		RS : welded connection (standard)		(mm)		iamètre
			transmitter	(mm)	extremity		R0: no connection				diameter
			4..20mA	Optional			RCi: stainless steel sliding connection				
			Input				BS : welded flange				6mm (standard)
			3 or 4 wires				Bjpc : JPC flange				optional
							RT:turning connection				

Technical characteristics for SPM12 (6mm diameter)

- Maximal operating temperature : 600°C
- Response time (version with standard extremity)
(average value, for indication only)
 - in water, 0,4 m/s : $t_{0,5} = 5 \text{ s}$ $t_{0,9} = 12 \text{ s}$
 - in air, 3,0 m/s : $t_{0,5} = 40 \text{ s}$ $t_{0,9} = 110 \text{ s}$
- Response time (version with reduced extremity)
(average value, for indication only)
 - in water, 0,4 m/s : $t_{0,5} = 2 \text{ s}$ $t_{0,9} = 5 \text{ s}$
 - in air, 3,0 m/s : $t_{0,5} = 21 \text{ s}$ $t_{0,9} = 70 \text{ s}$
- Dielectric strength : 500Vdc
- Insulation resistance : > 200Mohms
- pressure holding : 50bar typical (at ambient temperature)

Operating limits for transmitter**Mounting accessories****INPUT**

TYPE	RANGE	ACCURACY
PT100, 3 wires:	-200 ... 600°C	+/- 0.25°C
PT100, 4 wires:	-200 ... 600°C	+/- 0.1°C

Line influence : 0.3°C / 10ohms
 response time : ~200msec
 measure rate: 6 per seconde

POWER SUPPLY / OUTPUT (14bits resolution)

TYPE	RANGE	ACCURACY
current output	4...20mA	+/- 0.01mA
electronic consumption	< 3.6mA	
security value :	3.6 ... 23mA	
Power supply	9 ... 40Vdc (2 wires technology)	
Load (under 24Vdc)	750 Ohms	
Supply voltage influence :	0.002% / V	
Load influence :	0.004% / 100 ohms	

ENVIRONMENT

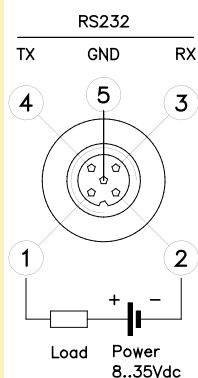
Operating temperature : -20 to +85 °C
 Storage temperature : -30 to +85 °C
 humidity : 100 %
 Thermal Influence : < 0.01% / °C
 weight : ~ 100 g

Compatibilité électromagnétiqueNormes génériques: **NFEN50081-2 / NFEN50082-2**

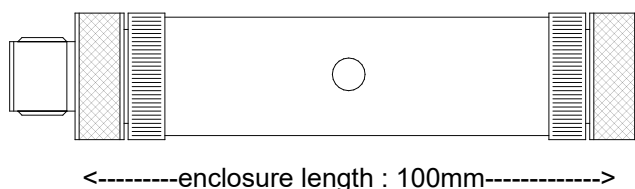
EN55011	satisfait	groupe 1 / classe A	
EN61000-4-2	sans influence	B	ENV50140 < +/- 5 %
EN61000-4-4	< +/- 5 %	B	ENV50141 < +/- 10 %
EN61000-4-5	< +/- 5 %	B	ENV50204 sans influence
EN61000-4-8	sans influence	A	
EN61000-4-11	< +/- 5 %	B	DBT 73/23/CEE

**WIRING AND OUTLINE DIMENSIONS:**

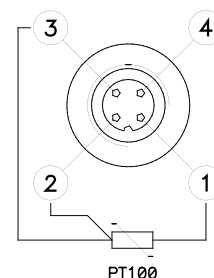
M12 / 5 points Male compatible 4 points



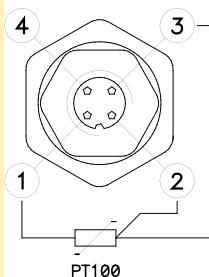
TR18



M12 4 points femelle



M12 4 points Male



SPM12

