Temperature sensor IO3

With integrated IO-Link transmitter // -50...120 °C // -58...248 °F



IO3

IO-Link inside

Highlights

- Designed for measuring the temperature of cooling water, lubricating and hydraulic oil in machines and systems
- Multi-talent → Communication via IO-Link, integrated analogue and switching output
- Miniature design → Mounting even in limited space conditions
- Efficient control due to very short response times
- Simple connection with standardized M12 connector and unshielded connection cable → significant cost and time savings
- Remote access to sensor parameters → Easy configuration, easy setup, fast sensor replacement
- IO-Link transmits data purely digital → Exact, no conversion failures, interference proof
- Digital point-to-point communication, can be integrated into almost any infrastructure of fieldbus and control systems → Independent of controller and fieldbus
- Diagnostics including remote diagnostics down to the field device level → Ensuring higher plant uptime

Technical data		
Type	Temperature sensor with integrated IO-Link transmitter	
Measuring range	-50…120 °C	-58...248 °F
Measuring medium	Water and aqueous liquids, non-aggressive gases	
Immersion tube length	13 or 24 mm	0.512 or 0.945"
Immersion tube diameter	3 mm	0.118"
Process connection	G⅛	
Nominal pressure	PN 100	
Medium temperature	-50...120 °C	-58...248 °F
Ambient temperature	-40...80 °C	-40...176 °F
Storage temperature	-40...80 °C	-40...176 °F
Degree of protection according to EN 60529	IP67	

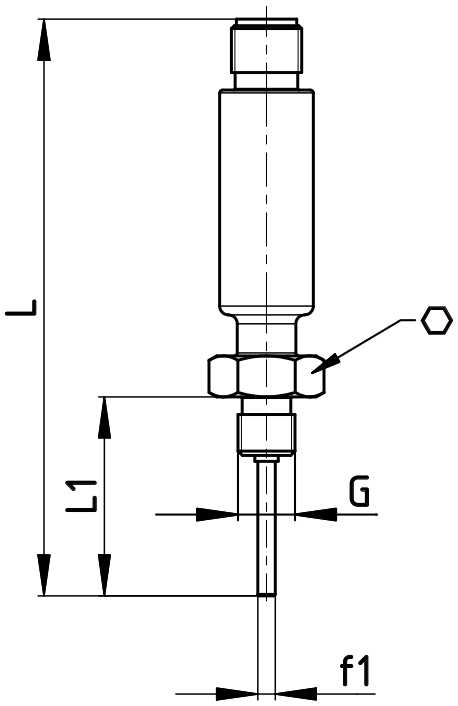
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Electrical data

Electrical data		
Measuring element	1 x Pt100 / Class A	
Measuring insert	Not interchangeable	
Accuracy	Max. ±0.02% of range + measuring element error	
Electrical connection	Flange plug M12 x 1, 4-pole	
Supply voltage	15...30 VDC	
Output		
Output 1	IO-Link or switching output	
Output 2	Analogue output	
IO-Link		
Communication interface	IO-Link	
Data transfer rate	COM2 (38.4 kBaud)	
IO-Link specification	V1.1	
Analogue output		
Current output	4...20 mA	
Load	≤ [(Vsupply - 10V) / 21 mA] kΩ	
Accuracy	(Lin. + Hys. + Rep.) ± 0.3 K	
Repeatability	0.1 K	
Switching output		
Communication interface	IO-Link	
Output function	Normally closed/normally open programmable, PNP/NPN	
Switching point accuracy	± 0.3 K	
Rated operational current	0.15 A	
Switching cycles	≥ 100 Mio.	
Reset point	-210...640 °C	-346...1184 °F
Switching point	-200...650 °C	-328...1202 °F

Dimensions // Materials

IO3

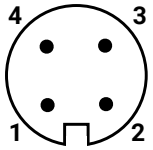


Dimensions [mm]				
Type	**L1**	**f1**	**G**	⬡
IO3	13 or 24	Ø 3	G⅛	17

Dimensions [inch]				
Type	**L1**	**f1**	**G**	⬡
IO3	0.512 or 0.945"	Ø 0.118"	G⅛	0.670

Materials	
Not in contact with media	
Connection head	Stainless steel 1.4404
In contact with media	
Process connection	Stainless steel 1.4404
Protection tube	Stainless steel 1.4404

Pin assignment



Pin 1: L+ (24 VDC) / 4...20 mA (Pin 1 and 2)
Pin 2: - (GND current loop)
Pin 3: L- (GND)
Pin 4: Communication signal (C/Q) / OUT

Article numbers

Order code								
Type								
Resistance thermometer	W							
Diameter f1								
3 mm (0.118")		03						
Material								
Stainless steel 1.4404			0					
Sensor element								
1 x Pt100 / Class A				A41				
Immersion tube length L1								
13 mm (0.512") 24 mm (0.945")					013 024			
Measuring insert								
Not interchangeable						0		
Electrical connection								
Flange plug M12 x 1 with IO-Link transmitter							RI	
Process connection G								
G⅛								M
Example order number	**W**	**03**	**0**	**A41**	**013**	**0**	**RI**	**M**

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