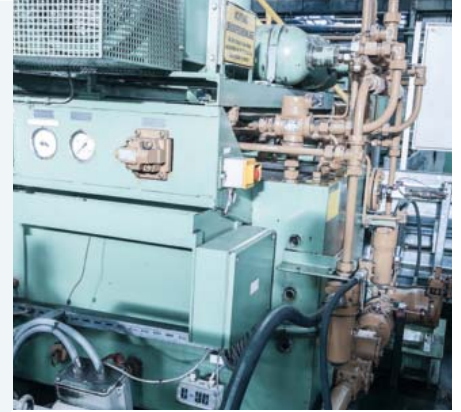




Process sensors

TN sensor with integrated process connection and evaluation electronics



Temperature sensors



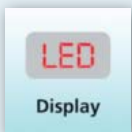
Measuring range of $-50...150\text{ }^{\circ}\text{C}$,
response time $T05 / T09 = 1\text{ s} / 3\text{ s}$.

Clearly indicates the acceptable ranges: programmable red / green display

Integrated process connections:
G 1/2, G 1/4, 1/2 NPT, 1/4 NPT,
M18 x 1.5

2 switching outputs or
1 switching and 1 analogue
output (4...20 mA or 0...10 V)

Visualisation of the switching
states by clearly visible LEDs



Extremely fast, robust and flexible

The compact TN type temperature sensors are distinguished by excellent response times, high pressure resistance and integrated process connections. The sensors easily resist applications with temperatures up to $150\text{ }^{\circ}\text{C}$ and high pressure loads up to 400 bar. The measuring range is freely scalable.

Updating a classic

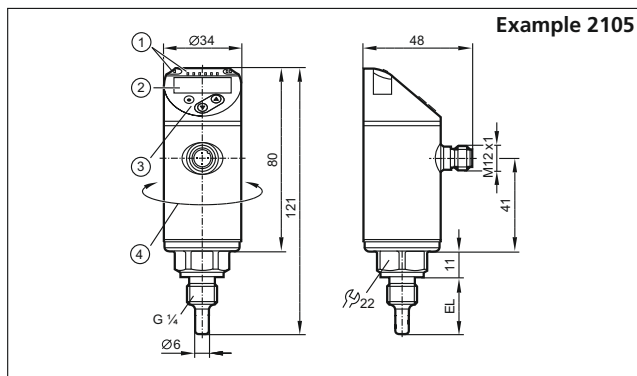
What is new is the quick and easy handling via three pushbuttons. The display can be switched from the indication of "red" to an alternating indication of "red - green".

So, switching states can be highlighted or an independent colour window can be created. The sensor head can be rotated and offers optimum readability from any position. Thanks to captive laser labelling on the stainless steel housing, the units can still be identified after years.



Process connection	Pressure resistance [bar]	Installation length [mm]	Measuring range [°C]	Factory setting [°C]	Order no.
Output function 1 x NO / NC programmable · 1 x analogue output 4...20 mA or 0...10 V programmable					
M18 x 1.5 l	300	45	-50...150	-40...150	TN2511
Output function 2 x NO / NC programmable					
M18 x 1.5 l	300	45	-50...150	-40...150	TN7511
Output function 2 x NO / NC programmable or 1 x NO / NC + 1 x analogue (4...20 mA / 0...10 V; scalable)					
G 1/2	300	30	-50...150	-50...150	TN2405
G 1/2	300	50	-50...150	-50...150	TN2415
G 1/2	160	100	-50...150	-50...150	TN2435
G 1/2	160	150	-50...150	-50...150	TN2445
1/2" NPT	300	30	-50...150	-50...150	TN2303
1/2" NPT	300	50	-50...150	-50...150	TN2313
1/2" NPT	160	100	-50...150	-50...150	TN2333
1/2" NPT	160	150	-50...150	-50...150	TN2343
G 1/4	400	25	-50...150	-50...150	TN2105
G 1/4	400	50	-50...150	-50...150	TN2115
1/4" NPT	400	25	-50...150	-50...150	TN2603
1/4" NPT	400	50	-50...150	-50...150	TN2613

Dimensions



1) LEDs (display unit / switching status), 2) 4-digit alphanumeric display / alternating indication of red and green, 3) Programming buttons, 4) Upper part of the housing can be rotated by 345°

Accessories

Type	Description	Order no.
	Protective cover for fluid sensors with M12 connector, polypropylene homopolymer	E30420
	Adapter, M18 x 1.5 - G 1/2 High-grade stainless steel (316L/1.4404)	E40096
	Thermowell for temperature sensors, Ø 6 mm, high-grade stainless steel (316L/1.4404)	E37610

Further technical data

Operating voltage	[V]	18...32 DC
Current rating	[mA]	250
Accuracy	[K]	± 0.3 + (± 0.1 % MS)
Response dynamics T05 / T09	[s]	1 / 3
Resolution display	[K]	0.1
Electrical design		PNP / NPN
Protection		IP 67
Communication interface		IO-Link

IO-Link accessories

Type	Description	Order no.
	USB IO-Link master for parameter setting and analysis of units Supported communication protocols: IO-Link (4.8, 38.4 and 230 Kbits/s)	E30390
	IO-Link interface for parameter setting and analysis of units with DTM specification, current consumption from USB port: max. 500 mA	E30396
	Memory plug, parameter memory for IO-Link sensors	E30398
	LR DEVICE (supplied on USB flash drive) Software for online and offline parameter setting of IO-Link sensors and actuators	QA0011