

# Modern classic: new TN temperature sensor



## Now with integrated process connections and evaluation electronics

- Measuring range of -50...150 °C, response time T05 / T09 = 1s / 3s.
- 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 °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.

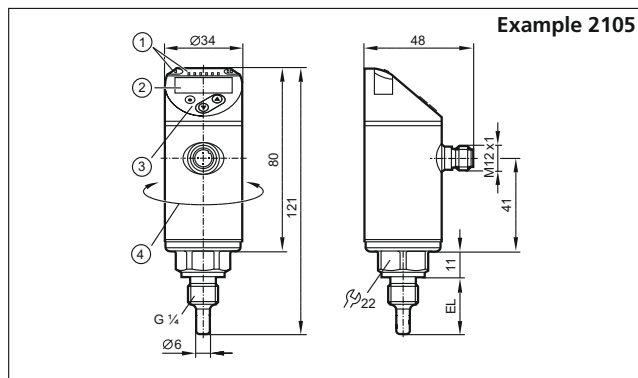
### Savings potential

Evaluation electronics and integrated process connections in one unit do not require complex documentation and save storage cost.






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

**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	<b>E30420</b>
	Adapter, M18 x 1.5 - G 1/2 High-grade stainless steel (316L/1.4404)	<b>E40096</b>
	Thermowell for temperature sensors, Ø 6 mm, high-grade stainless steel (316L/1.4404)	<b>E37610</b>

**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)	<b>E30390</b>
	IO-Link interface for parameter setting and analysis of units with DTM specification, current consumption from USB port: max. 500 mA	<b>E30396</b>
	Memory plug, parameter memory for IO-Link sensors	<b>E30398</b>
	LINERECORDER SENSOR, software for parameter setting and setting up IO-Link sensors	<b>QA0001</b>

ifm article no. 78001883 · We reserve the right to make technical alterations without prior notice. · 04/2016