



# TBS-1DSGT2506NE

TBS

TEMPERATURE SENSORS

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Model name	Part no.
TBS-1DSGT2506NE	6048684

Other models and accessories → [www.sick.de/TBS](http://www.sick.de/TBS)

### Detailed technical data

#### Features

<b>Measuring range</b>	-20 °C ... +80 °C
<b>Sensor element</b>	Pt1000, 2-wire, class A according to IEC 60751
<b>Output signals</b>	2 x PNP + 4 mA ... 20 mA
<b>Switching output</b>	Transistor
<b>Switching output function</b>	Normally open/normally closed, windows- and hysteresis function freely adjustable
<b>Switching voltage</b>	Supply voltage [V DC] - 1 V DC
<b>Maximum switching current</b>	≤ 250 mA
<b>Switching delay</b>	0 s ... 50 s, programmable
<b>Setting accuracy of switching outputs</b>	+0.1 °C
Number	2
Function	Normally open/normally closed, windows- and hysteresis function freely adjustable
Switching voltage	Supply voltage [V DC] - 1 V DC
Maximum switching current	≤ 250 mA
Switching delay	0 s ... 50 s, programmable
Setting accuracy of switching outputs	+0.1 °C
<b>Temperature offset</b>	± 3 °C
<b>Scaling of measuring range</b>	Zero point: max. +25 % of span Full scale: max. -25 % of span Max. +25 % of span, max. -25 % of span
<b>Display</b>	14-segment LED, blue, 4-digits, height 9 mm, Display electronically turnable by 180 °, update: 200 ms
<b>Rotatable housing</b>	Display against housing with electrical connection: 330 ° Housing against process connection: 320 °

#### Performance

<b>Accuracy of sensor element</b>	≤ ± (0.15 °C + 0.002  t ) <sup>1)</sup>
<b>Accuracy of switching output</b>	≤ ± 0.8 % of span
<b>Display accuracy</b>	≤ ± 0.8 % of span ± 1 digit
<b>Accuracy of analog output</b>	≤ ± 0.5 % of span

<sup>1)</sup> |t| is the absolute value of the temperature in °C.

<sup>2)</sup> Depending on sensor configuration, according to IEC 60751.

<b>Response time <math>t_{50}</math></b>	$\leq 5 \text{ s}^{2)}$
<b>Response time <math>t_{90}</math></b>	$\leq 10 \text{ s}^{2)}$

1)  $|t|$  is the absolute value of the temperature in °C.

2) Depending on sensor configuration, according to IEC 60751.

## Mechanics/electronics

<b>Process connection</b>	Thread G ½ A according to DIN 3852-E
<b>Insertion length/diameter of probe</b>	250 mm / 6 mm
<b>Seal</b>	NBR
<b>Wetted parts</b>	Stainless steel 1.4571 (AISI 316Ti)
<b>Maximum process pressure</b>	$\leq 150 \text{ bar}^{1)}$
<b>Housing material</b>	Lower body: stainless steel 1.4301 (AISI 304) Plastic head: PC + ABS Input keypad: TPE-E Display window: PC
<b>Enclosure rating</b>	IP 65 (according to IEC 60529) <sup>2)</sup> IP 67 (according to IEC 60529) <sup>2)</sup>
<b>Electrical connection</b>	Round connector M12 x 1, 5-pin
<b>Maximum ohmic load <math>R_A</math></b>	$\leq 100 \text{ k}\Omega$ (Switching outputs) $< 0.5 \text{ k}\Omega$ (output signal 4 mA ... 20 mA)
<b>Supply voltage</b>	15 V DC ... 35 V DC
<b>Maximum current consumption</b>	70 mA
<b>Total current consumption</b>	570 mA (incl. switching current) 320 mA
<b>Protection class</b>	III
<b>Isolation voltage</b>	500 V DC
<b>Overvoltage protection</b>	40 V DC
<b>Short-circuit protection</b>	Outputs $Q_A, Q_1, Q_2$ towards M
<b>Reverse polarity protection</b>	$L^+$ towards M
<b>Electrical safety</b>	
Protection class	III
Isolation voltage	500 V DC
Overvoltage protection	40 V DC
Short-circuit protection	Outputs $Q_A, Q_1, Q_2$ towards M
<b>Reverse polarity protection</b>	$L^+$ towards M
<b>CE-conformity</b>	2004/108/EC, EN 61326-1 emission (group 1, class B) and interference immunity (industrial application)
<b>RoHS certificate</b>	✓

1) At room temperature and when connected through thread.

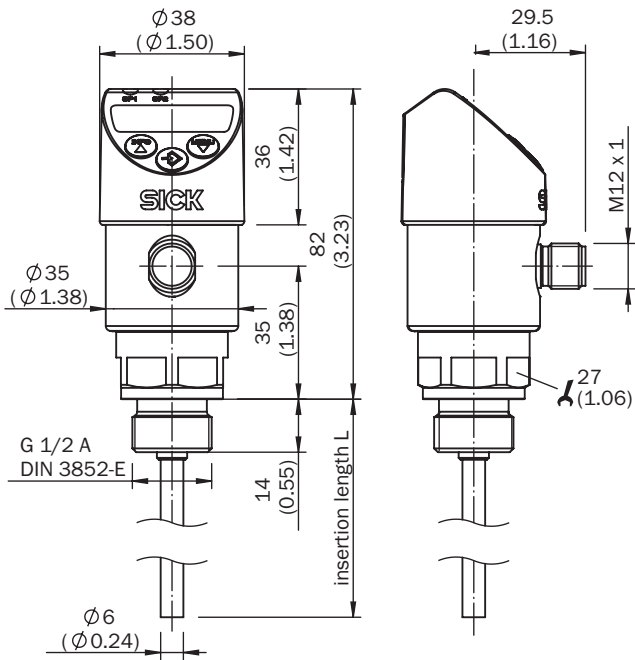
2) The enclosure rating classes specified only apply while the thermometer is connected with female connectors that provide the corresponding enclosure rating.

## Ambient data

<b>Ambient temperature</b>	-20 °C ... +80 °C
<b>Storage and transport temperature</b>	-20 °C ... +80 °C
<b>Relative humidity</b>	45 % ... 75 %

### Dimensional drawing (Dimensions in mm (inch))

TBS with connection G 1/2 A according to DIN 3852-E



### Connection type



- ① L+
- ② Q<sub>2</sub>
- ③ M
- ④ Q<sub>1</sub>
- ⑤ Q<sub>A</sub>

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