



TBS-1DSG12506NE

TBS

TEMPERATURE SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Model name	Part no.
TBS-1DSG12506NE	6048680

Other models and accessories → www.sick.de/TBS

Detailed technical data

Features

Measuring range	-20 °C ... +80 °C
Sensor element	Pt1000, 2-wire, class A according to IEC 60751
Output signals	2 x PNP + 4 mA ... 20 mA
Switching output	Transistor
Switching output 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
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
Temperature offset	± 3 °C
Scaling of measuring range	Zero point: max. +25 % of span Full scale: max. -25 % of span Max. +25 % of span, max. -25 % of span
Display	14-segment LED, blue, 4-digits, height 9 mm, Display electronically turnable by 180 °, update: 200 ms
Rotatable housing	Display against housing with electrical connection: 330 ° Housing against process connection: 320 °

Performance

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

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

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

Response time t_{50}	$\leq 5 \text{ s}^{2)}$
Response time t_{90}	$\leq 10 \text{ s}^{2)}$

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

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

Mechanics/electronics

Process connection	Thread G ¼ A according to DIN 3852-E
Insertion length/diameter of probe	250 mm / 6 mm
Seal	NBR
Wetted parts	Stainless steel 1.4571 (AISI 316Ti)
Maximum process pressure	$\leq 150 \text{ bar}^{1)}$
Housing material	Lower body: stainless steel 1.4301 (AISI 304) Plastic head: PC + ABS Input keypad: TPE-E Display window: PC
Enclosure rating	IP 65 (according to IEC 60529) ²⁾ IP 67 (according to IEC 60529) ²⁾
Electrical connection	Round connector M12 x 1, 5-pin
Maximum ohmic load R_A	$\leq 100 \text{ k}\Omega$ (Switching outputs) $< 0.5 \text{ k}\Omega$ (output signal 4 mA ... 20 mA)
Supply voltage	15 V DC ... 35 V DC
Maximum current consumption	70 mA
Total current consumption	570 mA (incl. switching current) 320 mA
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
Reverse polarity protection	L^+ towards M
Electrical safety	
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
Reverse polarity protection	L^+ towards M
CE-conformity	2004/108/EC, EN 61326-1 emission (group 1, class B) and interference immunity (industrial application)
RoHS certificate	✓

1) At room temperature and when connected through thread.

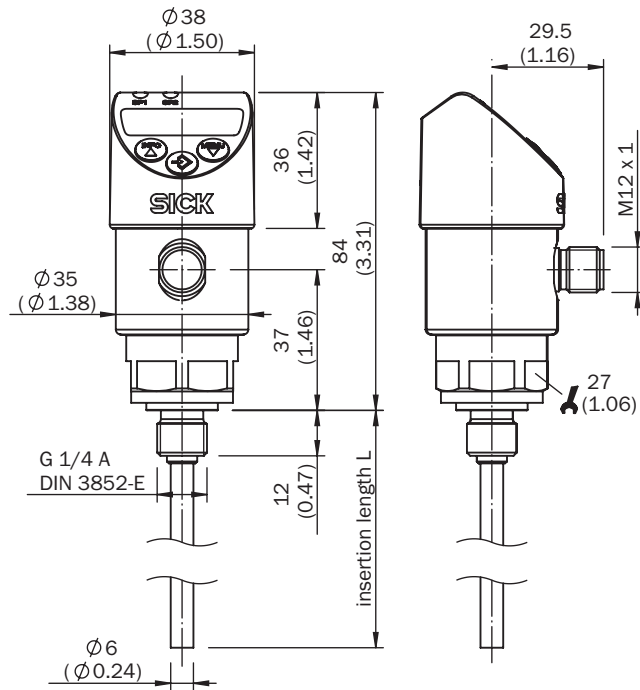
2) The enclosure rating classes specified only apply while the thermometer is connected with female connectors that provide the corresponding enclosure rating.

Ambient data

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

Dimensional drawing (Dimensions in mm (inch))

TBS with connection G 1/4 A according to DIN 3852-E





Connection type





- ① L+
- ② Q₂
- ③ M
- ④ Q₁
- ⑤ Q_A

Recommended accessories

Other models and accessories → www.sick.de/TBS

	Brief description	Model name	Part no.
Plug connectors and cables			
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 2 m	DOL-1205-G02M	6008899
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 2 m	DOL-1205-G02MC	6025906

	Brief description	Model name	Part no.
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PVC, unshielded, 5 m	DOL-1205-G05M	6009868
	Head A: female connector, M12, 5-pin, straight Head B: cable Cable: drag chain use, PUR, halogen-free, unshielded, 5 m	DOL-1205-G05MC	6025907

Australia

Phone +61 3 9457 0600
1800 33 48 02 - tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail marketing@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Česká republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 5309 2112
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederland

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail sick@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail sales.gsg@sick.com

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 - tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com