



THTL-1AAAB0424MZ

THTL

TEMPERATURE SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
THTL-1AAAB0424MZ	6047649

Other models and accessories → www.sick.com/THTL

Detailed technical data

Features

Measuring range	-50 °C ... +150 °C
Sensor element	Pt1000
Output signal	4 mA ... 20 mA, 2-wire
Maximum ohmic load R_A	$R_A \leq (L^+ - 10 \text{ V}) / 0.023 \text{ A [Ohm]}$

Mechanics/electronics

Communication interface	-
Process connection	Angled pipe (DIN EN ISO 1127 and DIN 11866), row B, for welding
Seal	Without seal
Nominal width	DN 42.4
Wetted parts	Stainless steel 1.4435 / 316L, $R_a \leq 0.8 \mu\text{m}$
Maximum process pressure	$\leq 25 \text{ bar}^{1)}$
Pressure resistance	Max. 25 bar at room temperature
Housing material	Stainless steel (CrNi)
Connection type	M12 round connector x 1, 4-pin ²⁾
Enclosure rating	IP67 ³⁾ IP69 ³⁾
Supply voltage	10 V DC ... 35 V DC
Maximum current consumption	Approx. 30 mA
Electrical safety	Protection class: III, dielectric strength: 500 V AC, Reverse polarity protection: L^+ to M
Protection class III	✓
CE-conformity	2004/108/EC, EN 61326-2-3
Initialization time	Max. 4 s

¹⁾ Pressure resistance at room temperature.

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

³⁾ IP enclosure rating as per IEC 60529.

Performance

Accuracy of sensor element	Class A according to IEC 60751 ¹⁾
Transmitter accuracy	± 0,25 K
Response time	$t_{50} \leq 3.2 \text{ s}$ ²⁾ $t_{90} \leq 9.1 \text{ s}$ ²⁾

¹⁾ Class B (measuring range -50 °C ... -30 °C).

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

Ambient data

Ambient temperature	-40 °C ... +85 °C
Storage and transport temperature	-40 °C ... +85 °C
Shock resistance	50 g, 6ms (according to IEC 60068-2-27)
Relative humidity	≤ 100 % ¹⁾

¹⁾ Condensation allowed.

Certificates

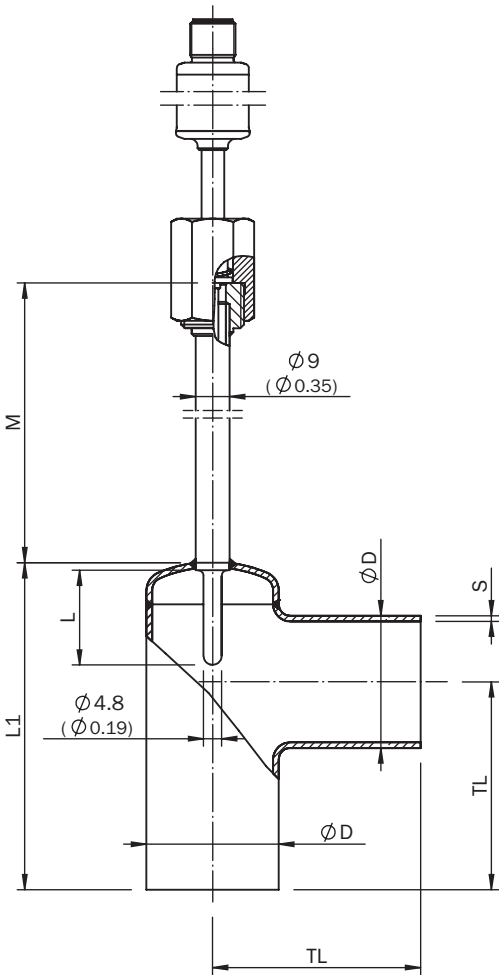
EU declaration of conformity	✓
China RoHS	✓

Classifications

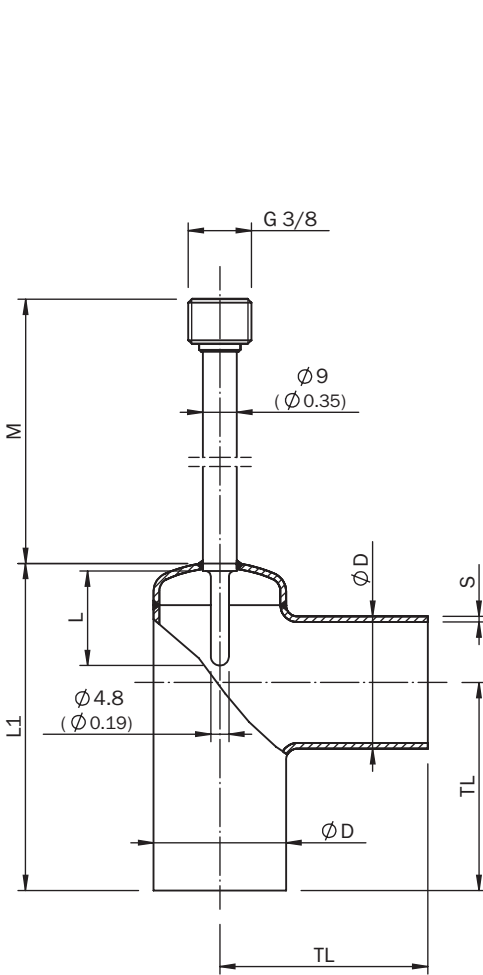
ECLASS 5.0	27200208
ECLASS 5.1.4	27200208
ECLASS 6.0	27200208
ECLASS 6.2	27200208
ECLASS 7.0	27200208
ECLASS 8.0	27200208
ECLASS 8.1	27200208
ECLASS 9.0	27200208
ECLASS 10.0	27200208
ECLASS 11.0	27200208
ECLASS 12.0	27200208
ETIM 5.0	EC002994
ETIM 6.0	EC002994
ETIM 7.0	EC002994
ETIM 8.0	EC002994
UNSPSC 16.0901	41112211

Dimensional drawing

Complete assembly



Protection tube with process connenction



Design		Ø D	s	TL	L1	L	M
Angled pipe	NW 17.2	17.2 (0.68)	1.6 (0.63)	34.0 (13.39)	55.0 (21.65)	16.0 (6.30)	41.0 (16.14)
	NW 21.3	21.3 (0.84)	1.6 (0.63)	36.0 (14.17)	58.0 (22.83)	18.0 (7.09)	39.0 (15.35)
	NW 26.9	26.9 (1.06)	1.6 (0.63)	55.0 (21.65)	81.0 (31.89)	30.0 (11.81)	27.0 (10.63)
	NW 42.4	42.4 (1.17)	2.0 (0.79)	65.0 (25.59)	102.0 (40.16)	30.0 (11.81)	27.0 (10.63)

Dimensions in mm (inch)

Application



Connection type Plug M12 x 1, output signal 4 mA ... 20 mA



Recommended accessories

Other models and accessories → www.sick.com/THTL

	Brief description	Type	part no.
connectors and cables			
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-020UB3XLEAX	2095607
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-100UB3XLEAX	2095609
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-020UB3XLEAX	2095766
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-050UB3XLEAX	2095767
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-100UB3XLEAX	2095768
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YF2A14-020VB3XLEAX	2096234
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YF2A14-050VB3XLEAX	2096235
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Untaminated zones	YF2A14-100VB3XLEAX	2096236
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 15 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded	YF2A14-150VB3XLEAX	2096237

	Brief description	Type	part no.
	Application: Zones with chemicals, Uncontaminated zones Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-020VB3XLEAX	2095895
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-050VB3XLEAX	2095897
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-100VB3XLEAX	2095898
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-C60UB3XLEAX	2145654
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3XLEAX	2145655
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-030UB3XLEAX	2145656
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-C60UB3XLEAX	2145657
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-010UB3XLEAX	2145658
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-C60VB3XLEAX	2145709
	Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals, Uncontaminated zones	YG2A14-010VB3XLEAX	2145710
	Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PVC Description: Sensor/actuator cable, unshielded	YF2A14-C60VB3XLEAX	2145707

	Brief description	Type	part no.
	• Application: Zones with chemicals, Uncontaminated zones • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 1 m, 4-wire, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals, Uncontaminated zones	YF2A14-010VB3XLEAX	2145708

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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For us, that is “Sensor Intelligence.”

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