



THTL-1PAAB0213MZ

THTL

TEMPERATURE SENSORS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
THTL-1PAAB0213MZ	6047644

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

Detailed technical data

Features

Measuring range	-50 °C ... +150 °C
Sensor element	Pt100
Output signal	Pt100, 4-wire

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 21.3
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⁾
Measuring current	0.1 mA ... 1 mA
Electrical safety	Protection class: III, dielectric strength: 500 V AC
Protection class III	✓
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	$\pm 0,25 \text{ K}$
Response time	$t_{50} \leq 3.2 \text{ s}^2$

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

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

$t_{90} \leq 9.1 \text{ s}^{2)}$

¹⁾ Class B (measuring range $-50 \text{ °C} \dots -30 \text{ °C}$).

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

Ambient data

Ambient temperature	$-40 \text{ °C} \dots +85 \text{ °C}$
Storage and transport temperature	$-40 \text{ °C} \dots +85 \text{ °C}$
Shock resistance	50 g, 6ms (according to IEC 60068-2-27)
Relative humidity	$\leq 100 \%$ ¹⁾

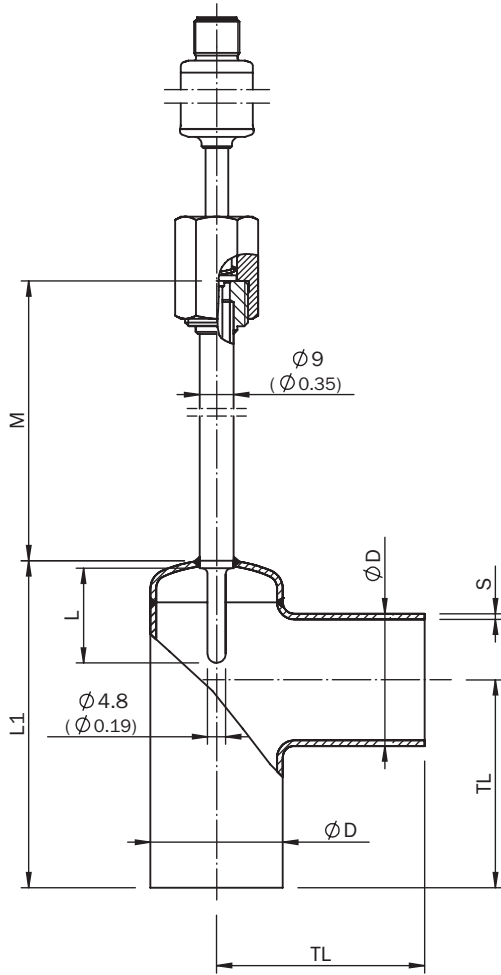
¹⁾ Condensation allowed.

Classifications

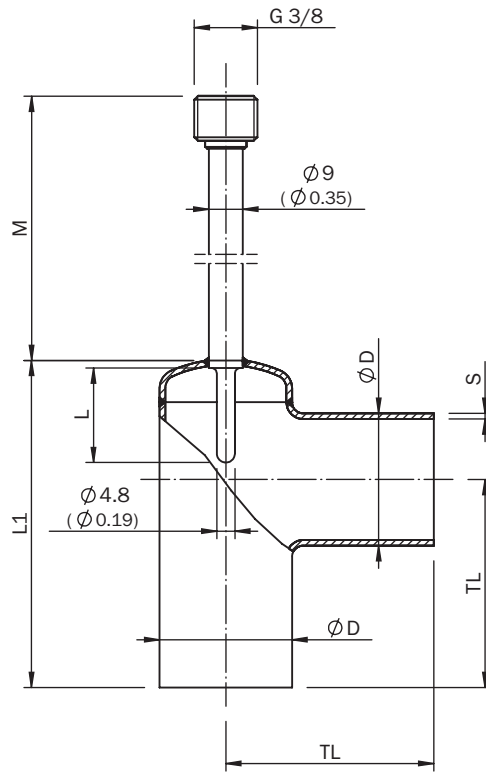
ECLASS 5.0	27200208
ECLASS 5.1.4	27200208
ECLASS 6.0	27200208
ECLASS 6.2	27200208
ECLASS 7.0	27200208
ECLASS 8.0	27200208
ECLASS 8.1	27200208
ECLASS 9.0	27200208
ECLASS 10.0	27200208
ECLASS 11.0	27200208
ECLASS 12.0	27200208
ETIM 5.0	EC002994
ETIM 6.0	EC002994
ETIM 7.0	EC002994
ETIM 8.0	EC002994
UNSPSC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

Dimensional drawing

Complete assembly



Protection tube with process connection



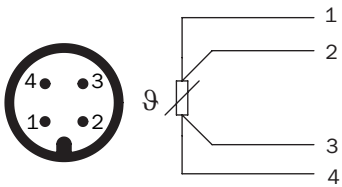
Design		Ø D	s	TL	L1	L	M
Angled pipe	NW 17.2	17.2 (0.68)	1.6 (0.63)	34.0 (13.39)	55.0 (21.65)	16.0 (6.30)	41.0 (16.14)
	NW 21.3	21.3 (0.84)	1.6 (0.63)	36.0 (14.17)	58.0 (22.83)	18.0 (7.09)	39.0 (15.35)
	NW 26.9	26.9 (1.06)	1.6 (0.63)	55.0 (21.65)	81.0 (31.89)	30.0 (11.81)	27.0 (10.63)
	NW 42.4	42.4 (1.17)	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 Round connector M12 x 1, output signal Pt100




Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> • 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.
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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.
	<ul style="list-style-type: none">• 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.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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