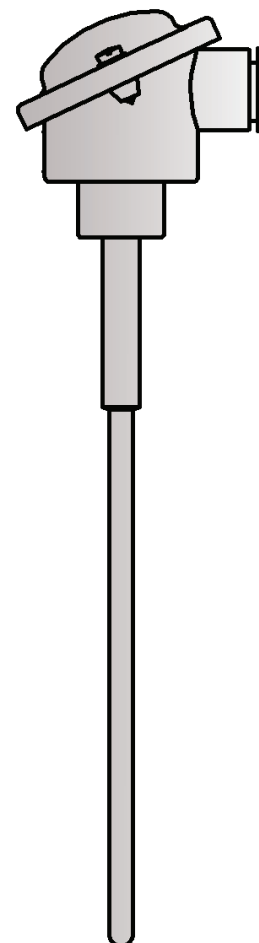


Temperature sensor suitable for measurement primarily in heat-treating furnaces, boiler houses, etc This sensor has ceramic protection tube.

### Specification

Temperature range / sensing element		
0÷1300°C	<b>S, R</b>	class 2
600÷1600°C	<b>B</b>	class 3
Protection tube		
– holding tube material: steel 1.4541		
– ceramic sheath material: corundum 799 [mm]: ø5, 6, 8, 10 mullite 610 [mm]: ø10		
– length L <sub>min</sub> [mm]: 300, L <sub>max</sub> acc. to table		
Thermocouple wire diameter		
– ø0,35mm or ø0,5mm for R, S, B		
Connection head		
– BA, IP55, -40÷100 °C		

Other parameters acc. to requirements



### Options

#### Temperature transmitter application

Temperature transmitter with standard 4÷20mA, 0÷10V output signals and with the HART or PROFIBUS communication protocols can be mounted in the connection head. Transmitter installation is carried out directly on the measuring insert (in place of a terminal block) or in the high cover connection head (solution used to enable installation of two transmitters).

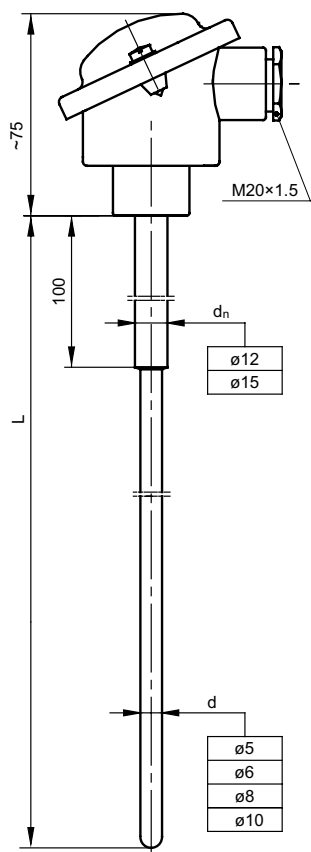
#### Local display application

The temperature sensor can be equipped with the connection head enabling the local LED display installation. The local display operates in current loop 4÷20mA. This version makes the local temperature reading and transmission of the analogue signal possible.

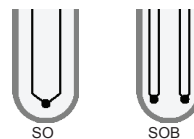
#### Non-standard design

Immersion length, shape and material of the sheath, connection head type and the measuring insert parameters can be customized per client request.

**Calibrations performed by Limatherm Sensor Sp. z o.o. are confirmed with the Calibration Certificate of the Accredited Laboratory for Temperature Measurements.**



### Thermocouple hot junction types



### Standard length

Immersion length L [mm]
300
500
710
1000
1400

Sheath diameter d [mm]	Holding tube diameter d <sub>n</sub> [mm]	Max length L <sub>max</sub> [mm]	Wire diameter [mm]
ø5	ø12	500	ø0,35
ø6	ø12	1000	ø0,35
ø8	ø12	1000	ø0,35 or 0,5
ø10	ø15	1400	ø0,35 or 0,5

### Tolerance for thermocouple classes acc. to PN-EN 60584

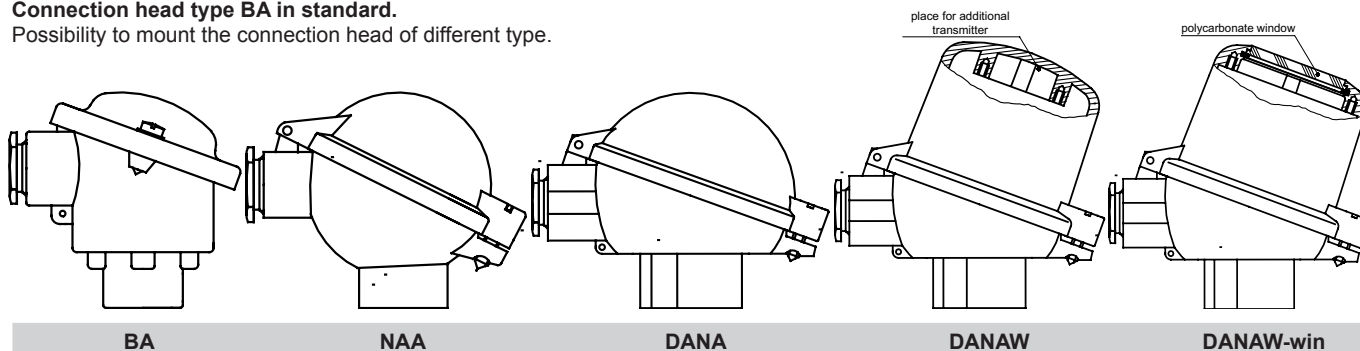
Thermocouple type	Class 1		Class 2	
	Range of application [°C]	Tolerance [°C]	Range of application [°C]	Tolerance [°C]
R PtRh13-Pt	from 0 to +1100 from +1100 to +1600	±1 ±(1 + 0,003 ( t  - 1100))	from 0 to +600 from +600 to +1600	±1,5 ±0,0025 t
S PtRh10-Pt				
B PtRh30-PtRh6	–	–	from +600 to +1700	±0,0025 t

|t| - absolute value of temperature

### Connection head types

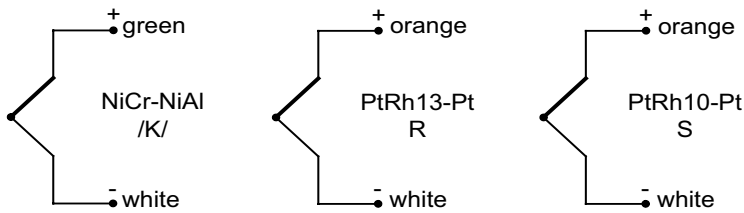
Connection head type BA in standard.

Possibility to mount the connection head of different type.



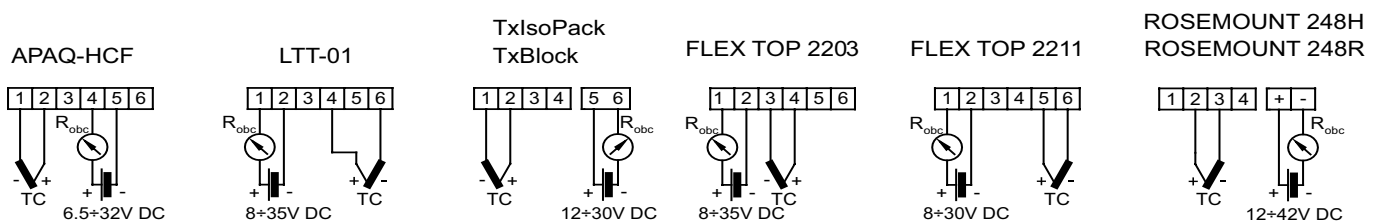
### Connection schemes

#### TC (thermocouple)



In double sensors one of thermocouples is additionally marked out.

#### Transmitters



### Product code

1	<input type="text"/>	<b>Sensor version</b>	
		AP	with transmitter
2	<input type="text"/>	<b>Sensing element</b>	
		B	thermocouple B
		R	thermocouple R
3	<input type="text"/>	S	thermocouple S
		<b>Sheath diameter</b>	
		5	ø5mm
		6	ø6mm
4	<input type="text"/>	8	ø8mm
		10	ø10mm
		<b>Ceramic sheat material</b>	
		610	mulit 610
5	<input type="text"/>	799	korund 799
		<b>Length sheath</b>	
		300	300mm
		500	500mm
		710	710mm
		1000	1000mm
6	<input type="text"/>	1400	1400mm
		other parameters acc. to requirements	
6	<input type="text"/>	<b>Accuracy</b>	
		1 or 2	for thermocouple (S, R)
		2 or 3	for thermocouple (B)

		<b>Platinum wire diameter</b>
7	□	<b>0,35</b> ø0,35mm
		<b>0,5</b> ø0,5mm
		<b>Transmitter type (optionally)</b>
8	□	<b>Tx</b> head mounted transmitter TxBlock
		other parameters acc. to requirements
		<b>Temperature range of transmitter</b>
9	□	<b>(0÷1200°C)</b> transmitter configured for temperature range 0÷1200°C
		other parameters acc. to requirements

1	2	3	4	5	6	7	8	9									
	TT		C-42	-		-		-		-		-		-		-	

**Ordering example:**      **TTSC-42-5-799-300-1-0,35** single sensor with thermocouple PtRh10-Pt /S/, class 1, platinum wire diameter 0,35 mm, ceramic sheath corundum 799, diameter 5mm and length L=300mm