

# Direct immersion resistance thermometer

PLAIN STEM

**D100-101-102-103-160-162**  
**CONFIGURATIONS**

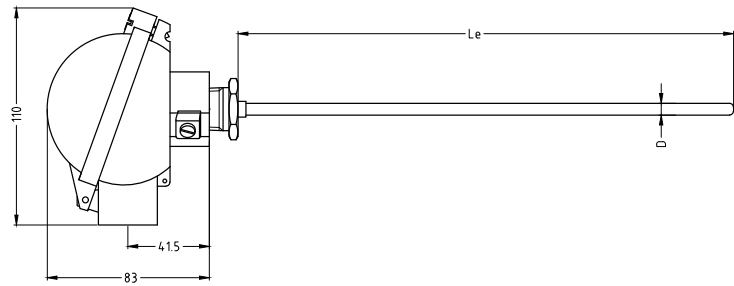
**General use RTD**



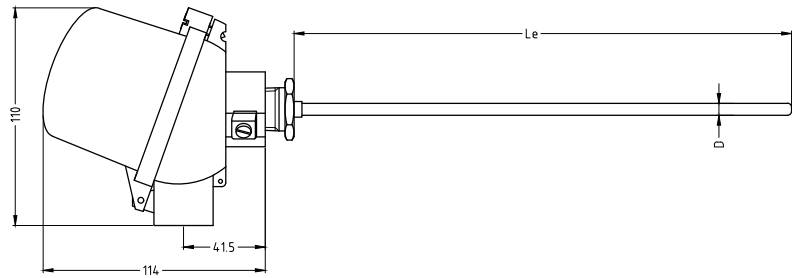
**RODAX**<sup>o</sup>  
new temperature solutions

Product series PT100WT

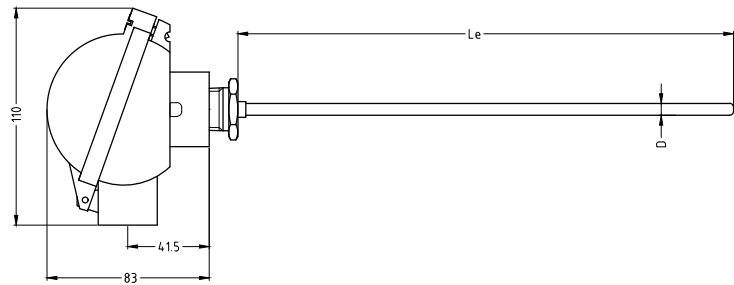
D100



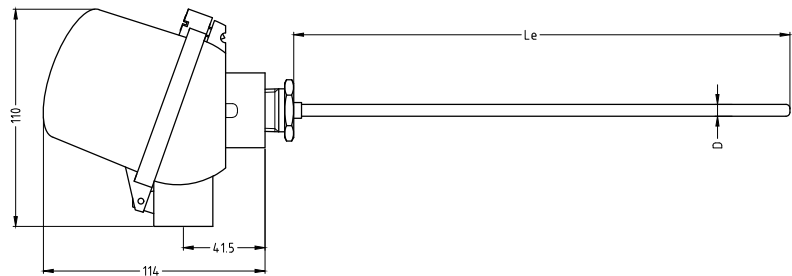
D101



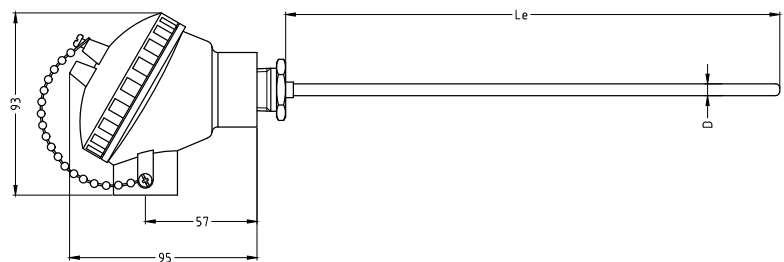
D102



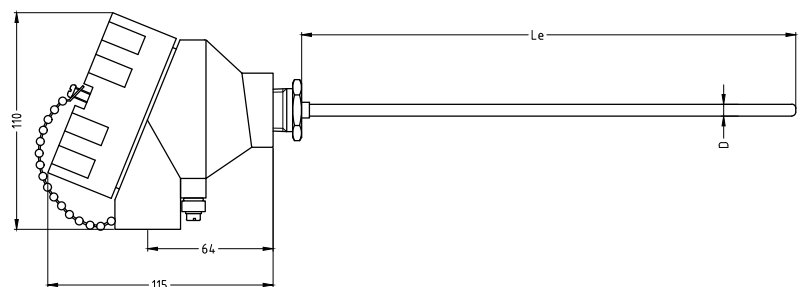
D103



D160



D162



## Features assembly

The sensor can be immersed directly into the process and is not spring loaded. The connection to the connection head is threaded ½"NPT (other on request). Process connection can be realized by e.g. adjustable compression fittings.

The assemblies can be delivered with an aluminium or stainless steel connection head combined with a high quality thermocouple element with MgO mineral insulated metal sheathed cable, providing excellent stability and reproducibility.

Sensor diameters up to 12,7mm.

## Technical specification assembly

- Connection head aluminium (D100-D101-D102-D103-D160-D162).
- Ambient temperature range assembly: -45/+80 °C; this can be limited depending on the materials applied or in case a temperature transmitter is used.
- IP-68 protection degree (body – cover) with silicone rubber O-ring. The assembly protection degree (IP-68) can be attained but depends on the use of correct cable gland(s) and on the correct mounting to thermowells.
- Cover: hinged type or screw type with chain.
- Several sensor diameters and lengths are possible.

**Table 1: Configuration**

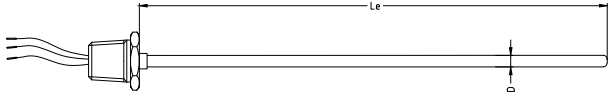
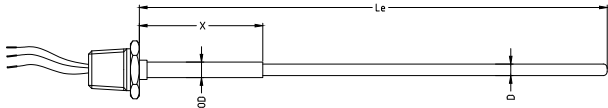
## Connection head type

Choice between:

- Connection head types D100 / D101 / D102 / D103 with hinged type cover with 1 or 2 conduit openings.
- Connection head types D160 / D162 with screw type cover with 1 or 2 conduit openings.
- Connection head supplied with O-ring in silicone rubber (between body and cover).

	Conduit	Material	Coating	Colour
<b>D100</b>	00A1 1x conduit	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
<b>D101</b>	01A1 1x conduit	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
<b>D100/101</b>	00A2/01A2 2x conduits	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
<b>D102</b>	02S1 1x conduit	Polyamide PA6	None	Blue
<b>D103</b>	03S1 1x conduit	Polyamide PA6	None	Blue
<b>D160</b>	60A1 1x conduit	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
<b>D162</b>	62B2 2x conduits	Aluminium	Polyurethane spray on primer Corrosion category EN ISO 12944-2: C5-M	RAL7035 Light grey

**Table 2: Measuring inserts main models**

	Sensor	
<b>PJA</b>	Sensor with threaded connection to the connection head.  2/3/4/6 or 8 lead wires	
<b>PJB</b>	Reinforced sensor with threaded connection to the connection head.  2/3/4/6 or 8 lead wires	

**Table 3: Measuring inserts details**

## Details

- Maximum temperature: 550 °C
- Minimum insulation resistance: 1000 MOhm at 500VDC,  $T_{amb}=20\text{ °C}$
- Conductors: material Cu
- Metal sheath: SS321 / 1.4541

## PT100 element

<b>S</b>	<b>D</b>	<b>Option</b>	<b>HV</b>
Single	Double		High vibration

## Diameter ØD

<b>D3</b>	<b>D3,2</b>	<b>D4,5</b>	<b>D4,8</b>	<b>D6</b>	<b>D6,35</b>	<b>D8</b>	<b>D9,53</b>	<b>D12,7</b>	Other diameters on request
3,0 mm	3,2 mm	4,5 mm	4,8 mm	6,0 mm	6,35 mm	8,0 mm	9,53 mm	12,7 mm	

## Electrical connection

<b>W2</b>	<b>W3</b>	<b>W4 (*)</b>	(*) for OD 3 mm: dual sensors max 2x3 wire
2 wire	3 wire	4 wire	

## Accuracy

<b>A1</b>	<b>A3</b>	<b>A5</b>	<b>A6</b>	<b>A10</b>	<b>Other accuracies on request</b>
Class A IEC EN 60751 $\pm(0.15+0.002 t )^{\circ}\text{C}$	1/3 DIN 1/3 class B	1/5 DIN 1/5 class B	1/6 DIN 1/6 class B	1/10 DIN 1/10 class B	

## Dimensions reinforcement

<b>OD reinforcement</b>		<b>X</b>
<b>STD</b>	<b>... mm</b>	<b>X</b>
Same as sensor (Model PJA)	Reinforced (Model PJB)	Length in mm (Model PJB only)

## Insertion length

<b>Le</b>	Length in mm
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**Table 4: Terminal connection in the housing**

## Type

<b>CB</b>	Ceramic block 2/3/4/6 or 8 terminals
<b>RB</b>	Hi tech block 2/3/4 or 6 terminals
<b>TP</b>	Flying leads standard length 150 mm

**Table 5: Connection head details**

### Connection head single/double conduits (SC/DC)

<b>SC173</b>	<b>SC405</b>	<b>DC173</b>	<b>DC405</b>
1X M20x1.5	1X ½"NPT	2x M20x1.5	2X ½"NPT

**Table 6: Connection head accessories**

### DC heads

- **For DC connection heads: One conduit plugged**  
Please use the following code

<b>Material</b>	Brass	<b>PM0200</b>
	Nickel plated brass	<b>PM0210</b>
	Stainless steel SS316	<b>PM2107</b>

**Table 7: Certification possibilities**

### Certificates

Following tests and certificates are possible and are either done in-house or done by an external party.

<b>Code</b>	<b>Certificates</b>
<b>Q04210</b>	Functional test report sensor
<b>Q04230</b>	Calibration report (measuring points to be indicated) E.g. 0/100 °C
<b>Q05220</b>	Calibration report by accredited calibration lab retraceable (measuring points to be indicated)
<b>Q05230</b>	Calibration report by accredited calibration lab ISO/IEC 17025 (BELAC) (measuring points to be indicated)
<b>Q02040</b>	Test report EN10204-2.2
<b>Q04250</b>	Transmitter programming. Range and burn-out settings to be indicated

## HOW TO ORDER (example)

Code		Example	Your code
<b>Configuration</b>	See table 1	D101	
<b>Main model</b>	See table 2	PJA	
<b>Pt100 element</b>	See table 3	S	
<b>Diameter ØD</b>	See table 3	D6	
<b>Electrical connection</b>	See table 3	W3	
<b>Accuracy</b>	See table 3	A1	
<b>Dimensions reinforcement</b>	See table 3	OD12	
<b>Reinforcement length X</b>	See table 3	X40	
<b>Insertion length Le (mm)</b>	See table 3	Le200	
<b>Terminal connection</b>	See table 4	CB	
<b>Connection head SC/DC</b>	See table 5	SC173	
<b>Connection head accessories</b>	See table 6	PM0200	

Ordering code example:

D101 PJA S D6 W3 A1 OD12 X40 Le200 CB SC173 PM0200

**For all options: please contact Rodax**

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Santvoortbeeklaan 33, 2100 Antwerp - Belgium

T +32 (0)3 360 90 00

E [quotationdesk@rodax-europe.com](mailto:quotationdesk@rodax-europe.com)

[www.rodax-europe.com](http://www.rodax-europe.com)

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new temperature solutions

D100-Gen-RTD GB 201810