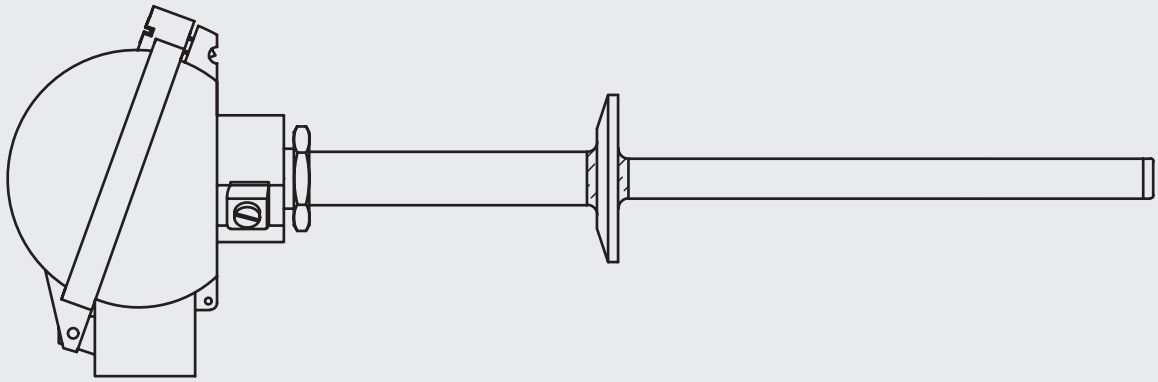
Spring loaded resistance thermometer

SANITARY THERMOWELL & REPLACEABLE INSERT

CP100-101
CONFIGURATIONS

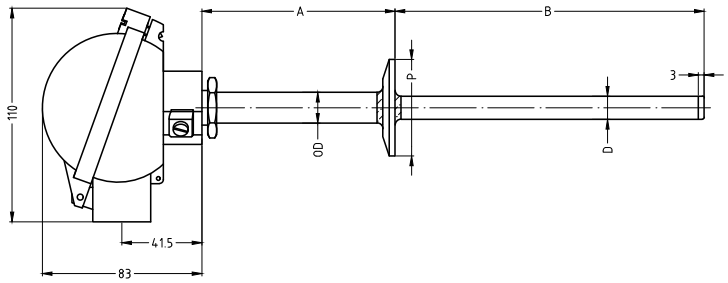
General use RTD



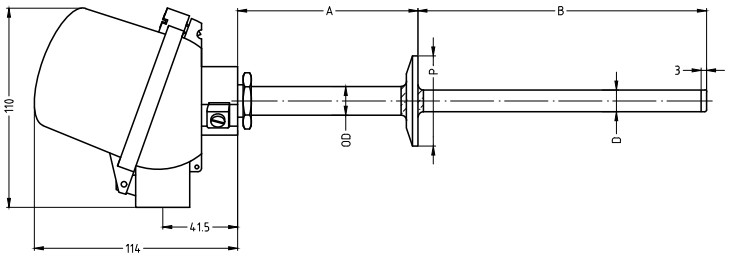
RODAX
new temperature solutions

Product series PT100RB/WT

CP100



CP101



Features assembly

The industrial spring loaded configuration guarantees a positive contact between the sensing part of the temperature probe and the bottom of the thermowell, thus reducing the response time.
Clamped process connection.

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

Technical specification assembly

- Connection head aluminium (CP100-CP101).
- 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.
- Standard roughness wetted parts Ra <0.8 µm.

Table 1: Configuration

Connection head type

Choice between:
- Connection head types CP100 / CP101 with hinged 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
CP100	00A1 1x conduit	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
CP101	01A1 1x conduit	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white
CP100/101	00A2/01A2 2x conduits	Aluminium	Epoxy Corrosion category EN ISO 12944-2: C4	RAL9002 Grey white

Table 2: Measuring inserts main models

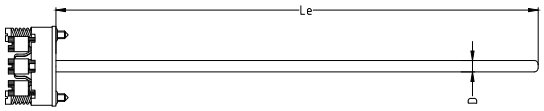
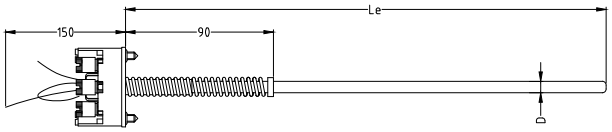
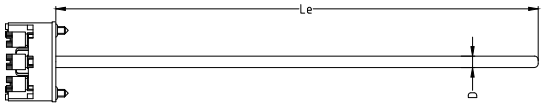
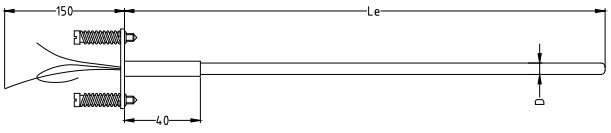
	Terminal	Total spring	
PAA	Ceramic spring loaded terminal block 2/3/4/6 or 8 terminals	10 mm We recommend a spring loading of +/-5 mm	
PBB	Hi-tech spring loaded thermoplast (moisture and shock proof) terminal block 2/3/4 or 6 terminals	40 mm We recommend a spring loading of +/-20 mm	
PBA	Hi-tech spring loaded thermoplast (moisture and shock proof) terminal block 2/3/4 or 6 terminals	10 mm We recommend a spring loading of +/-5 mm	
PEA	Spring loaded mounting plate with flying leads of 150 mm	10 mm We recommend a spring loading of +/-5 mm	

Table 3: Measuring inserts details

Details

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

PT100 element

S	D	Option	HV
Single	Double		High vibration

Diameter ØD

D3	D3,2	D4,5	D4,8	D6	D6,35	Other diameters on request
3,0 mm	3,2 mm	4,5 mm	4,8 mm	6,0 mm	6,35 mm	

Electrical connection

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

Accuracy

A1	A3	A5	A6	A10	Other accuracies on request
Class A IEC EN 60751 ±(0.15+0.002|t|)°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	

Table 4: Thermowell–Protection tube

Protection tube

Stainless steel tube with 3 mm welded plug with rotatable or not-rotatable connection to head. Threaded connection to the process.

Material Protection tube

M2108	M2102	M2110/8	M0601	M0805	Other materials on request
SS316L	SS304L	SS310/310S	Inconel 600	Hastelloy C276	

Dimensions Protection tube

D0610	D0810	D1015	D1215	D1425	Other dimensions on request
6 mm OD x Wall 1 mm	8 mm OD x Wall 1 mm	10 mm OD x Wall 1,5 mm	12 mm OD x Wall 1,5 mm	14 mm OD x Wall 2,5 mm	

Instrument connection

	OD25	OD34	OD50.5	OD64
ISO 2852	P05		P07	P10
	½" / ¾"		1" / 1½"	2"
DIN 11850		P34	P50	P64
		DN10-DN15-DN20	DN25-DN32-DN40	DN50

Surface finish wetted parts

SF	Standard finish	Ra <0.8 µm
MP	Mechanical polish	Ra <0.5 µm
EP	Electro-polish	Ra <0.4 µm

Positioning connection head

YR	Rotatable connection head
NR	Fixed connection head

Dimensions reinforcement

OD reinforcement		A
STD	... mm	A
Same as protection tube	Reinforced	Length in mm

Insertion length

B	Length in mm

Table 5: Connection head details

Connection head single/double conduits (SC/DC)

SC173	SC405	DC173	DC405
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

Material	Brass	**PM0200**
	Nickel plated brass	**PM0210**
	Stainless steel SS316	**PM2107**

Table 7: Certification possibilities

Certificates

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

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

HOW TO ORDER (example)

Code		Example	Your code
Configuration	See table 1	CP100	
Main model	See table 2	PAA	
Pt100 element	See table 3	S	
Diameter ØD	See table 3	D6	
Electrical connection	See table 3	W3	
Accuracy	See table 3	A1	
Material protection tube	See table 4	M2108	
Dimensions protection tube	See table 4	D0610	
Instrument connection	See table 4	P05	
Surface finish wetted parts	See table 4	MP	
Positioning connection head	See table 4	YR	
Dimensions reinforcement	See table 4	OD12	
Extension length A (mm)	See table 4	A50	
Insertion length B (mm)	See table 4	B200	
Connection head SC/DC	See table 5	SC173	
Connection head accessories	See table 6	PM0200	

0rdering code example:
CP100 PAA S D6 W3 A1 M2108 D0610 P05 MP YR OD12 A50 B200 SC173 PM0200

For all options: please contact Rodax

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