



Pt100, 3-wire
Simplex, Duplex



Range
-50 to 250°C (-58 to 482°F)



Accuracy
Class A to IEC 60751



Ingress Protection
IP68 (≈NEMA 6P)

ABOUT RHS701

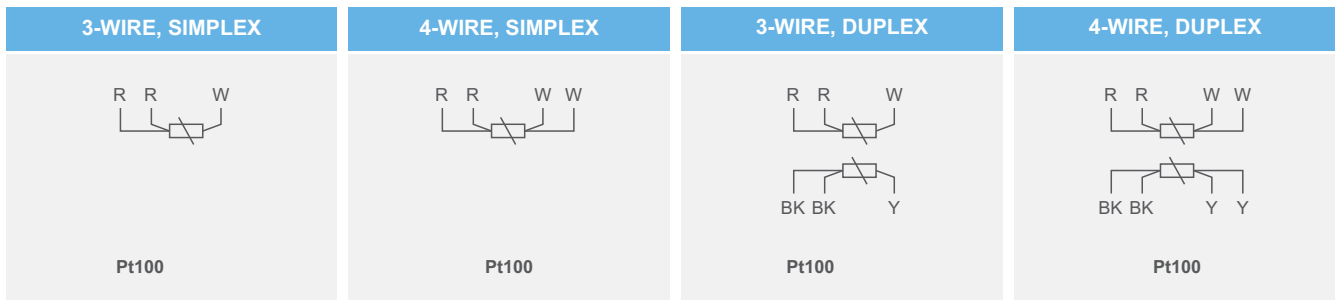
The RHS701 RTD sensor is specifically designed for applications with hygienic requirements, such as those in the food and beverage, pharmaceutical and chemical industries. It is constructed from stainless steel 316L (1.4404) and features a surface finish of Ra 0.6 µm for all wetted parts, ensuring compliance with sanitary standards.

The RHS701 RTD sensor is available with a sanitary SMS connection with or without male part and gasket. It also features a reduced tip design for quick response and to minimize flow restrictions during operation.

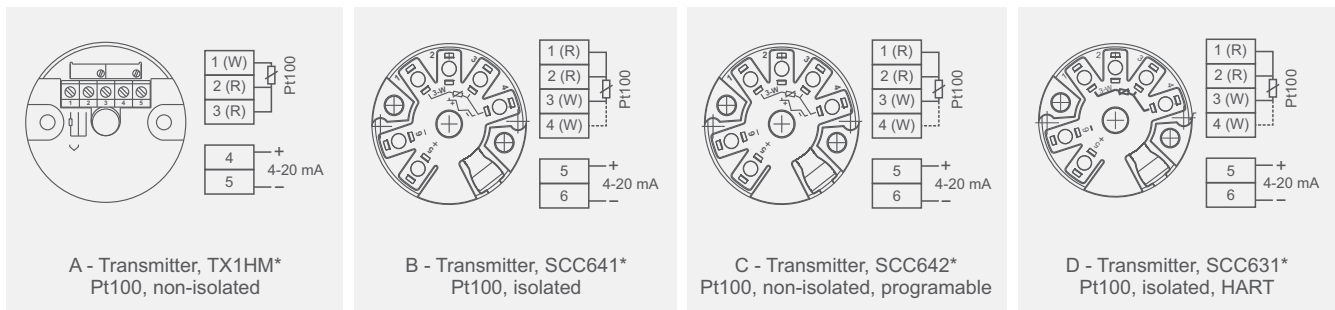
SPECIFICATIONS

RTD type	Pt100, 3-wire/4-wire (Fig 1)
No. of elements	Simplex/Duplex (Fig 3)
Accuracy	Class A / 1/3 DIN to IEC 60751 (Table 3)
Sheath diameter (D)	See Ordering Information & Fig 5
Sheath length (SL)	See Ordering Information & Fig 5
Wetted parts	SS316L (1.4404)
Non-wetted parts	SS304
Tip rating	-50 to 250°C (-58 to 482°F)
Terminal head	See Fig 12
Termination	See Ordering Information (Fig 6)
Cable gland(s)	Polyamide
Process connection	See Table 1
Pressure rating	40 bar
Surface finish	Better than 0.6 micron for wetted parts
Option	Head mounted transmitter (Fig 2)
Calibration	Default : Single point calibration certificate Option : 3-point or 5-point calibration certificate (See Ordering Information)

WIRING DIAGRAMS - Fig 1

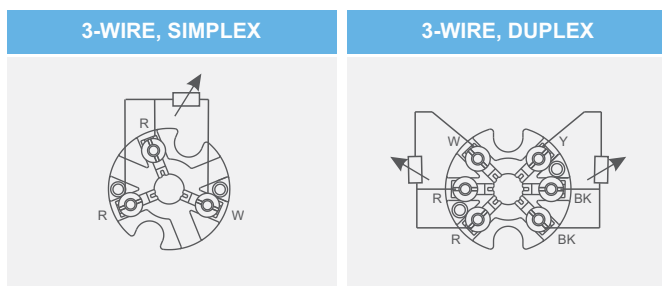


TYPE OF TRANSMITTERS - Fig 2

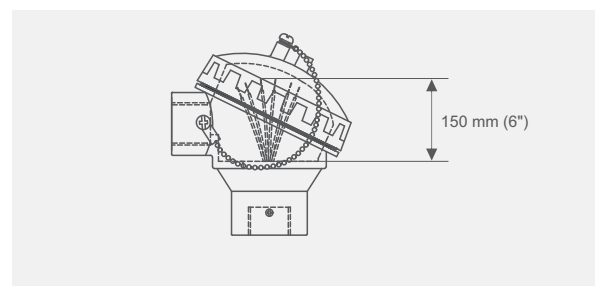


* Radix products

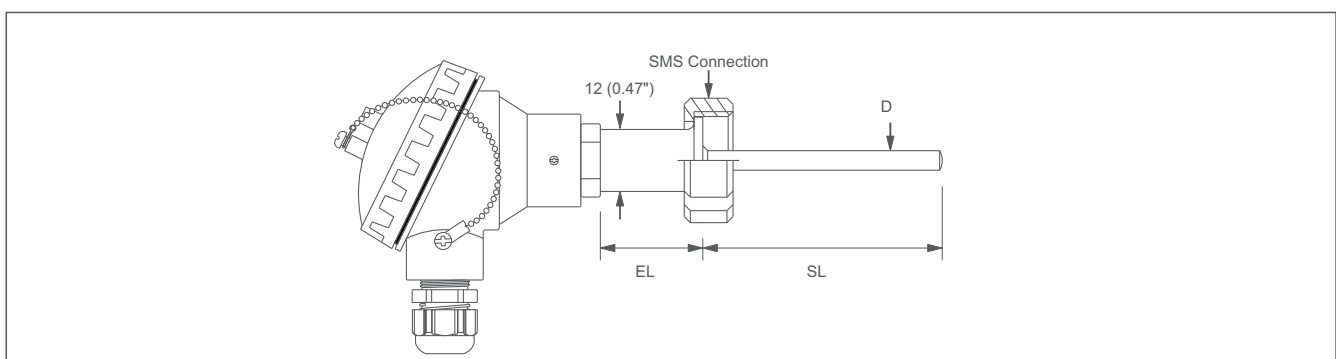
TERMINAL BLOCKS - Fig 3



FLYING LEADS (L) - Fig 4

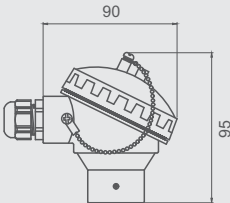
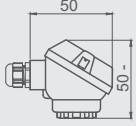
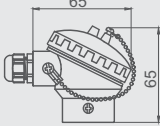
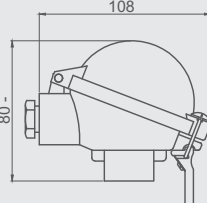
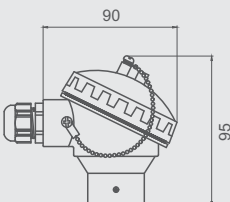
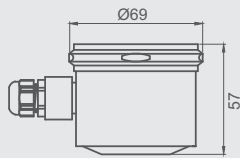


CONSTRUCTION - Fig 5



D - Sheath diameter, SL - Sheath Length, EL - Extension Length

TERMINAL HEADS - Fig 6

 <p>W03</p>	 <p>W04*</p>	 <p>W05*</p>	 <p>W09</p>
<p>Weatherproof, IP68 (≈NEMA 6P) MOC : Die cast aluminium Cable entry : M20x1.5 P Cable gland type : Polyamide</p>	<p>Weatherproof, IP68 (≈NEMA 6P) MOC : Die cast aluminium Cable entry : M16x1.5 P Cable gland type : Polyamide</p>	<p>Weatherproof, IP68 (≈NEMA 6P) MOC : Die cast aluminium Cable entry : M16x1.5 P Cable gland type : Polyamide</p>	<p>Weatherproof, IP68 (≈NEMA 6P) MOC : Die cast aluminium Cable entry : 1/2" BSP Cable gland type : Brass nickel plated</p>
 <p>PPH</p>	 <p>S07</p>		
<p>Weatherproof, IP68 (≈NEMA 6P) MOC : Die cast aluminium Cable entry : M20x1.5 P Cable gland type : Polyamide</p>	<p>Weatherproof, IP68 (≈NEMA 6P) MOC : SS Cable entry : M20x1.5 P Cable gland type : Polyamide</p>		

* : W04/W05 head is not suitable for head mounted transmitter

: W04 head is not suitable for 3-wire/4-wire duplex assemblies

TABLE 1 : SMS PROCESS CONNECTION (STANDARD - SMS 1145)

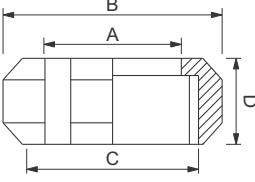
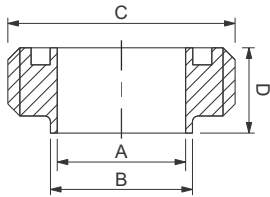
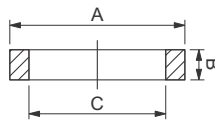
 <p>NUT, SS304</p>	<table border="1"> <thead> <tr> <th>CODE</th> <th>SIZE</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>A25</td> <td>25</td> <td>32</td> <td>51</td> <td>RD 40 x 1/6</td> <td>20</td> </tr> <tr> <td>A38</td> <td>38</td> <td>48</td> <td>74</td> <td>RD 60 x 1/6</td> <td>25</td> </tr> <tr> <td>A51</td> <td>51</td> <td>60.5</td> <td>84</td> <td>RD 70 x 1/6</td> <td>26</td> </tr> <tr> <td>A63</td> <td>63.5</td> <td>74</td> <td>100</td> <td>RD 85 x 1/6</td> <td>30</td> </tr> </tbody> </table>	CODE	SIZE	A	B	C	D	A25	25	32	51	RD 40 x 1/6	20	A38	38	48	74	RD 60 x 1/6	25	A51	51	60.5	84	RD 70 x 1/6	26	A63	63.5	74	100	RD 85 x 1/6	30				
CODE	SIZE	A	B	C	D																														
A25	25	32	51	RD 40 x 1/6	20																														
A38	38	48	74	RD 60 x 1/6	25																														
A51	51	60.5	84	RD 70 x 1/6	26																														
A63	63.5	74	100	RD 85 x 1/6	30																														

TABLE 2 : ACCESSORIES FOR SMS PROCESS CONNECTION

MALE PART, SS316L		CODE	SIZE	A	B	C	D
		MP25	25	22.6	25	RD 40 x 1/6	15
		MP38	38	35.6	38	RD 60 x 1/6	20
		MP51	51	48.6	51	RD 70 x 1/6	20
		MP63	63.5	60.3	63.5	RD 85 x 1/6	24

SEALING RING SILICONE RUBBER		CODE	SIZE	A	B	C
		S25	25	32	5.5	25
		S38	38	48	5.5	38
		S51	51	61	5.5	51
		S63	63.5	73.5	5.5	63.5

* - Standard - SMS 1145

TABLE 3 : ACCURACY

ACCURACY			
Pt100 (IEC 60751)	Class A	$\pm 0.15^{\circ}\text{C at } 0^{\circ}\text{C} \pm (0.15 + 0.002 \times t)^{\circ}\text{C}$	$\pm 0.27^{\circ}\text{F at } 32^{\circ}\text{F} \pm (0.27 + 0.002 \times t)^{\circ}\text{F}$
	1/3 DIN	$\pm 0.1^{\circ}\text{C at } 0^{\circ}\text{C} \pm 1/3 \times (0.3 + 0.005 \times t)^{\circ}\text{C}$	$\pm 0.18^{\circ}\text{F at } 32^{\circ}\text{F} \pm 1/3 \times (0.54 + 0.005 \times t)^{\circ}\text{F}$

TABLE 4 : RESPONSE TIME

Tip Dia.	Imm. Length	T _{0.5}	T _{0.9}
6 mm	50 mm	4 s	9 s

T_{0.5} and T_{0.9} shows the response times at 50% and 90% of the step change.

This data is measured by immersing the sensing bulb from ambient temperature to boiling water flowing at 0.4 m/sec.

The result may vary according to the measuring environment and condition.

FEATURES SUMMARY

- Offered with sanitary SMS connection with or without male part and gasket
- Pressure range up to 40 bar
- SS316L material as standard for wetted parts
- Reduced tip design for quick response & to minimize flow restrictions
- Surface finishing Ra ≤ 0.6 μm as standard
- Degree of protection : IP68

ORDERING INFORMATION (Also See Preferred Order Codes - Table 5)

CODE	SPECIFICATIONS	1	2	3	4	5	6	7	8	9	10	11	12	13
	MODEL : RHS701													
1	Type of RTD (Fig 1)													
	Pt100, 3 wire	B												
	Pt100, 4 wire	C												
2	No. of elements (Fig 3)													
	Simplex		S											
	Duplex		D											
3	Accuracy (Table 3)													
	Class A			1										
	Class AA			3										
4	Terminal head (Fig 6)													
	Standard weatherproof head (IP68)				W03									
	Weatherproof head with hinged cap				W09									
	Miniature head with threaded cap				W05									
	Sub miniature head				W04									
	Polypropylene head				PPH									
	SS head, IP68 with thread cap				S07									
5	Process connection													
	See Table 1					XXX								
6	Sheath diameter (D - Fig 5)													
	6 mm (0.24")						06							
	8 mm (0.32")						08							
	6 mm (0.24") reduced to 4 mm (0.16")						6R							
	8 mm (0.32") reduced to 5 mm (0.20")						8R							
7	Sheath length (SL - Fig 5)													
	50 mm (2")							050						
	75 mm (3")							075						
	100 mm (4")							100						
8	Termination													
	Terminal block (Fig 3)									T				
	Flying leads (Fig 4)									L				
	TX1HM: 2-wire, non-isolated temperature transmitter (Fig 2 & Table 6)									A				
	SCC641: 2-wire, isolated temperature transmitter (Fig 2 & Table 6)									B				
	SCC642: 2-wire, non-isolated, programmable temperature transmitter (Fig 2 & Table 6)									C				
	SCC631: 2-wire, isolated temperature transmitter, HART (Fig 2 & Table 6)									D				
ACCESSORIES														
9	Cable gland													
	Required									G				
10	Blind plug													
	Required										P			
11	Transmitter range													
11.1	Standard													
	0 to 100°C (32 to 212°F)											STRA		
	-50 to 150°C (-58 to 302°F)											STRB		
	Custom range											CUST		
11.2	Custom range - low (customer to specify)										XXXX			
11.3	Custom range - high (customer to specify)										XXXX			
11.4	Custom unit (°C)										C			
11.5	Custom unit (°F)										F			
12	Male part connection													
	See Table 2											xxx		
13	Sealing ring													
	See Table 2												xxx	
14	Cable length (Also see 15)													
	1 m (3.28 feet)													1
	5 m (16.4 feet)													5

continued ...

... continued

ORDERING INFORMATION (Also See Preferred Order Codes - Table 5)

CODE	SPECIFICATIONS	15	16	17	18	19	20	21
	MODEL : RHS701							
15	Cable type (Also see 14)							
	PTFE/PTFE	TT						
	PTFE/PTFE/SS Overbraided	TS						
16	CE certification		CE					
17	Calibration type							
	NABL-traceable calibration			TR				
	NABL-accredited calibration			NB				
18	No. of calibration points (For 16)							
	3 point				3			
	5 point				5			
19	Tag plate							
	Required					TA		
20	Future parameter A							
	For future use						FA	
21	Future parameter B							
	For future use							FB

Without Accessories

MODEL -1-2-3-4-5-6-7-8

Order Code Format : XXXXXX-X-X-X-XXX-XXX-XX-XXX-X

Example

RHS701, Pt100 3-wire, simplex, Class A accuracy, 1" SMS connection, 8 mm (0.32") diameter, 100 mm (4") length, weatherproof head
RHS701-B-S-1-W03-A25-08-100-T-FA-FB

With Accessories

Fixed order code

Add the codes for the required accessories

MODEL -1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21

Order Code Format : XXXXXX-X-X-X-XXX-XXX-XX-XXX-X-X-X-XXXX-XXX-XXX-X-XX-XX-XX-X-XX-FA-FB

Example

RHS701, Pt100 3-wire, simplex, Class A accuracy, 1" SMS connection, 8 mm (0.32") diameter, 100 mm (4") length, weatherproof head, Male Part Connection with Sealing ring
RHS701-B-S-1-W03-A25-08-100-T-MP25-S25

Custom - With Accessories including Transmitter

Add the codes for the required accessories

MODEL -1-2-3-4-5-6-7-8-9-10-11.1-11.2-11.3-11.4-11.5-12-13-14-15-16-17-18-19-20-21

Order Code Format : XXXXXX-X-X-X-XXX-XXX-XX-XXX-X-X-X-XXXX-XXXX-XXXX-X - X -XXX-XXX-X-XX-XX-XX-X-XX-FA-FB





For Transmitter

The Preferred Order Codes in the Table 5 below may be available with shorter deliveries and/or better prices.

TABLE 5 : PREFERRED ORDER CODES

Order code	No. of elements	Sheath diameter	Sheath length	Termination
RHS701-B-D-3-W03-A25-8-50	Duplex	8 mm (0.32")	50 mm (1.96")	Weatherproof aluminium Head
RHS701-B-D-3-W03-A25-8-100	Duplex	8 mm (0.32")	100 mm (3.93")	Weatherproof aluminium Head
RHS701-B-D-3-W03-A25-6-45	Duplex	6 mm (0.24")	45 mm (1.77")	Weatherproof aluminium Head

TABLE 6 : TEMPERATURE TRANSMITTERS - RADIX MAKE

Model	Description	Catalog link
TX1HM	2-wire, non-isolated temperature transmitter	
SCC641	2-wire, isolated temperature transmitter	
SCC642	2-wire, non-isolated, programmable temperature transmitter	
SCC631	2-wire, isolated temperature transmitter, HART	

**SANITARY RTDs
WITH SMS CONNECTION**

ENQUIRIES

Email : sensors@radix.co.in
Call : + 91 93214 15829
Website : www.radix.co.in

CAT#908F0/A