

# Resistance temperature detector with head

## Model RTH

General purpose and Ex-proof

### Features

- High stability sensor
- Mineral insulated for flexibility and durability
- General purpose with spring loaded sensor
- Available with weatherproof or explosion proof head
- Custom designs for specific applications

### Ranges

-200 up to 600 °C  
-325 up to 1100 °F

### Applications

Chemical, petrochemical and refineries  
Power, Steel, Cement  
Machine and apparatus construction  
Pharmaceuticals, Dairy & Food process industry  
Pulp and paper industry



Technical specification	RTH
Head types	Compact, Sanitary, Weatherproof and Ex-proof heads.
Element	Pt100, Pt500, Pt1000
Element type	Simplex or duplex
Range	From -200 to 600 °C
Sheath diameter	3mm, 4mm, 4.5mm, 5mm, 6mm, 6.4mm, 8mm, 10mm, others on request
Sheath length	Rigid up to 300mm, flexible up to 30m
Process connection	1/4", 1/2", 3/4" NPT/BSP, adjustable, Nipple or Nipple union nipple connections
Material	
Process connection	Stainless steel 304, 316, CS Zinc Coated
Sheath	Stainless steel 316, optional 316L, 321, Inconel 600, SS316 with PTFE Coated
Head*	Aluminum epoxy coated, SS304, SS316, PP
<b>Electrical specification</b>	
Wiring configuration	2 wire, 3 wire and 4 wire
Terminal	Ceramic block with nickel plated brass terminal, optional spring-loaded terminal
Ex-proof*	CCOE : Zone 1 & 2 IIA / IIB / IIC T6 FM/CSA : Class I Div.1 Group B,C, D. Class II/III Div. 1 Group E, F, G. ATEX /IECEX : II 2GD, Ex db IIC Gb, Ex tb IIIC Db, Ta = -40°C to +85°C
Insulation	100 MΩ minimum insulation when measured at 100 VDC
Electrical connection*	1/2" NPT(F) Standard, others on request. (Sanitary Head, standard M16x1)
<b>General specification</b>	
Accuracy	Class "A" and Class "B" as per IEC 60751, optional 1/3 <sup>rd</sup> & 1/10 <sup>th</sup> DIN
Stability	±0.04 maximum ice-point resistance shift following 1,000 hrs. at maximum specified temperature
Protection IEC 60529*	IP65, IP66, IP67, IP68, NEMA 4X
Accessories, options	Thermowell, Head mounted transmitters, etc.

\* Depending on Head type

## Order information

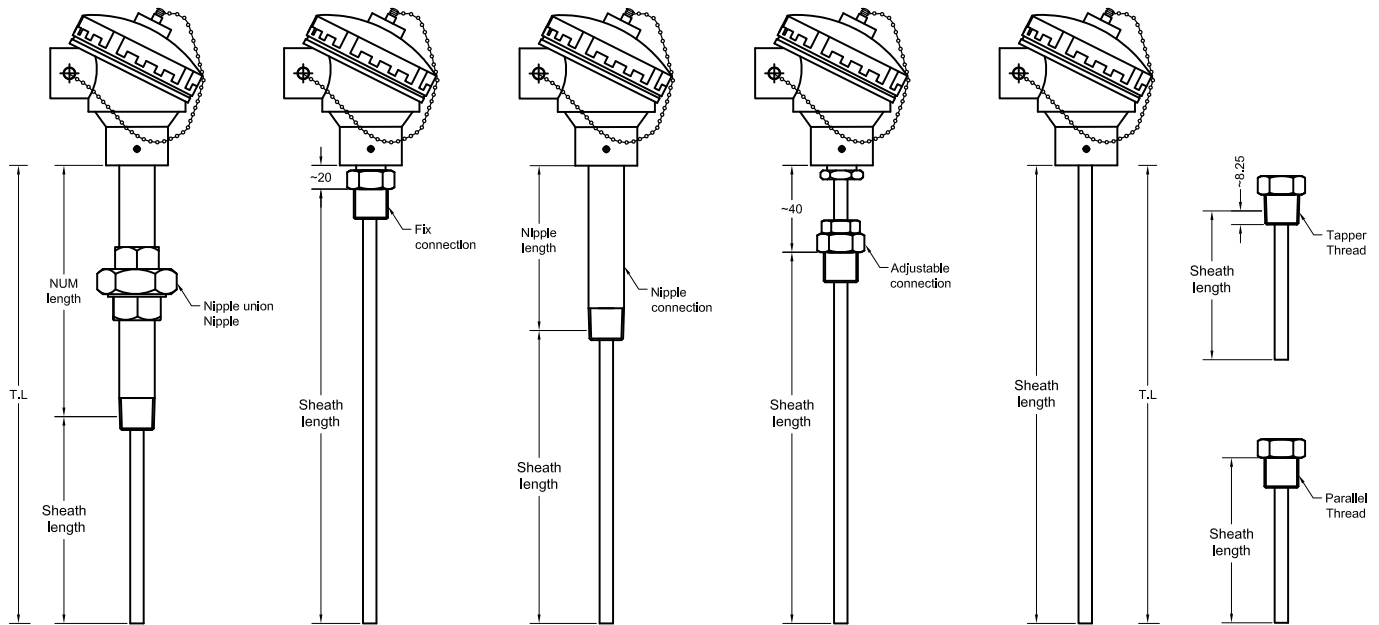
Head Type	Element	Element type	Accuracy class	Sheath material	Sheath Dia	Sheath length	Process connection	Connection Type	Electrical connection	Options
(E) Compact	Pt100	(S2) Simplex 2 wire	(1) 1/10 <sup>th</sup> Din	(S) SS316	(D3) 3 mm	55 to 25000 mm	(=) None	(=) None	(=) Threaded <sup>3)</sup>	(NH) Tagging wired
(H) Hinge type	Pt500	(S3) Simplex 3 wire	(3) 1/3 <sup>rd</sup> Din	(L) SS316L	(D4) 4 mm		(02) 1/4" NPT(M)	(F) Fixed Hex nut	(B1) Ni plated brass double compression cable gland <sup>7)</sup>	(ST) Spring loaded terminal
(K) Weather-proof	Pt1000	(S3) Simplex 3 wire	(A) Class A -70/300C	(SA) SS321	(D4.5) 4.5 mm		(04) 1/2" NPT(M)	(N100B) Zinc plated CS Nipple 100mm <sup>2)</sup>	(C1) Ni plated brass CCOE (IIA/IIB) cable gland <sup>7)</sup>	(HT) Head mounted transmitter
(W) Weather-proof		(S4) Simplex 4 wire	(B) Class B -70/500C	(I6) Inconel 600	(D5) 5 mm		(05) 3/4" NPT(M)	(U150B) Zinc plated CS Nipple union Nipple 150mm <sup>2)</sup>	(D1) Ni plated brass CCOE (IIC) cable gland <sup>7)</sup>	(DE) Double entry for head <sup>5)</sup>
(B) CCOE certified IIA/IIB		(D2) Duplex 2 wire	(EA) Extended temperature Class A -200/600C	(SJ) SS316 with PTFE coating <sup>4)</sup>	(D6) 6 mm		(13) 1/4" BSP(M)	(N100C) SS304 Nipple 100mm <sup>2)</sup>	(E1) Ni plated brass ATEX cable gland <sup>7)</sup>	(DR) Double entry with Aluminum plugged <sup>5)</sup>
(C) CCOE certified IIC		(D3) Duplex 3 wire			(D6.4) 6.4mm		(15) 1/2" BSP(M)	(U150C) SS304 Nipple union Nipple 150mm <sup>2)</sup>	(F1) SS double compression cable gland <sup>7)</sup>	(DC) Double entry with SS304 plugged <sup>5)</sup>
(G) Weather-proof		(D4) Duplex 4 wire			(D8) 8 mm		(17) 3/4" BSP(M)	(N100S) SS316 Nipple 100mm <sup>2)</sup>	(G1) SS CCOE (IIA/IIB) cable gland <sup>7)</sup>	(DS) Double entry with SS316 plugged <sup>5)</sup>
(A) FM/CSA ATEX/IECEX certified					(D10) 10 mm		(16) M20x1.5(M)	(U150S) SS316 Nipple union Nipple 150mm <sup>2)</sup>	(H1) SS CCOE (IIC) cable gland <sup>7)</sup>	(TTS) Teflon-Teflon, SS braided extension cable <sup>1)6)</sup>
(S) Sanitary							(S15) 1.5" Tri-clamp	(U150S) SS316 Nipple union Nipple 150mm <sup>2)</sup>	(I1) Plastic cable gland PG13.5 <sup>7)</sup>	(TT) Teflon-Teflon, extension cable <sup>1)6)</sup>
							(M12x1.5M) M12x1.5(M)	(D) adjustable connection sliding on stem	(J1) SS ATEX cable gland <sup>7)</sup>	(EE16) Electrical Entry M20x1.5 <sup>8)</sup>
							(M27x2M) M27x2(M)		(7P) 7 Pin connector	(EE05) Electrical Entry 3/4" NPT <sup>8)</sup>
									(9P) 9 Pin connector	(EE99) Electrical Entry 3/4" ET <sup>8)</sup>
Refer drawing for more details										(C4) Calibration Certificate

- 1) Specify length in meter EG. TTS1.5 = TTS with 1.5m
- 2) Only with connection "04, 05, 15, 16", length available 75, 100, 125, 150mm
- 3) Standard electrical entry is 1/2" NPT(F), see options for other threads, refer drawing for possible threads in head. (Sanitary Head, standard M16x1)
- 4) Maximum temperature limit 200°C
- 5) Only for limited head types, refer drawing
- 6) Max temperature limit for extension cable is 250°C
- 7) For two cable glands, specify the codes as B2, C2... applicable only for (DE)
- 8) Refer drawing for possible threads and head combination

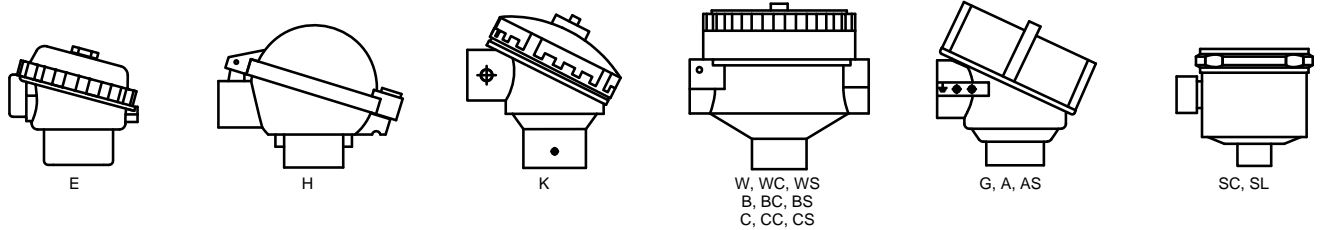
## How to order

Head Type	Model	Element	Element type	Accuracy Class	Sheath Material	Sheath Diameter	Sheath Length	Process Connection	Connection Type	Electrical Connection	Option
K	RTH	Pt100	S3	A	S	D6	100	04	D	=	ST

## General dimensions in mm



## Types of Head



Head Type	Material	IP Rating	No of Cable Entries	Cable Entry Thread	Approvals
E	Aluminium	IP65	Single	1/2" NPT, 3/4" ET	-
H	Aluminium	IP65	Single	1/2" NPT, 3/4" ET	-
K	Aluminium	IP67	Single	1/2" NPT	-
W	Aluminium	IP66 / IP67	Single / Double	1/2" NPT, 3/4" ET, 3/4" NPT, M20x1.5	-
WC	SS304				
WS	SS316				
B	Aluminium	IP66 / IP67	Single / Double	1/2" NPT, 3/4" ET, 3/4" NPT, M20x1.5	CCOE : IIA/IIB Zone 1 & 2 T6
BC	SS304				
BS	SS316				
C	Aluminium	IP66 / IP67	Single / Double	1/2" NPT, 3/4" ET, 3/4" NPT, M20x1.5	CCOE : IIC Zone 1 & 2 T6
CC	SS304				
CS	SS316				
G	Aluminium	IP66	Single	1/2" NPT, 3/4" NPT, M20x1.5	-
A	Aluminium	IP66 / IP68 NEMA 4X	Single	1/2" NPT, 3/4" NPT, M20x1.5	FM/CSA : Class I Division 1 Group B,C, D. Class II/III Division 1 Group E, F, G. ATEX /IECEX : II 2GD, Ex db IIC Gb, Ex tb IIIC Db, Ta = -40°C to +85°C
AS	SS316				
SC	SS304	IP65	Single	M16x1	-
SL	SS316				

Standard electrical connection is 1/2" NPT(F), for others use optional code. (Sanitary Head, standard M16x1)