



Temperature sensor



Temperature sensor

Series: VSE-0090

Performance features:

- Measuring range -40 °C ... +125 °C
- Connection cable PUR-shielded

Advantages:

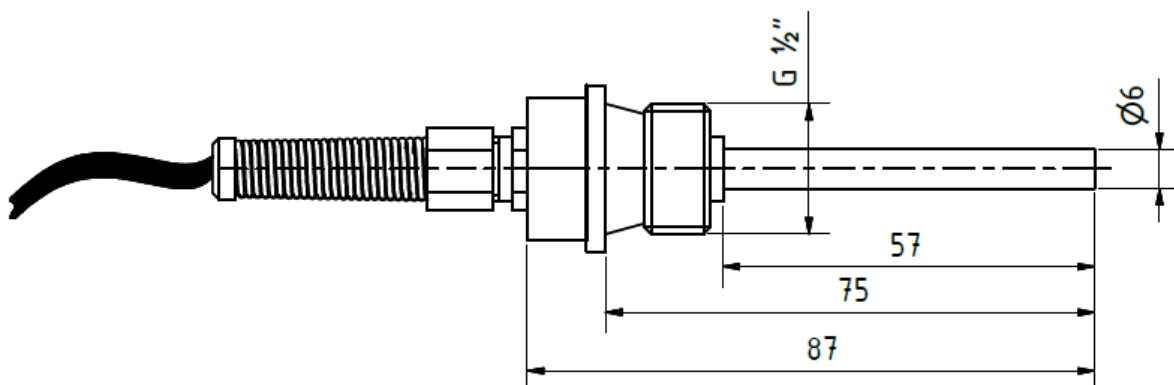
- Reliable tightness at low and high pressure

Screw-in RTD temperature probes are used for temperature measurement in both liquid and gaseous media. The reliable tightness of this type of installation at both negative and positive pressure is an important selection criterion.

These temperature sensors are used in air conditioning and refrigeration technology as well as in heating, furnace and apparatus engineering. The connection cable is suitable for dry or damp rooms in a temperature range of -40 °C ... +80 °C.

The transition between the connecting cable and the measuring body housing is strain-relieved and additionally protected by a bend protection. As a standard measuring insert an NTC thermistor is used.

Drawing / Dimensions



Connecting cable:

Type of cable
Length of cable
End of cable

Description:

PUR control cable shielded 2 x 0.5 mm²
10 m
Wire end sleeves

Measuring element:

Process connection
Protection tube
Measuring insert

Description:

Thread G1/2" stainless steel 1.4301
Ø 5 mm, stainless steel 1.4303
NTC – 10 kΩ

Characteristic values:

Nominal temperature range
Operating temperature range
Measurement error
Insulation resistance
Alpha value @ 25 °C
Beta-value @ 25/85 °C
Tolerance beta value 25/85 °C

Description:

-15 °C to +70 °C
-40 °C to +80 °C
±0,3 °C [0 °C ... 70 °C]
>5.000 MΩ
4,39 %/°C
3976 K
0,5 %

Resistance values:

Table 1: Assignment of temperature and resistance

Temperature [°C]	Resistance [Ω]
-40	336098
-39	314553
-38	294524
-37	275897
-36	258563
-35	242427
-34	227398
-33	213394
-32	200339
-31	188163
-30	176803
-29	166198
-28	156294
-27	147042
-26	138393
-25	130306

Temperature [°C]	Resistance [Ω]
-24	122741
-23	115661
-22	109032
-21	102824
-20	97006
-19	91553
-18	86439
-17	81641
-16	77138
-15	72911
-14	68940
-13	65209
-12	61703
-11	58405
-10	55304
-9	52385

Temperature [°C]	Resistance [Ω]
-8	49638
-7	47050
-6	44613
-5	42317
-4	40151
-3	38110
-2	36184
-1	34366
0	32651
1	31031
2	29500
3	28054
4	26687
5	25395
6	24172
7	23016

Temperature [°C]	Resistance [Ω]
8	21921
9	20885
10	19903
11	18973
12	18092
13	17257
14	16465
15	15714
16	15001
17	14324
18	13682
19	13073
20	12493
21	11943
22	11420
23	10923
24	10450
25	10000
26	9572
27	9165
28	8777
29	8408
30	8056
31	7721
32	7420
33	7097
34	6807
35	6530
36	6266
37	6014
38	5774
39	5544
40	5325
41	5116
42	4916
43	4724
44	4542
45	4367
46	4200

Temperature [°C]	Resistance [Ω]
48	3887
49	3741
50	3601
51	3467
52	3339
53	3216
54	3098
55	2985
56	2877
57	2773
58	2674
59	2579
60	2487
61	2399
62	2315
63	2234
64	2157
65	2082
66	2011
67	1942
68	1876
69	1813
70	1752
71	1693
72	1637
73	1582
74	1530
75	1480
76	1432
77	1385
78	1341
79	1298
80	1256
81	1216
82	1178
83	1141
84	1105
85	1070
86	1037

Temperature [°C]	Resistance [Ω]
88	974
89	945
90	916
91	888
92	862
93	836
94	811
95	787
96	764
97	741
98	720
99	699
100	678
101	659
102	640
103	622
104	604
105	587
106	571
107	555
108	539
109	524
110	510
111	496
112	482
113	469
114	457
115	444
116	432
117	421
118	410
119	399
120	388
121	378
122	368
123	359
124	350
125	341