



GWD series

GWD series thermal resistors/thermocouples

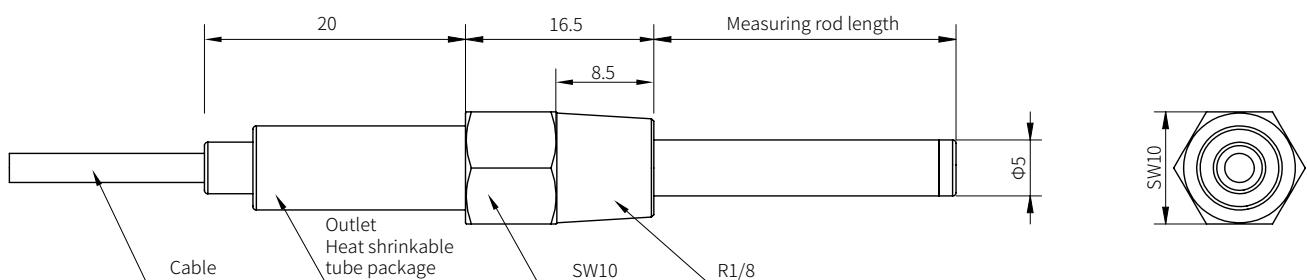
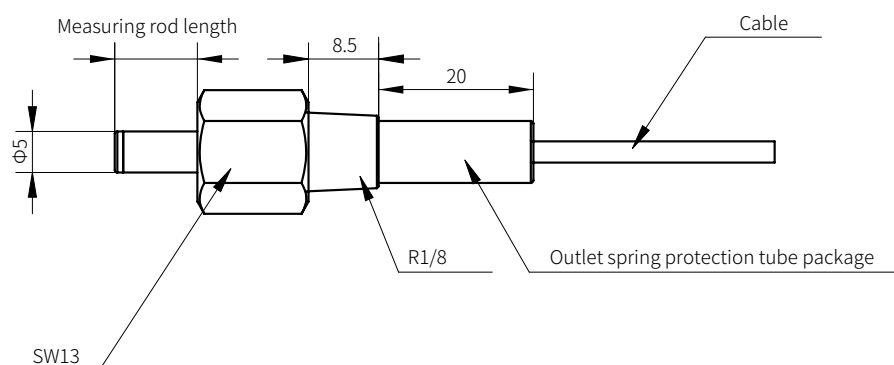
JR/R/FR

- + Convenient installation: integrated design
- + Resistant to harsh environment, high reliability and long service life
- + High protection level, suitable for harsh working environment
- + Adopt platinum thermal resistance and thermocouple sensitive element
- + Short response time and higher accuracy



TECHNICAL PARAMETER

Input	Measurement data	Temperature
	Temperature measuring range	JR type: -50...350°C (The temperature resistance of cables is -50-250°C if ordered); R type, FR type: -50...250°C
	Measurement accuracy	±2.5°C
Installation	Installation form	Metric system M10x1, G1/8, G1/4, G1/2, R 1/2, etc.
Structure and materials	Cable	Tetrafluorosilver-plated shielded wire
	Surveying rod	304/316L (default 304)
Electrical connection	Outlet mode	Straight-out cable, electrical connector
ITEM	CATEGORY	PARAMETER

GWD- R type technical drawing

GWD- FR type technical drawing


GWD - - - - -					
Component model	Measuring rod length -----Unit mm	Mounting thread	Measuring Rod Outer diameter Unit mm (default Φ5)	Cable length Unit m	Product category R R type FR FR type
P PT100 A class Single		R series thread:			
DP PT100 A class double		R18 Tapered pipe thread R1/8			
K K-type thermocouple I class Single		M series thread:			
DK K-type thermocouple I class double		M12 Standard threadM12			
		NPT series thread:			
		N12 American standard taper pipe thread NPT1/2			
		G series thread:			
		G12 Gas thread G1/2			
Note: PT100 platinum resistor, the default is three-wire system, customers should customize two-wire system, technical communication should be made first.					

Note:**1)Thermal resistance:**

- a Cable bending radius $\geq 40\text{mm}$;
- b Default temperature measurement $-50\text{--}250^{\circ}\text{C}$, The cable is a tetrafluoride silver-plated shielded wire;
- c The highest temperature measurement is $\leq 350^{\circ}\text{C}$ and $\geq 250^{\circ}\text{C}$. The cable is silver-plated shielded wire, which is waterproof and cannot be bent for multiple times.

2)Thermocouple: Cable bending radius $\geq 40\text{mm}$; default temperature measurement $0\text{--}500^{\circ}\text{C}$;

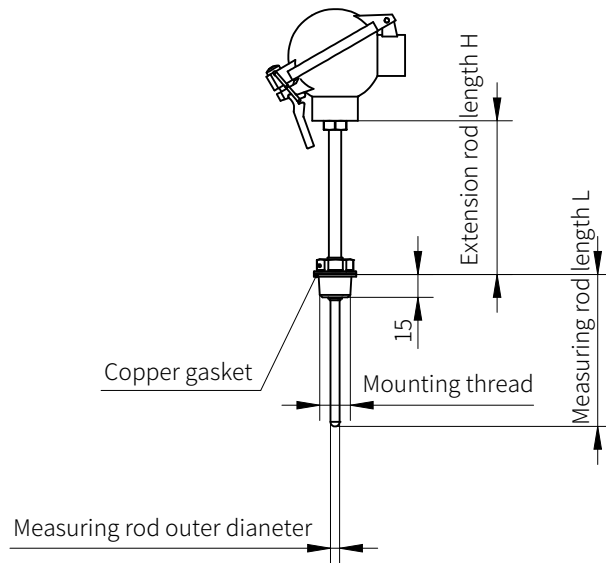
3)Cable end: the default is Y-type cold-pressed terminal SV1.25-4;

4)Double-branch thermal resistance: At the highest temperature of $\leq 350^{\circ}\text{C}$ and $\geq 250^{\circ}\text{C}$, the outer diameter of the measuring rod is $\geq \Phi 8\text{mm}$; The outer diameter of the measuring rod $\Phi 6\text{mm}$ or higher when the highest temperature is $\leq 250^{\circ}\text{C}$;

5) Double thermocouple: measuring rod outer diameter $\geq \Phi 6\text{mm}$;

6)Special requirements: Customer's special requirements for structural size,temperature measuring range, cable, etc. can be customized through technical communication first.

Model selection	Model: GWD-P-0100-R18-05-10-R
	Explanation: GWD-R type thermal resistance,platinum resistance with accuracy of PT100A class,single,measuring rod length of 100mm,mounting thread R1/8 ,measuring rod outer diameter of Φ5mm,with 10m cable.

GWD- JR type

GWD-series JR-type order code

GWD - - - - - JR				
Component model P PT100 A class Single DP PT100 A class double Note: PT100 platinum resistor, the default is three-wire system, customers should customize two-wire system, technical communication should be made first.	Extension rod length:H _ _ _ _unit mm (Less than four digits can be ignored)	Measuring Rod Outer diameter R series thread: R18 Tapered pipe thread R1/8 M series thread: M12 Standard thread M12 NPT series thread: NPT12 American standard taper pipe thread NPT1/2 G series thread: G12 Gas thread G1/2	Rod diameter unit mm	Measuring range 250 -50-250°C 300 -50-300°C
	Measuring rod length:L _ _ _ _unit mm (Less than four digits can be ignored)	Cable length DG__ with _ _m cable conductor		Product category JR JR-type

Note:
1)Thermal resistance:

 a Lead bending radius $\geq 40\text{mm}$;

 b Default temperature measurement $-50\text{--}250^{\circ}\text{C}$, The cable is a tetrafluoride silver-plated shielded wire;

2)Cable end: the default is Y-type cold-pressed terminal SV1.25-4;

3)Double-branch thermal resistance: maximum temperature measurement $\leq 350^{\circ}\text{C}$, and $\geq 250^{\circ}\text{C}$, measuring rod outer diameter $\geq \Phi 8\text{mm}$; maximum temperature measurement $\leq 250^{\circ}\text{C}$, measuring rod outer diameter $\geq \Phi 6\text{mm}$
4)Special requirements: Customer's special requirements for structural size, temperature measuring range, cable, etc. can be customized through technical communication first.

Model selection | Model: GWD-P-0100--0080-DG10-G12-250-08-JR

 Explanation: GWD-JR type thermal resistance, platinum resistance with accuracy of PT100A class, single, measuring rod length of 100mm, the extension rod is 80mm, with 10m cable, installed with G1/2 thread, with temperature measuring range of $-50\text{--}250^{\circ}\text{C}$ and measuring rod outer diameter of $\Phi 8\text{mm}$.

Comparison table of platinum resistance

TECHNOLOGY PERCEIVES THE FUTURE

Pt100 Dividing table (-90~300°C)										
Temperature	0	1	2	3	4	5	6	7	8	9
°C	Resistance value (Ω)									
-90	64.3	63.9	63.49	63.09	62.68	62.28	61.88	61.47	61.07	60.66
-80	68.33	67.92	67.52	67.12	66.72	66.31	65.91	65.51	65.11	64.7
-70	72.33	71.93	71.53	71.13	70.73	70.33	69.93	69.53	69.13	68.73
-60	76.33	75.93	75.53	75.13	74.73	74.33	73.93	73.53	73.13	72.73
-50	80.31	79.91	79.51	79.11	78.72	78.32	77.92	77.52	77.12	76.73
-40	84.27	83.87	83.48	83.08	82.69	82.29	81.89	81.5	81.1	80.7
-30	88.22	87.83	87.43	87.04	86.64	86.25	85.85	85.46	85.06	84.67
-20	92.16	91.77	91.37	90.98	90.59	90.19	89.8	89.4	89.01	88.62
-10	96.09	95.69	95.3	94.91	94.52	94.12	93.73	93.34	92.95	92.55
0	100	99.61	99.22	98.83	98.44	98.04	97.65	97.26	96.87	96.48
0	100	100.39	100.78	101.17	101.56	101.95	102.34	102.73	103.12	103.51
10	103.9	104.29	104.68	105.07	105.46	105.85	106.24	106.63	107.02	107.4
20	107.79	108.18	108.57	108.96	109.35	109.73	110.12	110.51	110.9	111.29
30	111.67	112.06	112.45	112.83	113.22	113.61	114	114.38	114.77	115.15
40	115.54	115.93	116.31	116.7	117.08	117.47	117.86	118.24	118.63	119.01
50	119.4	119.78	120.17	120.55	120.94	121.32	121.71	122.09	122.47	122.86
60	123.24	123.63	124.01	124.39	124.78	125.16	125.54	125.93	126.31	126.69
70	127.08	127.46	127.84	128.22	128.61	128.99	129.37	129.75	130.13	130.52
80	130.9	131.28	131.66	132.04	132.42	132.8	133.18	133.57	133.95	134.33
90	134.71	135.09	135.47	135.85	136.23	136.61	136.99	137.37	137.75	138.13
100	138.51	138.88	139.26	139.64	140.02	140.4	140.78	141.16	141.54	141.91
110	142.29	142.67	143.05	143.43	143.8	144.18	144.56	144.94	145.31	145.69
120	146.07	146.44	146.82	147.2	147.57	147.95	148.33	148.7	149.08	149.46
130	149.83	150.21	150.58	150.96	151.33	151.71	152.08	152.46	152.83	153.21
140	153.58	153.96	154.33	154.71	155.08	155.46	155.83	156.2	156.58	156.95
150	157.33	157.7	158.07	158.45	158.82	159.19	159.56	159.94	160.31	160.68
160	161.05	161.43	161.8	162.17	162.54	162.91	163.29	163.66	164.03	164.4
170	164.77	165.14	165.51	165.89	166.26	166.63	167	167.37	167.74	168.11
180	168.48	168.85	169.22	169.59	169.96	170.33	170.7	171.07	171.43	171.8
190	172.17	172.54	172.91	173.28	173.65	174.02	174.38	174.75	175.12	175.49
200	175.86	176.22	176.59	176.96	177.33	177.69	178.06	178.43	178.79	179.16
210	179.53	179.89	180.26	180.63	180.99	181.36	181.72	182.09	182.46	182.82
220	183.19	183.55	183.92	184.28	184.65	185.01	185.38	185.74	186.11	186.47
230	186.84	187.2	187.56	187.93	188.29	188.66	189.02	189.38	189.75	190.11
240	190.47	190.84	191.2	191.56	191.92	192.29	192.65	193.01	193.37	193.74
250	194.1	194.46	194.82	195.18	195.55	195.91	196.27	196.63	196.99	197.35
260	197.71	198.07	198.43	198.79	199.15	199.51	199.87	200.23	200.59	200.95
270	201.31	201.67	202.03	202.39	202.75	203.11	203.47	203.83	204.19	204.55
280	204.9	205.26	205.62	205.98	206.34	206.7	207.05	207.41	207.77	208.13
290	208.48	208.84	209.2	209.56	209.91	210.27	210.63	210.98	211.34	211.7
300	212.05	212.41	212.76	213.12	213.48	213.83	214.19	214.54	214.9	215.25
Remarks: The graduation table of Pt1000 is multiplied by 10 by the graduation table of Pt100.										

Felix-Wankel-Str.1, 85221 Dachau, Germany

Tel: +49 (0) 8131 337578-0

E-mail: info@tbfsensor.de

TBF Electronic Technology GmbH(German branch)

Building 6, Dazu Enterprise Bay,
8th yard of Liangshuihe 2nd street, BDA P.R.China

Tel: +86 10-67948976 67948916

Fax: +86 10-67948979


Beijing Tebeifu Electronic Technology Co., Ltd.

www.tbfsensor.com