

温度传感器 承认书
SENSOR SPECIFICATION FOR APPROVAL

产品编号 (Product No.)	BMT7586	版本 (Edition)	A2版
设计系列 (Model No.)	BMT-PT1000	编制日期 (Com. Date)	2024-10-24
规格型号 (Product Model)	BMT-PT1000A-L70	修定日期 (Rev. Date)	2024-11-15

客户名称

customer

四川英杰电气股份有限公司

客户料号

Customer P/N

产品描述

Product Des.

/

编 制

Editor

Huang Qiuyu

日期

Date

2024-11-15

审 核

Check

Racily Wang

日期

Date

2024-11-15

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Approval

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日期

Date

2024-11-15

客户确认

Customer Confirm

日期

Date

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REVISED RECORD LIST

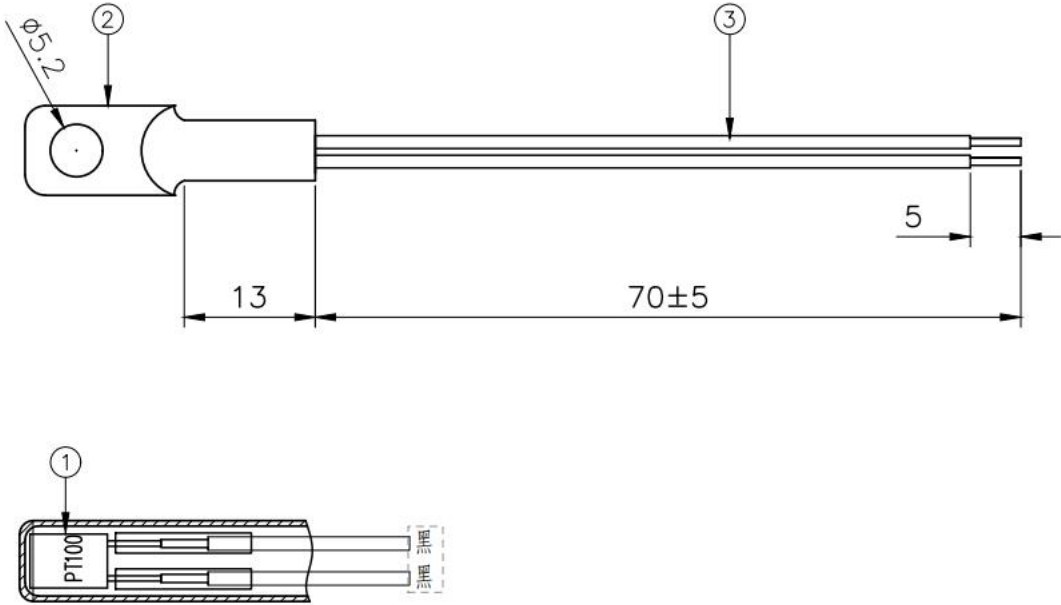
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1. 产品外形图(Product Drawing)

单位(Unit):mm



2. 材料清单(Material List)

序号 (NO.)	零件名称 (Part Name)	规格描述 (Specification Description)	用量 (Q 'TY)	备注 (Remark)
*	铂电阻 PT	PT1000A	1PCS	
1	外壳 Shell	JG6-5 安装孔 $\varnothing$ 5.2	1PCS	
2	环氧 EPOXY	Black Epoxy	/	
3	线材 Lead wire	UL1332 AWG24 黑色线	2PCS	

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3. 电气性能(Electrical Characteristic)

序号 NO.	项目 (Item)	代号 (Symbol)	测试条件 (Test Conditions)	最小值 (Min.)	中心值 (Nor.)	最大值 (Max.)	单位 (Unit)
3-1	0℃电阻值 (Resistance At 0℃)	R ₀	Ta=0℃±0.05℃ P _T ≤0.1mW	/	1000.00	/	Ω
3-2	100℃电阻值 (Resistance At 100℃)	R ₁₀₀	Ta=100℃±0.05℃ P _T ≤0.1mW	/	1385.06	/	Ω
3-3	α值 (α Value)	α _{0/100}	$\alpha = \frac{R_{100} - R_0}{100 \cdot R_0}$	/	3850.00	/	PPM/K
3-4	响应时间 (Response Time)	τ	25℃→50℃ T1=25+(50-25)*63.2%=40.8℃	/	12.0	/	Sec
3-5	绝缘测试 (Insulation test)	/	DC500V	100	/	/	M Ω
3-6	耐压测试 (high-voltage test)	/	A2000V 3S	/	/	2	mA

4. 最大使用等级 (Ratings)

序号 NO.	项目 (Item)	规格 (Specification)	单位 (Unit)
4-1	成品工作温度范围 (Product Working Temp. Range)	-55 ~ +125	℃
4-2	最大额定工作电流 (Max. Rated operational current)	0.2	mA

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5. 机械性试验 (Mechanical Test)

序号 NO.	项目 (Item)	技术要求 (Pass Criteria)	测试条件 (Test Conditions)
5-1	拉力测试 (Pull Test)	不松脱、 不变形 (NO loosening NO deformation)	线材与外壳间的连接强度，拉力≥9.8N (Connection strength between wire and Shell of less than 9.8N
5-2	自由落体测试(30mm引线) (Drop Test-30mm Wire)	外观应无明显损伤,性能测试的要求 (Appearance should be no visible damage, performance test requirements)	1米的高度，让产品做自由落体运动，下落到10mm厚的 橡胶板上，5次 (Drop on a 10mm thick wooden board from a height of 1m for 5 times)

6. 可靠性测试 (Reliability Tests)

序号 NO.	项目 (Item)		
6-1	高温储存 (High Temperature Storage)	ΔR/R0≤±3% 相对初始值 (Relative to the initial value)	125±3℃， 1000±12h 取出产品在常态下恢复1H(Take out the product under normal recovery after 1H)
6-2	低温储存 (low Temperature Storage)		-55±3℃， 1000±12h 取出产品在常态下恢复1H(Take out the product under normal recovery after 1H)
6-3	恒温恒湿测试 (Humidity test)		40±2℃， 相对湿度90%~95%的环境中放置1000H,取出充分除去表面水滴并在常态下恢复1H; (40±2℃, relative humidity90%~95% of the environment to place 500H, remove sufficient to remove surface water droplets and recovery under normal 1H)
6-4	温度冲击试验 (in air)		顺序: 常温25℃--高温120±2℃放置30min—室温25℃放置5min—低温-40±2℃放置30min—室温25℃放置5min, 循环5次后, 取出在常温下恢复1H; (Order: room 25℃, high temperature to 120℃±2℃ for 30min -- room 25℃ for 5min -- low -40℃±2℃ for 30min -- room 25℃ for 5min, circulation after 5 times, take back 1H at room temperature ;)

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7. 纯元件精度差 (Poor precision of pure components)

序号 NO.	电阻 (PT)	精度等级 (accuracy class)	纯元件测温范围 (°C) (Just PT Temp. Range)	允差 Δt (°C)
7-1	PT1000	A	-50~+300	$\pm (0.15+0.002 \mid t \mid)$
7-2	PT1000	B	-70~+500	$\pm (0.30+0.005 \mid t \mid)$
7-3	PT1000	2B	-70~+500	$\pm (0.6+0.01* \mid t \mid)$

8. 产品储存条件 (Storage Conditions)

8-1 储存条件 (Storage Conditions) :

- 储存温度 (Ambicnt Temperature): -10℃~+40℃
- 相对湿度 (Relative Humidity): $\leq 75\%RH$
- 远离腐蚀和阳光照射 (Keep away from corrosive atmosphere and sunlight)

8-2 储存时间 (Period of Storage): 1 year

产品储存时间超过一年，为确保使用正常且精度不受影响，建议重新检测后投入使用。
Product storage time more than a year, in order to ensure the use of normal and precision is not affected, recommends testing after put into use.

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9. 产品使用条件及注意事项 (Product use conditions and the matters needing attention)

- 9.1 产品使用的最大工作温度，最大功率等，均依照规格书要求作业，不可超出规格书之范围；
(The maximum service temperature of product use, the maximum power to wait, all in accordance with the specification requirements homework, shall not exceed the scope of specification)
- 9.2 产品移动、安装必须轻拿轻放，不可用力拉动；注意保护头部电阻；
(Product mobile, installation must be handled with care not pulling force,attention to protect the head ntc resistance;)
- 9.3 外壳发生变形、氧化等现象时，不要使用，以免影响感温精度；
(Cap occur deformation, oxidation etc. Phenomenon, do not use, so as not to affect the temperature accuracy)
- 9.4 产品外观发现变形、破损时，不可使用，以免影响电性能；
(Product appearance found deformation, breakage, do not use, lest affect performance)
- 9.5 在操作温度范围内，应尽量避免过于激烈的温度变化；
(Avoid from exceeding radical temperature change,which is beyond operation temperature range)
- 9.6 不可施加过度振动的压力；
(Do not add excessive vibration shocking pressure;)
- 9.7 避免过度拉伸，弯曲导线；
(Avoid from excessive pulling and bending of the lead wire)
- 9.8 不要使用在有腐蚀性气体 (CO2, NH3, Sox, Nox)超出指定的条件。不要使用在电解、盐、酸、碱性和有机溶剂超出指定的条件；
(Do not use in corrosiveness gas atmosphere (CO2, NH3, Sox, Nox) beyond the designated condition.) Do not use at the place where the sensor touches the electrolytic,brine,acid,alkaline and organic solvent beyond the designated condition;)
- 9.9 尽可能避免使用在有水、高湿及其它带腐蚀性的环境中；
(As far as possible avoid using in water, high humidity and other have rot environment.)
- 9.10 通过负温度系数温度传感器的电流会引起组件自身发热而产生测量误差，因此需在使用前将此因素考虑在内。
(Through the negative temperature coefficient temperature sensor current will causeelement own fever and produce measurement error, therefore need before use this factor into consideration.)
- 9.11 产品储存时间超过一年，为确保使用正常且精度不受影响，建议重新检测后投入使用；
(Product storage time more than a year, in order to ensure the use of normal and precision is not affected, recommends testing after put into use;)
- 9.12 产品废弃时，需找专门的回收公司或发回原生产工厂进行处理；
(Waste products, need to find a recycling company specialized or back to the original production plant for processing;)
- 9.13 如果有任何不清楚的地方，请咨询到我们公司的销售主管或工程师。
(If there is anything remaining unclear, please contact to our company's sales supervisor/engineer.)

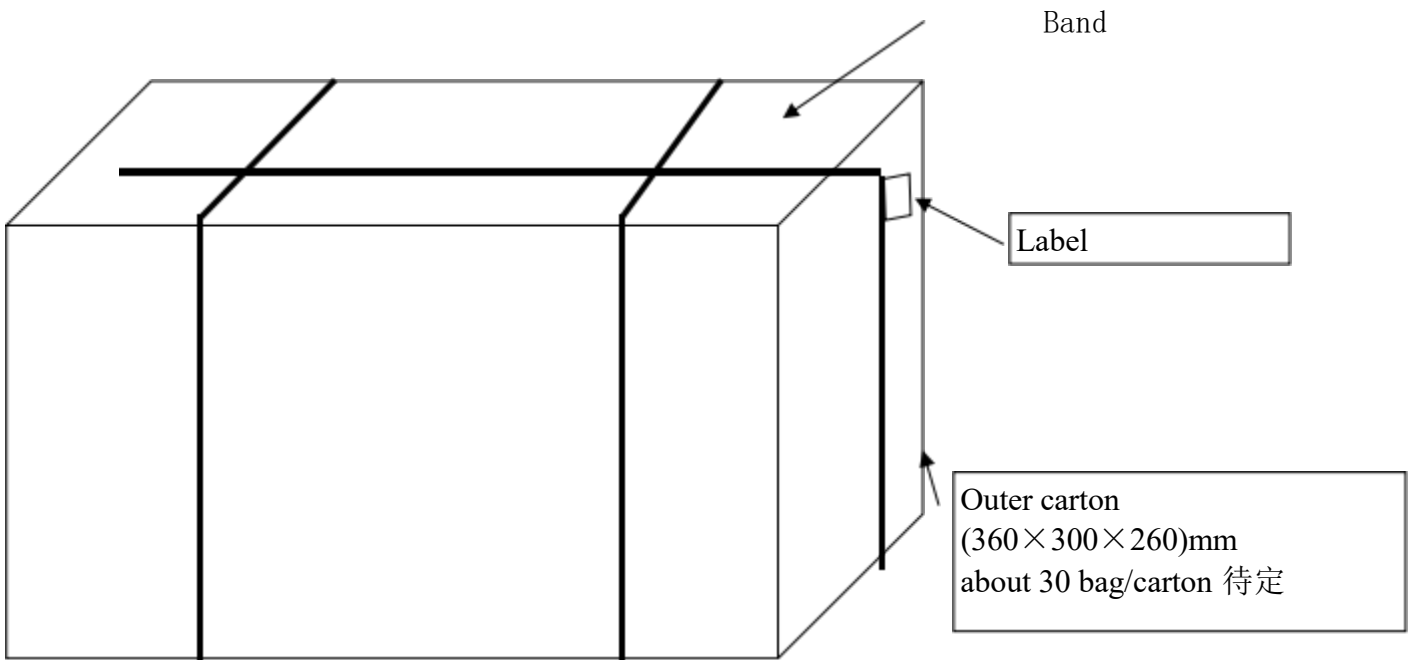
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10. 包装(Packing)

10-1 内包装袋:PE袋(PE bag)

1. 500PCS/包。(500PCS/bag) 待定
2. 最小包装上签产品标签及客户料号(Label with product name and customer number)
3. 具体包装数量在批量交货前再次确认, 确保包装经济、安全(The specific number of packages in the batch to confirm again before delivery, to ensure that the packaging economy and safety.)

10.2 外包装箱(Outer packing container)



10-3 以上包装为预估包装, 正式交货前请允许根据实际数量更改包装要求。

(Actual size and quantity may subject to be changed according to the final production situation.)

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PT1000A (TCR=3850 ppm/K)							
T (℃)	Rnom (Ω)	T (℃)	Rmin (Ω)	T (℃)	Rmin (Ω)	T (℃)	Rmin (Ω)
-55	783.189	-8	968.696	39	1151.545	86	1331.843
-54	787.166	-7	972.613	40	1155.408	87	1335.651
-53	791.143	-6	976.529	41	1159.270	88	1339.458
-52	795.117	-5	980.444	42	1163.130	89	1343.264
-51	799.091	-4	984.358	43	1166.989	90	1347.069
-50	803.063	-3	988.270	44	1170.847	91	1350.873
-49	807.033	-2	992.181	45	1174.704	92	1354.676
-48	811.003	-1	996.091	46	1178.560	93	1358.477
-47	814.970	0	1000.000	47	1182.414	94	1362.277
-46	818.937	1	1003.908	48	1186.268	95	1366.077
-45	822.902	2	1007.814	49	1190.120	96	1369.875
-44	826.865	3	1011.720	50	1193.971	97	1373.671
-43	830.828	4	1015.624	51	1197.821	98	1377.467
-42	834.789	5	1019.527	52	1201.670	99	1381.262
-41	838.748	6	1023.429	53	1205.518	100	1385.055
-40	842.707	7	1027.330	54	1209.364	101	1388.847
-39	846.663	8	1031.229	55	1213.210	102	1392.638
-38	850.619	9	1035.128	56	1217.054	103	1396.428
-37	854.573	10	1039.025	57	1220.897	104	1400.217
-36	858.526	11	1042.921	58	1224.739	105	1404.005
-35	862.478	12	1046.816	59	1228.579	106	1407.791
-34	866.428	13	1050.710	60	1232.419	107	1411.576
-33	870.377	14	1054.603	61	1236.257	108	1415.360
-32	874.325	15	1058.495	62	1240.095	109	1419.143
-31	878.271	16	1062.385	63	1243.931	110	1422.925
-30	882.217	17	1066.274	64	1247.766	111	1426.706
-29	886.160	18	1070.162	65	1251.600	112	1430.485
-28	890.103	19	1074.049	66	1255.432	113	1434.264
-27	894.044	20	1077.935	67	1259.264	114	1438.041
-26	897.985	21	1081.820	68	1263.094	115	1441.817
-25	901.923	22	1085.703	69	1266.923	116	1445.592
-24	905.861	23	1089.585	70	1270.751	117	1449.366
-23	909.797	24	1093.467	71	1274.578	118	1453.138
-22	913.732	25	1097.347	72	1278.404	119	1456.910
-21	917.666	26	1101.225	73	1282.228	120	1460.680
-20	921.599	27	1105.103	74	1286.052	121	1464.449
-19	925.530	28	1108.980	75	1289.874	122	1468.217
-18	929.461	29	1112.855	76	1293.695	123	1471.984
-17	933.390	30	1116.729	77	1297.515	124	1475.750
-16	937.317	31	1120.602	78	1301.334	125	1479.514
-15	941.244	32	1124.474	79	1305.152		
-14	945.169	33	1128.345	80	1308.968		
-13	949.093	34	1132.215	81	1312.783		
-12	953.016	35	1136.083	82	1316.597		
-11	956.938	36	1139.950	83	1320.411		
-10	960.859	37	1143.817	84	1324.222		
-9	964.778	38	1147.681	85	1328.033		