

# Product specification

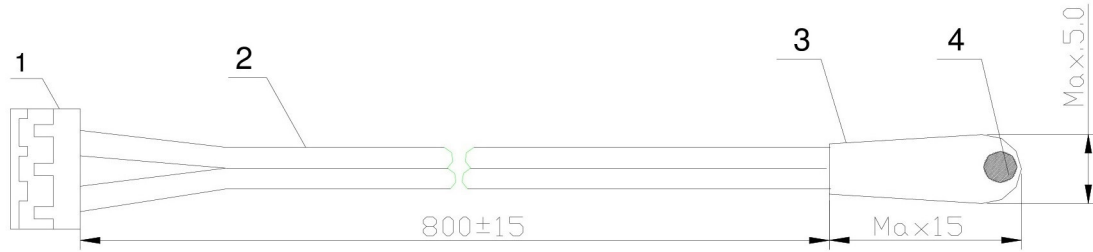
## 产品技术规格

规格型号 (PART NO.) APR-CWF103G3975GB800B

文件编号 (FILE NO.) APR-CWF6392

### 2、外形尺寸

(单位: mm)



### 3、材料规格

序号	材料名称	规格/型号	数量
3-1.	端子孔座	EH EH-3Y 白色 (装配 1、3PIN)	2PCS 1PCS
3-2.	电线	UL2651 26AWG 2C TS 300V 105℃ 黑色 815mm	1PCS
3-3.	环氧树脂	J-106AB 黑色	/
3-4.	热敏电阻	UL MF58-103G3975GB R25=10K Ω ±2% B25/85=3975K ±2%	1PCS

### 4、电气性能

序号	项目	符号	测试条件	最小值	中心值	最大值	单位
4-1.	25℃的电阻值	R <sub>25</sub>	T <sub>a</sub> =25±0.05℃ P <sub>T</sub> ≤0.1mw	9.8	10.00	10.2	KΩ
4-2.	50℃的电阻值	R <sub>50</sub>	T <sub>a</sub> =50±0.05℃ P <sub>T</sub> ≤0.1mw	/	2.032	/	KΩ
4-3.	B 值	B <sub>25/50</sub>	$B=LN \frac{R_{T1}}{R_{T2}} / (\frac{1}{T1} - \frac{1}{T2})$	3895.50	3975.0	4054.5	K
4-4.	耗散系数 (in air)	σ	T <sub>a</sub> =25±0.5℃	5	/	/	mW/℃
4-5.	时间常数 (in water)	τ	25℃→50℃ T1=25+(50-25)*63.2% =40.8℃	/	/	25	Sec
4-6.	绝缘电阻	/	500Vdc	100	/	/	MΩ
4-7.	耐压测试	/	1500V AC	5	/	/	S

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4-8.	使用温度范围	/	/	-30	/	+105	°C
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### 5、机械性能

序号	项目	技术要求	测试条件及方法
5-1.	拉力测试	树脂、电线粘接处不开裂, 不变形、无损伤	加载 9.8N (1KGF) 1 分钟。
5-2.	落地测试	无可见性损伤	在 1 米的高度, 让产品做自由落体运动, 下落到 10mm 厚的橡木板上, 5 次。

### 6、可靠性试验

序号	项目	技术要求	测试条件及方法
6-1.	高温试验	$\Delta R/R_{25} \leq \pm 3\%$	105±5°C, 1000±24h (参照 IEC60068-2-2/GB2423.2 试验)
6-2.	低温试验	$\Delta R/R_{25} \leq \pm 3\%$	-30±5°C, 1000±24h (参照 IEC60068-2-1/GB2423.1 试验)
6-3.	耐潮湿试验	$\Delta R/R_{25} \leq \pm 3\%$	60±2°C, 90%-95%RH 环境下放置 1000±24h (参照 IEC60068-2-3/GB2423.3 试验)
6-4.	温度冷热循环试验	$\Delta R/R_{25} \leq \pm 3\%$	-30°C×30min→25°C×5min→105°C×30min→25°C×5min, 反复 5 次 (参照 IEC60068-2-14/GB2423.22 试验)

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### 产品使用条件(Product use conditions)

- 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)
- 2.产品移动、安装必须轻拿轻放, 不可用力拉动  
(Product mobile, installation must be handled with care not pulling force)
- 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)
- 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)
- 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)
- 6.不可施加过度振动的压力  
(Do not add excessive vibration shocking pressure)
- 7.避免过度拉伸, 弯曲导线  
(Avoid from excessive pulling and bending of the lead wire)
- 8.不要使用在有腐蚀性气体(CO<sub>2</sub>, NH<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub>)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 (CO<sub>2</sub>, NH<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub>) 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.尽可能避免使用在有水、高湿及其它带腐蚀性环境中  
(As far as possible avoid using in water, high humidity and other have rot environment)
- 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 cause element overheat and produce measurement error; therefore need before use this factor into consideration.)
- 11.在极限温度下, 产品可短期承受过高或过低的温度冲击, 但不可长期将产品置于极限温度下, 以避免缩短产品的使用寿命。  
(In extreme temperatures, the product can be short-term bear too high or too low temperature impact, but do not put product at extreme temperatures for a long time, in order to avoid shortening the service life of products.)  
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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文件编号(FILE NO.)	APR-CWF6392

R25°C=10K Ω ±2				B25/85=3975K				材料批号: M008-5				版本: A			
T(°C)	Rmin(K Ω)	Rnom(K Ω)	Rmax(K Ω)	T(°C)	Rmin(K Ω)	Rnom(K Ω)	Rmax(K Ω)	T(°C)	Rmin(K Ω)	Rnom(K Ω)	Rmax(K Ω)	T(°C)	Rmin(K Ω)	Rnom(K Ω)	Rmax(K Ω)
-40	291.822	308.163	325.288	-3	36.576	37.822	39.095	-3	36.576	37.822	39.095	-3	36.576	37.822	39.095
-39	273.532	288.660	304.502	-2	34.763	35.929	37.119	-2	34.763	35.929	37.119	-2	34.763	35.929	37.119
-38	256.617	270.634	285.303	-1	33.048	34.139	35.252	-1	33.048	34.139	35.252	-1	33.048	34.139	35.252
-37	240.947	253.947	267.541	0	31.425	32.446	33.486	0	31.425	32.446	33.486	0	31.425	32.446	33.486
-36	226.408	238.474	251.081	1	29.888	30.844	31.817	1	29.888	30.844	31.817	1	29.888	30.844	31.817
-35	212.899	224.106	235.807	2	28.435	29.329	30.239	2	28.435	29.329	30.239	2	28.435	29.329	30.239
-34	200.330	210.745	221.613	3	27.058	27.895	28.746	3	27.058	27.895	28.746	3	27.058	27.895	28.746
-33	188.620	198.306	208.406	4	25.755	26.538	27.335	4	25.755	26.538	27.335	4	25.755	26.538	27.335
-32	177.698	186.710	196.101	5	24.521	25.254	25.999	5	24.521	25.254	25.999	5	24.521	25.254	25.999
-31	167.498	175.888	184.624	6	23.353	24.039	24.736	6	23.353	24.039	24.736	6	23.353	24.039	24.736
-30	157.963	165.777	173.908	7	22.246	22.889	23.540	7	22.246	22.889	23.540	7	22.246	22.889	23.540
-29	149.041	156.322	163.893	8	21.198	21.799	22.409	8	21.198	21.799	22.409	8	21.198	21.799	22.409
-28	140.685	147.471	154.524	9	20.204	20.768	21.339	9	20.204	20.768	21.339	9	20.204	20.768	21.339
-27	132.852	139.180	145.751	10	19.264	19.791	20.325	10	19.264	19.791	20.325	10	19.264	19.791	20.325
-26	125.503	131.406	137.531	11	18.372	18.866	19.366	11	18.372	18.866	19.366	11	18.372	18.866	19.366
-25	118.605	124.112	129.823	12	17.527	17.990	18.458	12	17.527	17.990	18.458	12	17.527	17.990	18.458
-24	112.124	117.264	122.590	13	16.726	17.160	17.598	13	16.726	17.160	17.598	13	16.726	17.160	17.598
-23	106.031	110.829	115.798	14	15.967	16.373	16.783	14	15.967	16.373	16.783	14	15.967	16.373	16.783
-22	100.301	104.781	109.417	15	15.247	15.628	16.012	15	15.247	15.628	16.012	15	15.247	15.628	16.012
-21	94.908	99.092	103.419	16	14.564	14.921	15.281	16	14.564	14.921	15.281	16	14.564	14.921	15.281
-20	89.830	93.738	97.777	17	13.917	14.252	14.588	17	13.917	14.252	14.588	17	13.917	14.252	14.588
-19	85.047	88.698	92.468	18	13.303	13.617	13.932	18	13.303	13.617	13.932	18	13.303	13.617	13.932
-18	80.539	83.950	87.470	19	12.721	13.015	13.310	19	12.721	13.015	13.310	19	12.721	13.015	13.310
-17	76.289	79.477	82.764	20	12.168	12.444	12.721	20	12.168	12.444	12.721	20	12.168	12.444	12.721
-16	72.281	75.260	78.330	21	11.644	11.902	12.162	21	11.644	11.902	12.162	21	11.644	11.902	12.162
-15	68.500	71.284	74.152	22	11.147	11.389	11.632	22	11.147	11.389	11.632	22	11.147	11.389	11.632
-14	64.931	67.534	70.213	23	10.674	10.901	11.129	23	10.674	10.901	11.129	23	10.674	10.901	11.129
-13	61.562	63.996	66.498	24	10.226	10.439	10.652	24	10.226	10.439	10.652	24	10.226	10.439	10.652
-12	58.381	60.656	62.995	25	9.800	10.000	10.200	25	9.800	10.000	10.200	25	9.800	10.000	10.200
-11	55.377	57.504	59.689	26	9.407	9.595	9.783	26	9.407	9.595	9.783	26	9.407	9.595	9.783
-10	52.538	54.528	56.569	27	9.028	9.205	9.381	27	9.028	9.205	9.381	27	9.028	9.205	9.381
-9	49.856	51.717	53.625	28	8.665	8.831	8.996	28	8.665	8.831	8.996	28	8.665	8.831	8.996
-8	47.322	49.061	50.845	29	8.316	8.472	8.627	29	8.316	8.472	8.627	29	8.316	8.472	8.627
-7	44.925	46.553	48.220	30	7.981	8.127	8.273	30	7.981	8.127	8.273	30	7.981	8.127	8.273
-6	42.660	44.182	45.741	31	7.660	7.797	7.933	31	7.660	7.797	7.933	31	7.660	7.797	7.933
-5	40.518	41.942	43.399	32	7.352	7.480	7.608	32	7.352	7.480	7.608	32	7.352	7.480	7.608
-4	38.492	39.824	41.186	33	7.057	7.177	7.296	33	7.057	7.177	7.296	33	7.057	7.177	7.296

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34	6.723	6.886	7.050	71	1.624	1.687	1.752		
35	6.449	6.608	6.768	72	1.570	1.631	1.694		
36	6.186	6.341	6.498	73	1.517	1.577	1.639		
37	5.935	6.086	6.239	74	1.467	1.525	1.585		
38	5.694	5.842	5.991	75	1.418	1.475	1.534		
39	5.464	5.608	5.754	76	1.372	1.428	1.485		
40	5.245	5.385	5.527	77	1.327	1.381	1.437		
41	5.034	5.171	5.309	78	1.284	1.337	1.392		
42	4.833	4.966	5.101	79	1.243	1.295	1.348		
43	4.641	4.771	4.902	80	1.203	1.254	1.305		
44	4.457	4.584	4.712	81	1.165	1.214	1.265		
45	4.281	4.405	4.530	82	1.128	1.176	1.226		
46	4.113	4.233	4.355	83	1.093	1.140	1.188		
47	3.953	4.070	4.189	84	1.059	1.104	1.151		
48	3.799	3.913	4.029	85	1.026	1.070	1.116		
49	3.652	3.763	3.876	86	1.013	1.058	1.103		
50	3.512	3.620	3.730	87	0.964	1.006	1.050		
51	3.377	3.483	3.590	88	0.915	0.956	0.998		
52	3.249	3.352	3.456	89	0.906	0.946	0.988		
53	3.126	3.226	3.328	90	0.878	0.918	0.959		
54	3.008	3.106	3.205	91	0.852	0.891	0.931		
55	2.896	2.991	3.088	92	0.827	0.864	0.904		
56	2.788	2.881	2.975	93	0.802	0.839	0.877		
57	2.685	2.775	2.867	94	0.778	0.814	0.852		
58	2.587	2.674	2.764	95	0.755	0.791	0.827		
59	2.492	2.578	2.665	96	0.733	0.768	0.804		
60	2.402	2.485	2.570	97	0.712	0.746	0.781		
61	2.315	2.396	2.479	98	0.691	0.724	0.758		
62	2.232	2.311	2.392	99	0.671	0.704	0.737		
63	2.153	2.230	2.309	100	0.652	0.684	0.716		
64	2.077	2.152	2.229	101	0.634	0.664	0.696		
65	2.004	2.077	2.152	102	0.615	0.646	0.677		
66	1.934	2.005	2.078	103	0.598	0.627	0.658		
67	1.866	1.936	2.008	104	0.581	0.610	0.640		
68	1.802	1.870	1.940	105	0.565	0.593	0.622		
69	1.740	1.807	1.874	106	0.549	0.577	0.605		
70	1.681	1.746	1.812	107	0.534	0.561	0.589		

