Specification For Approval

Customer name : _____

Product name : NTC Thermistor

Customer PN : _____

MFG PN : CWF103F3950FA1074AT

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval

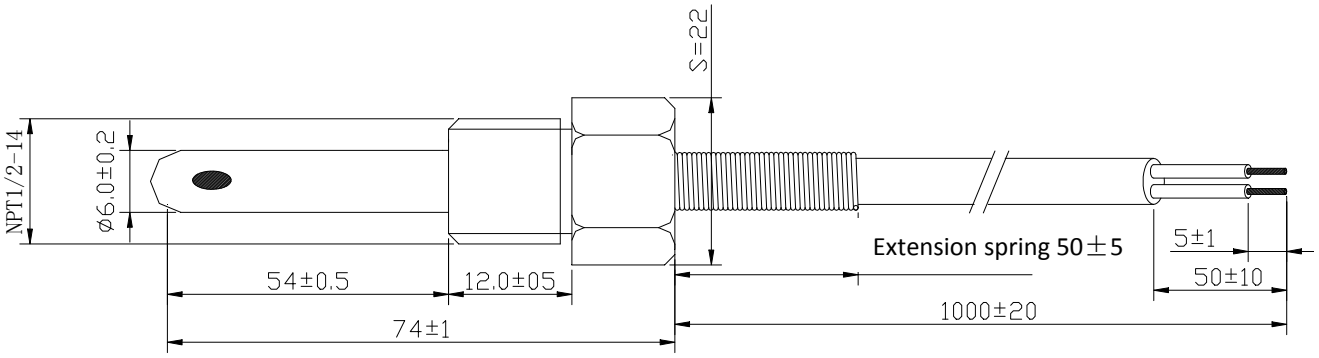
(Company name)

_____

Confirm got the spec and accept as our company's warehouse accept standard。

Version	Revise content	Forwarder	Date
A/1	Just Made	CHENG	2015/2/12

1、Overall Dimension （Unit：mm）



2、Material explanation

NO	Material Name	Item/PN
2-1.	Lead wire	Sheath line 2464 22AWG*2C(red/black) OD:3.60 Black
2-2.	Element	MF58 R25=10KΩ±1% B25/50=3950K±1%
2-3.	Spring	Φ6×55 Extension spring 50±5
2-4	Housing	Y-104I Φ6.0X74+NPT12-14+XS22 Stainless steel hexagonal probe
2-5	Coating	Epoxy Resin

3、Electrical Performance

NO	Item	Sign	Test Conditions	Min.	Normal value	Max.	Unit
4-1.	Resistance at 25℃	R25	Ta=25±0.05℃ P_T≦0.1mw	9.90	10	10.10	KΩ
4-2.	B Value	B25/50	$B=LN\frac{R_{T1}}{R_{T2}}/(\frac{1}{T1}-\frac{1}{T2})$	3910.5	3950	3989.5	k
4-3.	Dissipation factor	σ	Ta=25±0.5℃	3.0		/	mw/℃
4-4.	Time constant	τ	Ta=25±0.5℃	/	/	15	sec
4-5.	Insulation resistance	/	500VDC	100	/	/	MΩ
4-6	High-voltage Insulation Test	/	1500VAC	3			Sec
4-7	Operating temp.range	/	/	-10	/	100	℃

4、Reliability Test

NO	Item	Technical requirements	Test conditions and method
5-1.	High temp. Test	ΔR/R25≤±3% ΔB/B≤±3% No change with withstand voltage、 Insalution performance。 Appearance without damage.	100±5℃，power on 500±24 hrs，DC0.2mA
5-2.	Low temp. tes		-10±5℃，power on 500±24 hrs，DC0.2mA
5-3.	Endure moisture test		Store in environment 55±2℃,90%-95%RH for 240±24 hrs
5-4.	Temp. cycle test		–20℃×30min→Room temp.×10min→ in 100℃ water×30min→Room temp.×10min 10 cycles
5-5	Load electrify test		Power on DC1mA,500hrs in room temp. and humid。
5-6	Drop test		Free fall into concrete floor from height 1m ， 10 cycle。
5-7	Vibration test		Frequency range：10～55HZ Total amplitude 1.52mm 1 cycle 1 min ， direction and time X、Y、Z axs 2Hr each。
5-8	Bending test		Bend 180°binding site wire and epoxy resin。Back and forth 10 times

5、Part Number ：

CWF - ×× ××× × × ×××× ×
1 2 3 4 5 6 7 8

(1) NTC Thermistor Mark；

(2) Head shape sign (B:Housing Type, D:Dip-Coating, M:Molding)；

(3) Series Type (0:Epoxy coating structure, 1:Epoxy coating structure(high temp)) ；

(4) Nominal Resistance at 25℃ (previous two digits are significant figures, The last digit specifies the number of zeros to follow.)；

(5) Resistance tolerance（%）；

(6) B Value constant sign In general, it is value of 25/50Deg，other conditions will remark and explain；

(7) Length Sign (unit is mm) ；

(8) Special code ；

6、Storage Method

6.1 In the process of storage and transportation, per stack height is not more than 4 CTN products.

6.2 Available with all transport method, but avoid the rain, snow of direct or indirect leaching and mechanical damage.

6.3 Products should be stored in the temperature of environment - 10 ℃ / + 40 ℃, relative humidity is not more than 80%, environment should not have acid, alkali and corrosion gas or radioactive source.

7、R—T Converstion Table

R—T CONVERSION TABLE							
R_{25}=10KΩ±1% $B_{25/50}$=3950K±1%							
T/℃	Rcen	T/℃	Rcen	T/℃	Rcen	T/℃	Rcen
-40	253.2	264.3	275.8	-2	34.68	35.48	36.29
-39	239.8	250.2	260.9	-1	33.01	33.75	34.51
-38	227.1	236.8	246.9	0	31.43	32.12	32.82
-37	215.1	224.2	233.6	1	29.93	30.57	31.22
-36	203.8	212.3	221.0	2	28.50	29.10	29.71
-35	193.1	201.0	209.2	3	27.15	27.71	28.27
-34	182.9	190.3	198.0	4	25.88	26.39	26.92
-33	173.4	180.2	187.4	5	24.66	25.14	25.63
-32	164.3	170.7	177.4	6	23.51	23.96	24.41
-31	155.7	161.7	167.9	7	22.42	22.84	23.26
-30	147.6	153.2	159.0	8	21.39	21.77	22.16
-29	139.9	145.1	150.6	9	20.40	20.76	21.12
-28	132.6	137.5	142.6	10	19.47	19.80	20.14
-27	125.8	130.3	135.1	11	18.58	18.89	19.20
-26	119.3	123.5	127.9	12	17.74	18.02	18.31
-25	113.1	117.1	121.2	13	16.94	17.20	17.47
-24	107.3	111.0	114.9	14	16.18	16.42	16.67
-23	101.8	105.3	108.8	15	15.46	15.68	15.91
-22	96.56	99.80	103.1	16	14.77	14.98	15.19
-21	91.62	94.65	97.77	17	14.11	14.31	14.50
-20	86.95	89.78	92.69	18	13.49	13.67	13.85
-19	82.49	85.13	87.84	19	12.90	13.07	13.23
-18	78.28	80.74	83.27	20	12.34	12.49	12.64
-17	74.30	76.59	78.95	21	11.80	11.94	12.08
-16	70.53	72.67	74.87	22	11.29	11.42	11.55
-15	66.96	68.96	71.01	23	10.80	10.92	11.04
-14	63.59	65.45	67.36	24	10.34	10.45	10.56
-13	60.40	62.13	63.91	25	9.900	10.00	10.10
-12	57.38	58.99	60.65	26	9.474	9.573	9.673
-11	54.51	56.02	57.57	27	9.068	9.167	9.267
-10	51.80	53.21	54.65	28	8.681	8.780	8.879
-9	49.24	50.55	51.89	29	8.313	8.411	8.510
-8	46.81	48.03	49.28	30	7.962	8.060	8.158
-7	44.51	45.64	46.80	31	7.628	7.725	7.822
-6	42.32	43.38	44.47	32	7.309	7.405	7.502
-5	40.26	41.24	42.25	33	7.005	7.100	7.196
-4	38.30	39.22	40.15	34	6.716	6.809	6.904
-3	36.44	37.30	38.17	35	6.439	6.532	6.626

R－T CONVERSION TABLE

R_{25}=10KΩ±1%　　$B_{25/50}$=3950K±1%

T/℃	Rcen	T/℃	Rcen	T/℃	Rcen	T/℃	Rcen
36	6.176	6.267	6.360	74	1.452	1.495	1.539
37	5.924	6.014	6.106	75	1.403	1.445	1.488
38	5.684	5.773	5.863	76	1.357	1.398	1.440
39	5.455	5.543	5.631	77	1.312	1.352	1.393
40	5.236	5.322	5.410	78	1.269	1.308	1.348
41	5.027	5.112	5.198	79	1.228	1.266	1.305
42	4.827	4.911	4.995	80	1.188	1.225	1.264
43	4.636	4.719	4.802	81	1.150	1.186	1.224
44	4.454	4.535	4.617	82	1.113	1.149	1.185
45	4.280	4.359	4.439	83	1.077	1.112	1.148
46	4.113	4.191	4.270	84	1.043	1.078	1.113
47	3.954	4.030	4.108	85	1.010	1.044	1.079
48	3.801	3.876	3.952	86	0.9805	1.013	1.047
49	3.655	3.729	3.804	87	0.9516	0.9838	1.017
50	3.516	3.588	3.661	88	0.9236	0.9551	0.9876
51	3.379	3.450	3.521	89	0.8965	0.9274	0.9592
52	3.248	3.318	3.388	90	0.8703	0.9005	0.9317
53	3.124	3.191	3.260	91	0.8450	0.8746	0.9051
54	3.004	3.071	3.138	92	0.8205	0.8494	0.8793
55	2.891	2.956	3.022	93	0.7967	0.8251	0.8544
56	2.782	2.845	2.910	94	0.7737	0.8015	0.8302
57	2.678	2.740	2.803	95	0.7515	0.7787	0.8068
58	2.578	2.639	2.701	96	0.7300	0.7566	0.7842
59	2.483	2.542	2.603	97	0.7091	0.7352	0.7622
60	2.392	2.450	2.510	98	0.6889	0.7145	0.7410
61	2.304	2.362	2.420	99	0.6694	0.6944	0.7203
62	2.221	2.277	2.334	100	0.6505	0.6750	0.7004
63	2.141	2.196	2.251	101	0.6316	0.6556	0.6804
64	2.064	2.118	2.172	102	0.6133	0.6367	0.6611
65	1.991	2.043	2.097	103	0.5954	0.6184	0.6422
66	1.921	1.972	2.024	104	0.5782	0.6006	0.6240
67	1.853	1.903	1.954	105	0.5614	0.5834	0.6062
68	1.788	1.837	1.888	106	0.5451	0.5666	0.5889
69	1.726	1.774	1.823	107	0.5292	0.5503	0.5722
70	1.667	1.714	1.762	108	0.5139	0.5345	0.5559
71	1.610	1.656	1.703	109	0.4989	0.5191	0.5401
72	1.555	1.600	1.646	110	0.4845	0.5042	0.5247
73	1.502	1.546	1.591				