

## Specification For Approval

**Customer name :** \_\_\_\_\_

**Product name :** Meat Probe

**Customer PN :** \_\_\_\_\_

**MFG PN :** NSAB1503HD3-301S2M2

MFG			Customer Confirmation		
Make	Check	Approval	Test	Check	Approval
HD CHENG	XR LU	DZ LING			

(Company name)

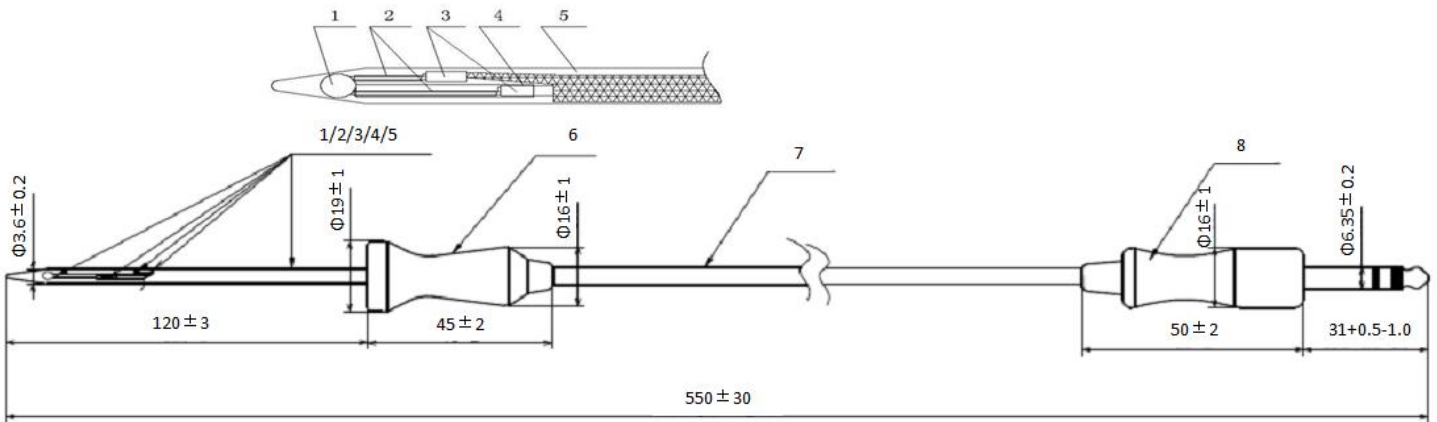
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Confirm got the spec and accept as our company's warehouse accept standard.

Version	Revise content	Forwarder	Date
A/1	Just made	Terry	2017-03-03

## 1、 Overall Dimension

(Unit: mm)



NO	COMPONENT	MATERIAL AND SPECIFICATIONS	QTY	REMARK
2-1.	ELEMENT	R25°C :50KΩ±3%, B0/100:4036K±1%	1	
2-2.	Casing	Teflon spaghetti sleeving	2	
2-3.	Terminals	Brass Tin Plated	2	
2-4.	Casing	Teflon spaghetti sleeving	2	
2-5.	Housing	Φ3.6 SUS304 Stainless steel	1	
2-6.	Handles	Silica gel set	1	
2-7.	LEAD WIRE	UL#22 silicone shielded wire	1	
2-8.	Plug	Silica gel set 6.35mm	1	

## 3、 Part Number :

NSA -  $\frac{\times \times \times}{2}$   $\frac{\times \times \times}{3}$   $\frac{\times}{4}$   $\frac{\times \times}{5}$   $\frac{\times \times \times \times}{6}$   $\frac{\times \times \times \times}{7}$  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°C (previous two digits are significant figures, The last digit specifies the number of zeros to follow.);

(5) Resistance tolerance (%);

(6) B Value code;

(7) Length Sign (unit is mm) ;

(8) Special code ;

## 4、Electrical Performance:

NO	Item	Sign	Test Conditions	Min.	Normal value	Max.	Unit
4-1.	Resistance at 25°C	R25	Ta=25±0.05°C P <sub>T</sub> ≦0.1mw	48.5	50.00	51.5	kΩ
	Resistance at 65°C	R65	Ta=65±0.05°C P <sub>T</sub> ≦0.1mw	9.615	10.07	10.54	kΩ
4-2.	B Value	B0/100	$B=LN \frac{R_{T1}}{R_{T2}} / \left( \frac{1}{T1} - \frac{1}{T2} \right)$	3995.64	4036	4076.36	k
4-3.	Dissipation factor	σ	Ta=25°C (in air)	Approx 5.0			mW/°C
4-4.	Time constant	τ	25°C→100°C T1=25+(100-25)*63.2% =72.4°C (Under water)	Approx 12.0			sec
4-5.	Insulation resistance	/	500VDC 5Sec	≥100			MΩ
4-6.	MAX. Rated power	/	25°C	95			mW
4-7.	Hi-Pot Test	/	1200V AC 1Sec	Max.1.0			mA
4-8.	Operating temp.range	/	/	-30 ~ +250			°C

## 5、Reliability Test

NO	Item	Technical requirements	Test conditions and method
5-1.	High temp. Storage	ΔR/R25≤±3% ΔB/B≤±3% No change with withstand voltage、 Insulation performance。 Appearance without damage.	150°C±5°C,1000±24H, 200°C±5°C,150±2H (With reference to the IEC60068-2-2/GB2423.2 test)
5-2.	Low temp. Storage		-40°C±5°C,500±24H (With reference to the IEC60068-2-1/GB2423.1 test)
5-3.	Endure moisture test		Store in environment 40±5°C,90%-95%RH for 1000±24 hrs (With reference to the IEC60068-2-3/GB2423.1 test)
5-4.	Temp. cycle test		-40±2°C×30min→25±2°C×5min→in 180±5°C×30min→25±2°C×5min × 5 cycles
5-5.	Tensile tests		Applying 1 kg force lasts 1 min.
5-6.	Drop test		Free fall into wood floor from height 1M , 3 cycle.

## 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 °C / + 40 °C, relative humidity is not more than 75%, environment should not have acid, alkali and corrosion gas or radioactive source.
- 6.4 Storage Time: 1 Year

## 7、 R—T Table

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R-T CONVERSION TABLE

R25=50KΩ±3% B0/100=4036KΩ±1%

T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)	T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)
1.0	152.0000	158.5000	165.2000	41.0	23.8200	25.2400	26.1800
2.0	144.4000	150.6000	156.9000	42.0	22.8600	24.2300	25.1400
3.0	137.3000	143.1000	148.9000	43.0	21.9500	23.2700	24.1500
4.0	130.5000	136.0000	141.5000	44.0	21.0800	22.3500	23.2100
5.0	124.2000	129.2000	134.4000	45.0	20.2400	21.4800	22.3100
6.0	118.1000	122.9000	127.8000	46.0	19.4500	20.6400	21.4500
7.0	112.4000	116.9000	121.5000	47.0	18.6900	19.8400	20.6200
8.0	107.0000	111.3000	115.5000	48.0	17.9600	19.0700	19.8300
9.0	101.9000	105.9000	109.9000	49.0	17.2600	18.3400	19.0800
10.0	97.1100	100.8000	104.6000	50.0	16.9300	17.6400	18.3600
11.0	92.5300	96.0300	99.5700	51.0	16.2800	16.9700	17.6700
12.0	88.2000	91.4900	94.8200	52.0	15.6600	16.3200	17.0000
13.0	84.0900	87.1900	90.3100	53.0	15.0600	15.7100	16.3700
14.0	80.2000	83.1100	86.0500	54.0	14.4900	15.1200	15.7600
15.0	76.5100	79.2500	82.0100	55.0	13.9500	14.5600	15.1800
16.0	73.0100	75.5900	78.1800	56.0	13.4300	14.0200	14.6300
17.0	69.6900	72.1200	74.5600	57.0	12.9300	13.5000	14.0900
18.0	66.5400	68.8200	71.1200	58.0	12.4500	13.0100	13.5800
19.0	63.5500	65.7000	67.8600	59.0	11.9900	12.5300	13.0900
20.0	60.7100	62.7300	64.7700	60.0	11.5500	12.0800	12.6200
21.0	58.0100	59.9200	61.8300	61.0	11.1300	11.6400	12.1700
22.0	55.4500	57.2500	59.0400	62.0	10.7300	11.2300	11.7400
23.0	53.0200	54.7100	56.4000	63.0	10.3400	10.8300	11.3200
24.0	50.7000	52.2900	53.8900	64.0	9.9710	10.4400	10.9200
25.0	48.5000	50.0000	51.5000	65.0	9.6150	10.0700	10.5400
26.0	46.3600	47.8200	49.2800	66.0	9.2730	9.7180	10.1700
27.0	43.3600	45.7500	47.1600	67.0	8.9460	9.3780	9.8220
28.0	41.4700	43.7700	45.1500	68.0	8.6320	9.0520	9.4840
29.0	39.6800	41.9000	43.2300	69.0	8.3300	8.7380	9.1580
30.0	37.9800	40.1100	41.4100	70.0	8.0400	8.4370	8.8460
31.0	36.3600	38.4100	39.6700	71.0	7.7620	8.1480	8.5450
32.0	34.8200	36.7900	38.0100	72.0	7.4940	7.8700	8.2570
33.0	33.3500	35.2500	36.4400	73.0	7.2370	7.6030	7.9790
34.0	31.9500	33.7800	34.9300	74.0	6.9910	7.3460	7.7120
35.0	30.6100	32.3800	33.5000	75.0	6.7540	7.0990	7.4560
36.0	29.3400	31.0400	32.1300	76.0	6.5260	6.8620	7.2090
37.0	28.1300	29.7700	30.8300	77.0	6.3060	6.6330	6.9710
38.0	26.9700	28.5600	29.5800	78.0	5.7940	6.4140	6.7430
39.0	25.8700	27.4000	28.3900	79.0	5.6030	6.2020	6.5230
40.0	24.8200	26.2900	27.2600	80.0	5.4190	5.9990	6.3110



**R-T CONVERSION TABLE**

**R25=50KΩ±3%    B<sub>0/100</sub>=4036KΩ±1%**

T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)	T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)
81.0	5.2420	5.8030	6.1070	121.0	1.5470	1.7420	1.8540
82.0	5.0710	5.6150	5.9110	122.0	1.5060	1.6950	1.8050
83.0	4.9070	5.4340	5.7210	123.0	1.4650	1.6500	1.7570
84.0	4.7490	5.2590	5.5390	124.0	1.4260	1.6060	1.7110
85.0	4.5230	5.0910	5.3640	125.0	1.3880	1.5630	1.6660
86.0	4.3790	4.9290	5.1950	126.0	1.3582	1.5220	1.6220
87.0	4.2400	4.7720	5.0320	127.0	1.3160	1.4820	1.5800
88.0	4.1060	4.6220	4.8740	128.0	1.2810	1.4430	1.5390
89.0	3.9780	4.4770	4.7230	129.0	1.2480	1.4050	1.4990
90.0	3.8530	4.3370	4.5770	130.0	1.2160	1.3690	1.4600
91.0	3.7340	4.2020	4.4360	131.0	1.1840	1.3330	1.4230
92.0	3.6180	4.0720	4.3000	132.0	1.1540	1.2990	1.3860
93.0	3.5070	3.9470	4.1690	133.0	1.1240	1.2650	1.3510
94.0	3.3990	3.8260	4.0420	134.0	1.0950	1.2330	1.3170
95.0	3.2960	3.7090	3.9200	135.0	1.0670	1.2020	1.2840
96.0	3.1960	3.5970	3.8030	136.0	1.0400	1.1710	1.2520
97.0	3.0990	3.4880	3.6890	137.0	1.0140	1.1420	1.2200
98.0	3.0060	3.3830	3.5790	138.0	0.9886	1.1130	1.1900
99.0	2.9160	3.2820	3.4730	139.0	0.9639	1.0850	1.1610
100.0	2.8290	3.1840	3.3700	140.0	0.9399	1.0580	1.1320
101.0	2.7450	3.0900	3.2710	141.0	0.9166	1.0320	1.1040
102.0	2.6640	2.9990	3.1760	142.0	0.8940	1.0070	1.0770
103.0	2.5860	2.9110	3.0830	143.0	0.8720	0.9819	1.0510
104.0	2.5100	2.8260	2.9940	144.0	0.8506	0.9579	1.0250
105.0	2.4370	2.7430	2.9080	145.0	0.8299	0.9346	1.0010
106.0	2.3670	2.6640	2.8240	146.0	0.7999	0.9119	0.9767
107.0	2.2990	2.5870	2.7440	147.0	0.7806	0.8899	0.9533
108.0	2.2330	2.5130	2.6660	148.0	0.7619	0.8685	0.9306
109.0	2.1690	2.4410	2.5900	149.0	0.7437	0.8477	0.9085
110.0	2.1070	2.3720	2.5170	150.0	0.7259	0.8275	0.8871
111.0	2.0480	2.3050	2.4470	151.0	0.7087	0.8078	0.8662
112.0	1.9900	2.2400	2.3790	152.0	0.6920	0.7887	0.8459
113.0	1.9340	2.1770	2.3130	153.0	0.6757	0.7702	0.8262
114.0	1.8800	2.1160	2.2490	154.0	0.6590	0.7521	0.8070
115.0	1.8280	2.0570	2.1870	155.0	0.6445	0.7345	0.7883
116.0	1.7770	2.0000	2.1270	156.0	0.6295	0.7175	0.7701
117.0	1.7280	1.9450	2.0690	157.0	0.6150	0.7008	0.7525
118.0	1.6810	1.8920	2.0130	158.0	0.6008	0.6847	0.7353
119.0	1.6350	1.8400	1.9580	159.0	0.5870	0.6690	0.7186
120.0	1.5900	1.7900	1.9050	160.0	0.5736	0.6537	0.7023

**R-T CONVERSION TABLE**
**R25=50KΩ±3%    B<sub>0/100</sub>=4036KΩ±1%**

T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)	T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)
161.0	0.5606	0.6388	0.6864	201.0	0.2378	0.2734	0.2961
162.0	0.5479	0.6243	0.6710	202.0	0.2332	0.2681	0.2904
163.0	0.5355	0.6102	0.6560	203.0	0.2287	0.2629	0.2849
164.0	0.5235	0.5965	0.6414	204.0	0.2243	0.2579	0.2795
165.0	0.5176	0.5831	0.6271	205.0	0.2200	0.2530	0.2742
166.0	0.5060	0.5701	0.6133	206.0	0.2159	0.2434	0.2690
167.0	0.4948	0.5574	0.5998	207.0	0.0212	0.2388	0.2639
168.0	0.4838	0.5451	0.5866	208.0	0.2078	0.2343	0.2590
169.0	4784.0000	0.5331	0.5738	209.0	0.2039	0.2299	0.2542
170.0	4679.0000	0.5214	0.5613	210.0	0.2001	0.2299	0.2494
171.0	4576.0000	0.5100	0.5492	211.0	0.1963	0.2256	0.2448
172.0	4476.0000	0.4989	0.5373	212.0	0.1927	0.2214	0.2403
173.0	4379.0000	0.4880	0.5258	213.0	0.1891	0.2173	0.2359
174.0	4284.0000	0.4775	0.5145	214.0	0.1856	0.2133	0.2316
175.0	4192.0000	0.4672	0.5036	215.0	0.1822	0.2094	0.2273
176.0	4102.0000	0.4572	0.4929	216.0	0.1789	0.2055	0.2232
177.0	4014.0000	0.4475	0.4824	217.0	0.1756	0.2018	0.2192
178.0	3928.0000	0.4380	0.4723	218.0	0.1724	0.1981	0.2152
179.0	3845.0000	0.4287	0.4624	219.0	0.1693	0.1945	0.2113
180.0	3764.0000	0.4196	0.4527	220.0	0.1662	0.1910	0.2075
181.0	3684.0000	0.4108	0.4433	221.0	0.1633	0.1876	0.2038
182.0	3607.0000	0.4022	0.4341	222.0	0.1618	0.1842	0.2002
183.0	3532.0000	0.3939	0.4251	223.0	0.1603	0.1809	0.1967
184.0	3458.0000	0.3857	0.4164	224.0	16.6000	0.1777	0.1932
185.0	3386.0000	0.3777	0.4079	225.0	0.1603	0.1745	0.1898
186.0	3316.0000	0.3699	0.3996	226.0	0.1575	0.1714	0.1868
187.0	3248.0000	0.3623	0.3914	227.0	0.1547	0.1684	0.1832
188.0	3182.0000	0.3549	0.3835	228.0	0.1519	0.1655	0.1800
189.0	3117.0000	0.3477	0.3758	229.0	0.1493	0.1626	0.1769
190.0	3022.0000	0.3407	0.3682	230.0	0.1466	0.1597	0.1739
191.0	2961.0000	0.3338	0.3609	231.0	0.1441	0.1570	0.1709
192.0	2901.0000	0.3271	0.3537	232.0	0.1416	0.1543	0.1679
193.0	2843.0000	0.3205	0.3467	233.0	0.1391	0.1516	0.1651
194.0	2786.0000	0.3141	0.3398	234.0	0.1367	0.1490	0.1623
195.0	2731.0000	0.3079	0.3331	235.0	0.1343	0.1465	0.1595
196.0	0.2677	0.3018	0.3266	236.0	0.1320	0.1440	0.1568
197.0	0.2624	0.2958	0.3202	237.0	0.1298	0.1415	0.1542
198.0	0.2572	0.2900	0.3140	238.0	0.1275	0.1391	0.1516
199.0	0.2473	0.2844	0.3079	239.0	0.1254	0.1368	0.1491
200.0	0.2425	0.2788	0.3019	240.0	0.1232	0.1345	0.1466

**R25=50KΩ±3%    B<sub>0/100</sub>=4036KΩ±1%**

T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)	T/°C	Rmin(KΩ)	Rcen(KΩ)	Rcen(KΩ)
241.0	0.1212	0.1322	0.1442	281.0	0.0643	0.0706	0.0774
242.0	0.1191	0.1300	0.1418	282.0	0.0634	0.0695	0.0763
243.0	0.1171	0.1279	0.1394	283.0	0.0624	0.0685	0.0752
244.0	0.1152	0.1257	0.1372	284.0	0.0615	0.0675	0.0741
245.0	0.1133	0.1237	0.1349	285.0	0.0606	0.0666	0.0730
246.0	0.1114	0.1216	0.1327	286.0	0.0598	0.0656	0.0720
247.0	0.1095	0.1196	0.1306	287.0	0.0589	0.0647	0.0710
248.0	0.1077	0.1177	0.1285	288.0	0.0581	0.0638	0.0700
249.0	0.1060	0.1159	0.1264	289.0	0.0572	0.0629	0.0690
250.0	0.1042	0.1139	0.1244	290.0	0.0564	0.0620	0.0680
251.0	0.1025	0.1121	0.1224	291.0	0.0556	0.0611	0.0671
252.0	0.1009	0.1103	0.1204	292.0	0.0548	0.0603	0.0662
253.0	0.0992	0.1085	0.1185	293.0	0.0541	0.0594	0.0652
254.0	0.0976	0.1068	0.1166	294.0	0.0533	0.0586	0.0643
255.0	0.0961	0.1051	0.1148	295.0	0.0525	0.0578	0.0635
256.0	0.0945	0.1034	0.1130	296.0	0.0518	0.0570	0.0626
257.0	0.0930	0.1018	0.1112	297.0	0.0511	0.0562	0.0617
258.0	0.0916	0.1002	0.1095	298.0	0.0504	0.0554	0.0609
259.0	0.0901	0.0986	0.1078	299.0	0.0497	0.0547	0.0601
260.0	0.0887	0.0970	0.1061	300.0	0.0490	0.0539	0.0593
261.0	0.0873	0.0955	0.1045				
262.0	0.0859	0.0940	0.1029				
263.0	0.0846	0.0926	0.1013				
264.0	0.0833	0.0912	0.0997				
265.0	0.0820	0.0898	0.0982				
266.0	0.0807	0.0884	0.0967				
267.0	0.0795	0.0870	0.0953				
268.0	0.0782	0.0857	0.0938				
269.0	0.0770	0.0844	0.0924				
270.0	0.0759	0.0831	0.0910				
271.0	0.0747	0.0819	0.0897				
272.0	0.0736	0.0807	0.0883				
273.0	0.0725	0.0795	0.0870				
274.0	0.0714	0.0783	0.0857				
275.0	0.0703	0.0771	0.0845				
276.0	0.0693	0.0760	0.0832				
277.0	0.0682	0.0748	0.0820				
278.0	0.0672	0.0737	0.0808				
279.0	0.0662	0.0727	0.0797				
280.0	0.0653	0.0716	0.0785				