

# Resistance vs Temperature Tables



7400 Flying Cloud Drive Minneapolis, MN 55344-3720 • USA  
800/843-5116 • 952/835-1626 • Fax 952/829-5331  
sales@mamacsys.com • www.mamacsys.com

Baird House, Units 6&7  
Pensnett Estate • Kingswinford  
West Midlands • DY6 7YA • United Kingdom  
01384-271113 • Fax 01384-271114

4 Armiger Court, Unit 2  
Holden Hill • S.A. 5088 • Australia  
08-8395-4333 • Fax 08-8395-4433

55 McIntosh Drive, Units 5&6 • Markham  
Ontario • L3R 0N6 • Canada  
905-474-9215 • Fax 905-474-0876

No. 22 Lorong 21A Geylang  
#11-02 Chin Hin Hang Building  
Singapore • 388431  
65-6392-7273 • Fax 65-6392-7276

## Sensor Type 1. 100 ohm Platinum RTD Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	84.27	19	97.18	78	109.95	137	122.60	196	135.13
-39	84.49	20	97.39	79	110.17	138	122.81	197	135.34
-38	84.71	21	97.61	80	110.38	139	123.03	198	135.55
-37	84.93	22	97.83	81	110.60	140	123.24	199	135.76
-36	85.15	23	98.05	82	110.81	141	123.45	200	135.97
-35	85.37	24	98.26	83	111.03	142	123.67	201	136.18
-34	85.59	25	98.48	84	111.24	143	123.88	202	136.39
-33	85.81	26	98.70	85	111.46	144	124.09	203	136.60
-32	86.03	27	98.91	86	111.67	145	124.31	204	136.81
-31	86.25	28	99.13	87	111.89	146	124.52	205	137.02
-30	86.47	29	99.35	88	112.10	147	124.73	206	137.24
-29	86.69	30	99.57	89	112.32	148	124.94	207	137.45
-28	86.91	31	99.78	90	112.53	149	125.16	208	137.66
-27	87.13	32	100.00	91	112.75	150	125.37	209	137.87
-26	87.35	33	100.22	92	112.96	151	125.58	210	138.08
-25	87.57	34	100.43	93	113.18	152	125.80	211	138.29
-24	87.78	35	100.65	94	113.39	153	126.01	212	138.50
-23	88.00	36	100.87	95	113.61	154	126.22	213	138.71
-22	88.22	37	101.09	96	113.82	155	126.43	214	138.92
-21	88.44	38	101.30	97	114.04	156	126.65	215	139.13
-20	88.66	39	101.52	98	114.25	157	126.86	216	139.34
-19	88.88	40	101.74	99	114.47	158	127.07	217	139.55
-18	89.10	41	101.95	100	114.68	159	127.28	218	139.76
-17	89.32	42	102.17	101	114.90	160	127.50	219	139.97
-16	89.54	43	102.39	102	115.11	161	127.71	220	140.18
-15	89.76	44	102.60	103	115.33	162	127.92	221	140.39
-14	89.97	45	102.82	104	115.54	163	128.13	222	140.61
-13	90.19	46	103.04	105	115.75	164	128.35	223	140.82
-12	90.41	47	103.25	106	115.97	165	128.56	224	141.03
-11	90.63	48	103.47	107	116.18	166	128.77	225	141.24
-10	90.85	49	103.69	108	116.40	167	128.98	226	141.45
-9	91.07	50	103.90	109	116.61	168	129.20	227	141.66
-8	91.29	51	104.12	110	116.83	169	129.41	228	141.87
-7	91.51	52	104.34	111	117.04	170	129.62	229	142.08
-6	91.72	53	104.55	112	117.25	171	129.83	230	142.29
-5	91.94	54	104.77	113	117.47	172	130.05	231	142.50
-4	92.16	55	104.98	114	117.68	173	130.26	232	142.71
-3	92.38	56	105.20	115	117.90	174	130.47	233	142.92
-2	92.60	57	105.42	116	118.11	175	130.68	234	143.13
-1	92.82	58	105.63	117	118.33	176	130.89	235	143.34
0	93.03	59	105.85	118	118.54	177	131.11	236	143.55
1	93.25	60	106.07	119	118.75	178	131.32	237	143.76
2	93.47	61	106.28	120	118.97	179	131.53	238	143.97
3	93.69	62	106.50	121	119.18	180	131.74	239	144.18
4	93.91	63	106.71	122	119.40	181	131.95	240	144.38
5	94.13	64	106.93	123	119.61	182	132.16	241	144.59
6	94.34	65	107.15	124	119.82	183	132.38	242	144.80
7	94.56	66	107.36	125	120.04	184	132.59	243	145.01
8	94.78	67	107.58	126	120.25	185	132.80	244	145.22
9	95.00	68	107.79	127	120.46	186	133.01	245	145.43
10	95.22	69	108.01	128	120.68	187	133.22	246	145.64
11	95.43	70	108.22	129	120.89	188	133.43	247	145.85
12	95.65	71	108.44	130	121.11	189	133.65	248	146.06
13	95.87	72	108.66	131	121.32	190	133.86	249	146.27
14	96.09	73	108.87	132	121.53	191	134.07	250	146.48
15	96.30	74	109.09	133	121.75	192	134.28		
16	96.52	75	109.30	134	121.96	193	134.49		
17	96.74	76	109.52	135	122.17	194	134.70		
18	96.96	77	109.73	136	122.39	195	134.91		

## Sensor Type 1. 100 ohm Platinum RTD Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	84.27	11	104.29	62	124.01	113	143.42
-39	84.67	12	104.68	63	124.39	114	143.80
-38	85.06	13	105.07	64	124.77	115	144.17
-37	85.46	14	105.46	65	125.16	116	144.55
-36	85.85	15	105.85	66	125.54	117	144.93
-35	86.25	16	106.24	67	125.92	118	145.31
-34	86.64	17	106.63	68	126.31	119	145.68
-33	87.04	18	107.02	69	126.69	120	146.06
-32	87.43	19	107.40	70	127.07	121	146.44
-31	87.83	20	107.79	71	127.45	122	146.81
-30	88.22	21	108.18	72	127.84	123	147.19
-29	88.62	22	108.57	73	128.22	124	147.57
-28	89.01	23	108.96	74	128.60	125	147.94
-27	89.40	24	109.35	75	128.98	126	148.32
-26	89.80	25	109.73	76	129.37	127	148.70
-25	90.19	26	110.12	77	129.75	128	149.07
-24	90.59	27	110.51	78	130.13	129	149.45
-23	90.98	28	110.90	79	130.51	130	149.82
-22	91.37	29	111.28	80	130.89	131	150.20
-21	91.77	30	111.67	81	131.27	132	150.57
-20	92.16	31	112.06	82	131.66	133	150.95
-19	92.55	32	112.45	83	132.04	134	151.33
-18	92.95	33	112.83	84	132.42	135	151.70
-17	93.34	34	113.22	85	132.80	136	152.08
-16	93.73	35	113.61	86	133.18	137	152.45
-15	94.12	36	113.99	87	133.56	138	152.83
-14	94.52	37	114.38	88	133.94	139	153.20
-13	94.91	38	114.77	89	134.32	140	153.58
-12	95.30	39	115.15	90	134.70	141	153.95
-11	95.69	40	115.54	91	135.08	142	154.32
-10	96.09	41	115.93	92	135.46	143	154.70
-9	96.48	42	116.31	93	135.84	144	155.07
-8	96.87	43	116.70	94	136.22	145	155.45
-7	97.26	44	117.08	95	136.60	146	155.82
-6	97.65	45	117.47	96	136.98	147	156.19
-5	98.04	46	117.85	97	137.36	148	156.57
-4	98.44	47	118.24	98	137.74	149	156.94
-3	98.83	48	118.62	99	138.12	150	157.31
-2	99.22	49	119.01	100	138.50		
-1	99.61	50	119.40	101	138.88		
0	100.00	51	119.78	102	139.26		
1	100.39	52	120.16	103	139.64		
2	100.78	53	120.55	104	140.02		
3	101.17	54	120.93	105	140.39		
4	101.56	55	121.32	106	140.77		
5	101.95	56	121.70	107	141.15		
6	102.34	57	122.09	108	141.53		
7	102.73	58	122.47	109	141.91		
8	103.12	59	122.86	110	142.29		
9	103.51	60	123.24	111	142.66		
10	103.90	61	123.62	112	143.04		

## Sensor Type 3. 1000 ohm Platinum RTD Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	842.7	19	971.8	78	1099.5	137	1226.0	196	1351.3
-39	844.9	20	973.9	79	1101.7	138	1228.1	197	1353.4
-38	847.1	21	976.1	80	1103.8	139	1230.3	198	1355.5
-37	849.3	22	978.3	81	1106.0	140	1232.4	199	1357.6
-36	851.5	23	980.5	82	1108.1	141	1234.5	200	1359.7
-35	853.7	24	982.6	83	1110.3	142	1236.7	201	1361.8
-34	855.9	25	984.8	84	1112.4	143	1238.8	202	1363.9
-33	858.1	26	987.0	85	1114.6	144	1240.9	203	1366.0
-32	860.3	27	989.1	86	1116.7	145	1243.1	204	1368.1
-31	862.5	28	991.3	87	1118.9	146	1245.2	205	1370.2
-30	864.7	29	993.5	88	1121.0	147	1247.3	206	1372.4
-29	866.9	30	995.7	89	1123.2	148	1249.4	207	1374.5
-28	869.1	31	997.8	90	1125.3	149	1251.6	208	1376.6
-27	871.3	32	1000.0	91	1127.5	150	1253.7	209	1378.7
-26	873.5	33	1002.2	92	1129.6	151	1255.8	210	1380.8
-25	875.7	34	1004.3	93	1131.8	152	1258.0	211	1382.9
-24	877.8	35	1006.5	94	1133.9	153	1260.1	212	1385.0
-23	880.0	36	1008.7	95	1136.1	154	1262.2	213	1387.1
-22	882.2	37	1010.9	96	1138.2	155	1264.3	214	1389.2
-21	884.4	38	1013.0	97	1140.4	156	1266.5	215	1391.3
-20	886.6	39	1015.2	98	1142.5	157	1268.6	216	1393.4
-19	888.8	40	1017.4	99	1144.7	158	1270.7	217	1395.5
-18	891.0	41	1019.5	100	1146.8	159	1272.8	218	1397.6
-17	893.2	42	1021.7	101	1149.0	160	1275.0	219	1399.7
-16	895.4	43	1023.9	102	1151.1	161	1277.1	220	1401.8
-15	897.6	44	1026.0	103	1153.3	162	1279.2	221	1403.9
-14	899.7	45	1028.2	104	1155.4	163	1281.3	222	1406.1
-13	901.9	46	1030.4	105	1157.5	164	1283.5	223	1408.2
-12	904.1	47	1032.5	106	1159.7	165	1285.6	224	1410.3
-11	906.3	48	1034.7	107	1161.8	166	1287.7	225	1412.4
-10	908.5	49	1036.9	108	1164.0	167	1289.8	226	1414.5
-9	910.7	50	1039.0	109	1166.1	168	1292.0	227	1416.6
-8	912.9	51	1041.2	110	1168.3	169	1294.1	228	1418.7
-7	915.1	52	1043.4	111	1170.4	170	1296.2	229	1420.8
-6	917.2	53	1045.5	112	1172.5	171	1298.3	230	1422.9
-5	919.4	54	1047.7	113	1174.7	172	1300.5	231	1425.0
-4	921.6	55	1049.8	114	1176.8	173	1302.6	232	1427.1
-3	923.8	56	1052.0	115	1179.0	174	1304.7	233	1429.2
-2	926.0	57	1054.2	116	1181.1	175	1306.8	234	1431.3
-1	928.2	58	1056.3	117	1183.3	176	1308.9	235	1433.4
0	930.3	59	1058.5	118	1185.4	177	1311.1	236	1435.5
1	932.5	60	1060.7	119	1187.5	178	1313.2	237	1437.6
2	934.7	61	1062.8	120	1189.7	179	1315.3	238	1439.7
3	936.9	62	1065.0	121	1191.8	180	1317.4	239	1441.8
4	939.1	63	1067.1	122	1194.0	181	1319.5	240	1443.8
5	941.3	64	1069.3	123	1196.1	182	1321.6	241	1445.9
6	943.4	65	1071.5	124	1198.2	183	1323.8	242	1448.0
7	945.6	66	1073.6	125	1200.4	184	1325.9	243	1450.1
8	947.8	67	1075.8	126	1202.5	185	1328.0	244	1452.2
9	950.0	68	1077.9	127	1204.6	186	1330.1	245	1454.3
10	952.2	69	1080.1	128	1206.8	187	1332.2	246	1456.4
11	954.3	70	1082.2	129	1208.9	188	1334.3	247	1458.5
12	956.5	71	1084.4	130	1211.1	189	1336.5	248	1460.6
13	958.7	72	1086.6	131	1213.2	190	1338.6	249	1462.7
14	960.9	73	1088.7	132	1215.3	191	1340.7	250	1464.8
15	963.0	74	1090.9	133	1217.5	192	1342.8		
16	965.2	75	1093.0	134	1219.6	193	1344.9		
17	967.4	76	1095.2	135	1221.7	194	1347.0		
18	969.6	77	1097.3	136	1223.9	195	1349.1		

Sensor Type 3. 1000 ohm Platinum RTD  
Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	842.7	8	1031.2	56	1217.1	104	1400.2
-39	846.7	9	1035.1	57	1220.9	105	1404.0
-38	850.7	10	1039.0	58	1224.7	106	1407.8
-37	854.6	11	1042.9	59	1128.6	107	1411.6
-36	858.6	12	1046.8	60	1232.4	108	1415.4
-35	862.5	13	1050.7	61	1236.3	109	1419.1
-34	866.5	14	1054.5	62	1240.1	110	1422.9
-33	870.4	15	1058.5	63	1243.9	111	1426.7
-32	874.3	16	1062.4	64	1247.8	112	1430.5
-31	878.3	17	1066.3	65	1251.6	113	1434.3
-30	882.2	18	1070.2	66	1255.4	114	1438.0
-29	886.2	19	1074.1	67	1259.3	115	1441.8
-28	890.1	20	1077.9	68	1263.1	116	1445.6
-27	894.1	21	1081.8	69	1266.9	117	1449.4
-26	898.0	22	1085.7	70	1270.8	118	1453.1
-25	901.9	23	1089.6	71	1274.6	119	1456.9
-24	905.9	24	1093.5	72	1278.4	120	1460.6
-23	909.8	25	1097.4	73	1282.2	121	1464.5
-22	913.7	26	1101.2	74	1286.0	122	1468.2
-21	917.7	27	1105.1	75	1289.9	123	1472.0
-20	921.6	28	1109.0	76	1293.7	124	1475.8
-19	925.5	29	1112.9	77	1297.5	125	1479.5
-18	929.5	30	1116.7	78	1301.3	126	1483.3
-17	933.4	31	1120.6	79	1305.2	127	1487.0
-16	937.3	32	1124.5	80	1309.0	128	1490.8
-15	941.3	33	1128.4	81	1312.8	129	1494.6
-14	945.2	34	1132.2	82	1316.6	130	1498.3
-13	949.1	35	1136.1	83	1320.4	131	1502.1
-12	953.0	36	1140.0	84	1324.2	132	1505.6
-11	956.9	37	1143.8	85	1328.0	133	1509.6
-10	960.9	38	1147.7	86	1331.8	134	1513.3
-9	964.8	39	1151.6	87	1335.7	135	1517.1
-8	968.7	40	1155.4	88	1339.5	136	1520.9
-7	972.6	41	1159.3	89	1343.3	137	1524.6
-6	976.5	42	1163.1	90	1347.1	138	1528.4
-5	980.4	43	1167.0	91	1350.9	139	1532.1
-4	984.4	44	1170.9	92	1354.7	140	1535.8
-3	988.3	45	1174.7	93	1358.4	141	1539.6
-2	992.2	46	1178.6	94	1362.3	142	1543.3
-1	996.1	47	1182.4	95	1366.1	143	1547.1
0	1000.0	48	1186.3	96	1369.9	144	1550.8
1	1003.9	49	1190.1	97	1373.7	145	1554.6
2	1007.8	50	1194.0	98	1377.5	146	1558.3
3	1011.7	51	1197.8	99	1381.3	147	1562.0
4	1015.6	52	1201.7	100	1385.0	148	1565.8
5	1019.5	53	1205.5	101	1388.9	149	1569.5
6	1023.4	54	1209.4	102	1392.6	150	1573.1
7	1027.3	55	1213.2	103	1396.4		

## Sensor Type 4. 1000 ohm Nickel RTD Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	696.5	19	853.1	78	1024.1	137	1211.4	196	1415.0
-39	699.0	20	855.9	79	1027.2	138	1214.6	197	1418.6
-38	701.5	21	858.7	80	1030.2	139	1218.0	198	1422.2
-37	704.0	22	861.5	81	1033.3	140	1221.3	199	1425.9
-36	706.5	23	864.3	82	1036.3	141	1224.6	200	1429.5
-35	709.0	24	867.1	83	1039.4	142	1228.0	201	1433.1
-34	711.6	25	869.9	84	1042.4	143	1231.3	202	1436.6
-33	714.1	26	872.7	85	1045.5	144	1234.7	203	1440.3
-32	716.7	27	875.5	86	1048.5	145	1238.0	204	1443.9
-31	719.3	28	878.3	87	1051.6	146	1241.4	205	1447.5
-30	721.9	29	881.1	88	1054.7	147	1244.7	206	1451.2
-29	724.5	30	883.9	89	1057.8	148	1248.1	207	1454.8
-28	727.1	31	886.7	90	1060.9	149	1251.4	208	1458.5
-27	729.6	32	889.6	91	1064.0	150	1254.8	209	1462.2
-26	732.2	33	892.4	92	1067.1	151	1258.1	210	1465.8
-25	734.9	34	895.2	93	1070.2	152	1261.5	211	1469.5
-24	737.4	35	898.1	94	1073.3	153	1264.9	212	1473.1
-23	740.0	36	900.9	95	1076.4	154	1268.3		
-22	742.7	37	903.8	96	1079.5	155	1271.7		
-21	745.3	38	906.6	97	1082.6	156	1275.1		
-20	747.9	39	909.5	98	1085.7	157	1278.5		
-19	750.5	40	912.3	99	1088.9	158	1281.9		
-18	753.1	41	915.1	100	1092.0	159	1285.4		
-17	755.8	42	918.0	101	1095.1	160	1288.8		
-16	758.4	43	920.9	102	1098.3	161	1292.2		
-15	761.0	44	923.7	103	1101.4	162	1295.6		
-14	763.6	45	926.6	104	1104.6	163	1299.1		
-13	766.3	46	929.5	105	1107.8	164	1302.5		
-12	769.0	47	932.4	106	1110.9	165	1305.9		
-11	771.7	48	935.3	107	1114.1	166	1309.4		
-10	774.3	49	938.2	108	1117.3	167	1312.8		
-9	777.0	50	941.1	109	1120.4	168	1316.3		
-8	779.7	51	944.0	110	1123.6	169	1319.8		
-7	782.4	52	946.9	111	1126.8	170	1323.2		
-6	785.0	53	949.8	112	1130.0	171	1326.7		
-5	787.6	54	952.7	113	1133.2	172	1330.2		
-4	790.3	55	955.6	114	1136.4	173	1333.7		
-3	793.0	56	958.5	115	1139.6	174	1337.2		
-2	795.7	57	961.5	116	1142.8	175	1340.7		
-1	798.4	58	964.4	117	1146.0	176	1344.1		
0	801.1	59	967.4	118	1149.3	177	1347.6		
1	803.8	60	970.3	119	1152.5	178	1351.1		
2	806.5	61	973.2	120	1155.7	179	1354.7		
3	809.2	62	976.2	121	1159.0	180	1358.2		
4	811.9	63	979.2	122	1162.2	181	1361.7		
5	814.7	64	982.1	123	1165.4	182	1365.2		
6	817.4	65	985.1	124	1168.7	183	1368.8		
7	820.1	66	988.1	125	1171.9	184	1372.3		
8	822.8	67	991.1	126	1175.2	185	1375.8		
9	825.6	68	994.0	127	1178.5	186	1379.3		
10	828.3	69	997.0	128	1181.7	187	1382.9		
11	831.1	70	1000.0	129	1185.0	188	1386.5		
12	833.8	71	1003.0	130	1188.3	189	1390.0		
13	836.5	72	1006.0	131	1191.5	190	1393.6		
14	839.3	73	1009.0	132	1194.8	191	1397.2		
15	842.1	74	1012.0	133	1198.1	192	1400.7		
16	844.9	75	1015.1	134	1201.4	193	1404.3		
17	847.6	76	1018.1	135	1204.7	194	1407.8		
18	850.4	77	1021.1	136	1208.0	195	1411.4		

## Sensor Type 4. 1000 ohm Nickel RTD Celsius

Temp	Resis	Temp	Resis	Temp	Resis
-40	696.3	8	930.6	56	1197.5
-39	700.9	9	935.8	57	1203.4
-38	705.5	10	941.1	58	1209.3
-37	710.1	11	946.3	59	1215.3
-36	714.7	12	951.5	60	1221.3
-35	719.3	13	953.2	61	1227.3
-34	724.0	14	962.1	62	1233.3
-33	728.6	15	967.4	63	1239.3
-32	733.3	16	972.7	64	1245.4
-31	738.0	17	978.0	65	1251.4
-30	742.7	18	983.3	66	1257.5
-29	747.4	19	988.7	67	1263.6
-28	752.1	20	994.0	68	1269.7
-27	756.8	21	999.4	69	1275.8
-26	761.6	22	1004.8	70	1281.9
-25	766.3	23	1010.2	71	1288.1
-24	771.1	24	1015.7	72	1294.3
-23	775.9	25	1021.1	73	1300.4
-22	780.7	26	1026.6	74	1306.6
-21	785.5	27	1032.0	75	1312.8
-20	790.3	28	1037.5	76	1319.1
-19	795.2	29	1043.0	77	1325.3
-18	800.0	30	1048.5	78	1331.6
-17	804.9	31	1054.1	79	1337.8
-16	809.8	32	1059.6	80	1344.1
-15	814.7	33	1065.2	81	1350.4
-14	819.6	34	1070.8	82	1356.7
-13	824.5	35	1076.4	83	1363.1
-12	829.4	36	1082.0	84	1369.4
-11	834.4	37	1087.6	85	1375.8
-10	839.3	38	1093.3	86	1382.2
-9	844.3	39	1098.9	87	1388.6
-8	849.3	40	1104.6	88	1395.0
-7	854.3	41	1110.3	89	1401.4
-6	859.3	42	1116.0	90	1407.8
-5	864.3	43	1121.7	91	1414.3
-4	869.3	44	1127.4	92	1420.8
-3	874.4	45	1133.2	93	1427.3
-2	879.4	46	1139.0	94	1433.8
-1	884.5	47	1144.7	95	1440.3
0	889.6	48	1150.5	96	1446.8
1	894.7	49	1156.3	97	1452.8
2	899.8	50	1162.2	98	1459.9
3	904.9	51	1168.0	99	1466.5
4	910.0	52	1173.9	100	1473.1
5	915.1	53	1179.7		
6	920.3	54	1185.6		
7	925.5	55	1191.5		

## Sensor Type 5. 1000 ohm Balco RTD Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	776.1	19	891.6	78	1017.6	137	1154.2	196	1301.2
-39	778.0	20	893.7	79	1019.8	138	1156.6	197	1303.8
-38	779.8	21	895.7	80	1022.1	139	1159.0	198	1306.3
-37	781.8	22	897.7	81	1024.3	140	1161.4	199	1308.9
-36	783.6	23	899.8	82	1026.5	141	1163.8	200	1311.5
-35	785.5	24	901.9	83	1028.8	142	1166.2	201	1314.2
-34	787.4	25	903.9	84	1031.0	143	1168.6	202	1316.8
-33	789.2	26	906.0	85	1033.3	144	1171.0	203	1319.3
-32	791.1	27	908.1	86	1035.5	145	1173.5	204	1321.9
-31	793.1	28	910.1	87	1037.8	146	1175.9	205	1324.6
-30	795.0	29	912.2	88	1040.0	147	1178.3	206	1327.2
-29	796.8	30	914.3	89	1042.3	148	1180.8	207	1329.7
-28	798.7	31	916.4	90	1044.5	149	1183.2	208	1332.4
-27	800.7	32	918.5	91	1046.8	150	1185.6	209	1335.0
-26	802.6	33	920.5	92	1049.1	151	1188.1	210	1337.6
-25	804.5	34	922.6	93	1051.3	152	1190.6	211	1340.3
-24	806.4	35	924.7	94	1053.6	153	1193.0	212	1342.8
-23	808.3	36	926.8	95	1055.9	154	1195.4		
-22	810.3	37	929.0	96	1058.1	155	1197.9		
-21	812.2	38	931.1	97	1060.4	156	1200.4		
-20	814.1	39	933.2	98	1062.7	157	1202.8		
-19	816.0	40	935.3	99	1065.0	158	1205.3		
-18	818.0	41	937.5	100	1067.3	159	1207.7		
-17	819.9	42	939.6	101	1069.6	160	1210.2		
-16	821.8	43	941.7	102	1071.9	161	1212.7		
-15	823.8	44	943.8	103	1074.2	162	1215.1		
-14	825.7	45	946.0	104	1076.5	163	1217.6		
-13	827.7	46	948.1	105	1078.8	164	1220.1		
-12	829.6	47	950.2	106	1081.1	165	1222.6		
-11	831.6	48	952.4	107	1083.4	166	1225.1		
-10	833.5	49	954.5	108	1085.7	167	1227.6		
-9	835.5	50	956.7	109	1088.0	168	1230.1		
-8	837.4	51	958.8	110	1090.4	169	1232.6		
-7	839.4	52	961.0	111	1092.7	170	1235.1		
-6	841.4	53	963.1	112	1095.0	171	1237.6		
-5	843.3	54	965.3	113	1097.3	172	1240.7		
-4	845.3	55	967.4	114	1099.7	173	1242.7		
-3	847.3	56	969.6	115	1102.0	174	1245.2		
-2	849.3	57	971.7	116	1104.3	175	1253.2		
-1	851.2	58	973.9	117	1106.7	176	1250.2		
0	853.3	59	976.1	118	1109.0	177	1252.7		
1	855.3	60	978.2	119	1111.4	178	1255.3		
2	857.2	61	980.4	120	1113.7	179	1257.8		
3	859.2	62	982.6	121	1116.1	180	1260.3		
4	861.2	63	984.7	122	1118.4	181	1262.8		
5	863.3	64	986.9	123	1120.8	182	1265.4		
6	865.2	65	989.1	124	1123.8	183	1267.9		
7	867.3	66	991.3	125	1125.5	184	1270.5		
8	869.3	67	993.5	126	1127.9	185	1273.0		
9	871.3	68	995.6	127	1130.2	186	1275.5		
10	873.3	69	997.8	128	1132.6	187	1278.1		
11	875.3	70	1000.0	129	1135.0	188	1280.7		
12	877.3	71	1002.2	130	1137.4	189	1283.2		
13	879.4	72	1004.4	131	1139.8	190	1285.8		
14	881.4	73	1006.6	132	1142.1	191	1288.3		
15	883.4	74	1008.7	133	1144.5	192	1290.9		
16	885.5	75	1011.0	134	1146.9	193	1293.5		
17	887.5	76	1013.2	135	1149.3	194	1296.0		
18	889.6	77	1015.4	136	1151.7	195	1298.6		



Sensor Type 5. 1000 ohm Balco RTD  
Celsius

Temp	Resis	Temp	Resis	Temp	Resis
-40	776.2	8	948.8	56	1144.0
-39	779.6	9	952.7	57	1148.3
-38	783.0	10	956.5	58	1152.6
-37	786.4	11	960.4	59	1157.0
-36	789.8	12	964.3	60	1161.3
-35	793.2	13	968.1	61	1165.6
-34	796.6	14	972.0	62	1170.0
-33	800.0	15	975.9	63	1174.4
-32	803.5	16	979.8	64	1178.7
-31	806.9	17	983.7	65	1183.1
-30	810.4	18	987.6	66	1187.5
-29	813.8	19	991.6	67	1191.9
-28	817.3	20	995.5	68	1196.3
-27	820.3	21	999.5	69	1200.7
-26	824.3	22	1003.4	70	1205.2
-25	827.8	23	1007.4	71	1209.6
-24	831.3	24	1011.4	72	1214.1
-23	834.8	25	1015.4	73	1218.5
-22	838.4	26	1019.4	74	1223.0
-21	841.9	27	1023.4	75	1227.5
-20	845.4	28	1027.4	76	1232.0
-19	849.0	29	1031.5	77	1236.5
-18	852.5	30	1035.5	78	1241.0
-17	856.1	31	1039.5	79	1245.5
-16	859.7	32	1043.6	80	1250.1
-15	863.3	33	1047.7	81	1254.6
-14	866.9	34	1051.8	82	1259.2
-13	870.6	35	1055.8	83	1263.7
-12	874.2	36	1059.9	84	1268.2
-11	877.8	37	1064.1	85	1272.9
-10	881.5	38	1068.2	86	1277.5
-9	885.1	39	1072.3	87	1282.0
-8	888.8	40	1076.4	88	1286.7
-7	892.5	41	1080.6	89	1291.3
-6	896.2	42	1084.8	90	1295.9
-5	899.9	43	1088.9	91	1300.5
-4	903.6	44	1093.1	92	1305.1
-3	907.3	45	1097.3	93	1309.8
-2	911.0	46	1101.5	94	1314.5
-1	914.8	47	1105.7	95	1319.2
0	918.5	48	1109.9	96	1323.9
1	922.3	49	1114.1	97	1328.9
2	926.0	50	1118.4	98	1333.3
3	929.8	51	1122.6	99	1338.0
4	933.6	52	1126.9	100	1342.7
5	937.4	53	1131.2		
6	941.2	54	1135.4		
7	945.0	55	1139.7		

## Sensor Type 7. 10,000 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	239831	19	41510	78	9779	137	2920	196	1049
-39	232094	20	40411	79	9563	138	2866	197	1033
-38	224631	21	39344	80	9353	139	2813	198	1016
-37	217436	22	38309	81	9148	140	2761	199	1000
-36	210495	23	37304	82	8948	141	2710	200	985
-35	203801	24	36329	83	8753	142	2660	201	969
-34	197340	25	35382	84	8563	143	2611	202	954
-33	191104	26	34463	85	8378	144	2564	203	939
-32	185086	27	33571	86	8197	145	2517	204	925
-31	179280	28	32704	87	8021	146	2471	205	910
-30	173631	29	31863	88	7549	147	2426	206	896
-29	168222	30	31046	89	7681	148	2383	207	882
-28	162998	31	30252	90	7517	149	2340	208	869
-27	157954	32	29481	91	7357	150	2297	209	855
-26	153083	33	28732	92	7201	151	2256	210	842
-25	148378	34	28005	93	7049	152	2216	211	829
-24	143833	35	27298	94	6900	153	2176	212	817
-23	139442	36	26611	95	6755	154	2138	213	804
-22	135200	37	25943	96	6613	155	2100	214	792
-21	131101	38	25295	97	6475	156	2063	215	780
-20	127139	39	24664	98	6340	157	2026	216	768
-19	123310	40	24051	99	6209	158	1991	217	757
-18	119609	41	23456	100	6080	159	1956	218	745
-17	116031	42	22877	101	5954	160	1921	219	734
-16	112571	43	22313	102	5832	161	1888	220	723
-15	109226	44	21766	103	5712	162	1855	221	712
-14	105992	45	21234	104	5595	163	1823	222	702
-13	102863	46	20716	105	5481	164	1791	223	691
-12	99837	47	20212	106	5369	165	1760	224	681
-11	96910	48	19722	107	5260	166	1730	225	671
-10	94078	49	19246	108	5154	167	1700	226	661
-9	91339	50	18782	109	5050	168	1671	227	651
-8	88687	51	18332	110	4948	169	1643	228	642
-7	86122	52	17893	111	4849	170	1615	229	632
-6	83638	53	17466	112	4752	171	1587	230	623
-5	81235	54	17050	113	4657	172	1560	231	615
-4	78908	55	16646	114	4564	173	1534	232	606
-3	76655	56	16253	115	4474	174	1508	233	597
-2	74474	57	15870	116	4385	175	1483	234	589
-1	72362	58	15497	117	4299	176	1458	235	580
0	70317	59	15134	118	4214	177	1434	236	572
1	68336	60	14780	119	4132	178	1410	237	564
2	66417	61	14436	120	4051	179	1386	238	556
3	64558	62	14101	121	3972	180	1363	239	548
4	62757	63	13775	122	3895	181	1341	240	540
5	61012	64	13457	123	3819	182	1319	241	533
6	59321	65	13148	124	3745	183	1297	242	525
7	57682	66	12846	125	3673	184	1276	243	518
8	56094	67	12553	126	3602	185	1255	244	510
9	54555	68	12267	127	3533	186	1234	245	503
10	53063	69	11988	128	3466	187	1214	246	496
11	51616	70	11717	129	3400	188	1194	247	489
12	50213	71	11452	130	3335	189	1175	248	483
13	48853	72	11194	131	3272	190	1156	249	476
14	47554	73	10943	132	3210	191	1138	250	469
15	46255	74	10698	133	3150	192	1119		
16	45014	75	10459	134	3090	193	1101		
17	43810	76	10227	135	3032	194	1084		
18	42643	77	10000	136	2975	195	1066		

## Sensor Type 7. 10,000 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	239831	8	20517	56	3160	104	733
-39	226105	9	19631	57	3054	105	713
-38	213243	10	18787	58	2952	106	694
-37	201187	11	17983	59	2854	107	676
-36	189885	12	17219	60	2760	108	658
-35	179280	13	16490	61	2669	109	641
-34	169330	14	15797	62	2582	110	624
-33	159990	15	15136	63	2498	111	608
-32	151219	16	14507	64	2417	112	592
-31	142978	17	13906	65	2339	113	577
-30	135233	18	13334	66	2264	114	562
-29	127951	19	12788	67	2191	115	548
-28	121104	20	12268	68	2122	116	534
-27	114662	21	11771	69	2055	117	521
-26	108599	22	11297	70	1990	118	508
-25	102890	23	10845	71	1928	119	495
-24	97513	24	10413	72	1868	120	483
-23	92449	25	10000	73	1810	121	471
-22	87675	26	9606	74	1754	122	459
-21	83174	27	9229	75	1700	123	448
-20	78930	28	8869	76	1648	124	437
-19	74926	29	8525	77	1598	125	426
-18	71148	30	8197	78	1550	126	416
-17	67581	31	7882	79	1503	127	406
-16	64212	32	7581	80	1458	128	396
-15	61030	33	7293	81	1414	129	386
-14	58024	34	7018	82	1372	130	377
-13	55182	35	6754	83	1332	131	368
-12	52495	36	6501	84	1293	132	360
-11	49954	37	6260	85	1255	133	351
-10	47549	38	6028	86	1218	134	343
-9	45274	39	5806	87	1183	135	335
-8	43119	40	5594	88	1149	136	327
-7	41079	41	5390	89	1116	137	320
-6	39147	42	5195	90	1084	138	312
-5	37316	43	5008	91	1053	139	305
-4	35580	44	4828	92	1023	140	298
-3	33935	45	4656	93	995	141	291
-2	32375	46	4490	94	967	142	285
-1	30895	47	4332	95	940	143	278
0	29490	48	4180	96	914	144	272
1	28157	49	4034	97	888	145	266
2	26891	50	3893	98	864	146	260
3	25689	51	3759	99	840	147	254
4	24547	52	3629	100	817	148	249
5	23462	53	3505	101	795	149	243
6	22431	54	3386	102	774	150	238
7	21450	55	3271	103	753		

## Sensor Type 10. 3,000 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	100618	19	14282	78	2928	137	792	196	266
-39	96983	20	13865	79	2858	138	777	197	261
-38	93494	21	13462	80	2789	139	761	198	257
-37	90141	22	13072	81	2723	140	746	199	253
-36	86920	23	12694	82	2658	141	731	200	248
-35	83827	24	12329	83	2596	142	717	201	244
-34	80856	25	11975	84	2534	143	703	202	240
-33	78000	26	11633	85	2475	144	689	203	236
-32	75254	27	11301	86	2417	145	676	204	232
-31	72615	28	10980	87	2360	146	662	205	228
-30	70079	29	10670	88	2305	147	650	206	225
-29	67640	30	10369	89	2252	148	637	207	221
-28	65295	31	10077	90	2200	149	625	208	217
-27	63040	32	9795	91	2149	150	613	209	214
-26	60870	33	9522	92	2100	151	601	210	210
-25	58783	34	9257	93	2052	152	589	211	207
-24	56774	35	9000	94	2005	153	578	212	204
-23	54841	36	8752	95	1959	154	567	213	200
-22	52982	37	8511	96	1915	155	556	214	197
-21	51192	38	8277	97	1871	156	546	215	194
-20	49468	39	8051	98	1829	157	536	216	191
-19	47809	40	7831	99	1788	158	525	217	188
-18	46211	41	7619	100	1748	159	516	218	185
-17	44673	42	7413	101	1709	160	506	219	182
-16	43191	43	7213	102	1671	161	497	220	179
-15	41763	44	7019	103	1634	162	487	221	176
-14	40387	45	6830	104	1597	163	479	222	173
-13	39062	46	6648	105	1562	164	469	223	171
-12	37785	47	6471	106	1528	165	461	224	168
-11	36554	48	6299	107	1494	166	452	225	165
-10	35367	49	6133	108	1462	167	444	226	163
-9	34223	50	5971	109	1430	168	436	227	160
-8	33120	51	5814	110	1399	169	428	228	158
-7	32057	52	5662	111	1368	170	420	229	155
-6	31031	53	5514	112	1339	171	413	230	153
-5	30042	54	5371	113	1310	172	405	231	151
-4	29087	55	5232	114	1282	173	398	232	148
-3	28167	56	5097	115	1254	174	391	233	146
-2	27278	57	4965	116	1228	175	384	234	144
-1	26421	58	4838	117	1202	176	377	235	142
0	25593	59	4714	118	1176	177	370	236	140
1	24795	60	4594	119	1151	178	364	237	138
2	24024	61	4477	120	1127	179	357	238	135
3	23279	62	4364	121	1103	180	351	239	133
4	22561	63	4254	122	1080	181	345	240	131
5	21866	64	4147	123	1058	182	339	241	129
6	21196	65	4043	124	1036	183	333	242	128
7	20549	66	3942	125	1014	184	327	243	126
8	19923	67	3844	126	993	185	321	244	124
9	19319	68	3748	127	973	186	316	245	122
10	18735	69	3655	128	953	187	310	246	120
11	18170	70	3565	129	933	188	305	247	118
12	17625	71	3477	130	914	189	300	248	117
13	17098	72	3392	131	895	190	294	249	115
14	16589	73	3309	132	877	191	289	250	113
15	16096	74	3229	133	860	192	284		
16	15619	75	3150	134	842	193	280		
17	15159	76	3074	135	825	194	275		
18	14713	77	3000	136	809	195	270		

## Sensor Type 10. 3,000 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	100618	8	6577	56	863	104	181
-39	94180	9	6266	57	832	105	176
-38	88193	10	5971	58	802	106	171
-37	82624	11	5692	59	774	107	167
-36	77442	12	5428	60	746	108	162
-35	72615	13	5177	61	720	109	157
-34	68122	14	4940	62	695	110	153
-33	63932	15	4714	63	670	111	149
-32	60025	16	4500	64	647	112	145
-31	56382	17	4297	65	625	113	141
-30	52982	18	4105	66	603	114	137
-29	49808	19	3922	67	583	115	133
-28	46843	20	3748	68	563	116	130
-27	44073	21	3583	69	544	117	126
-26	41784	22	3426	70	525	118	123
-25	39062	23	3277	71	508	119	120
-24	36796	24	3135	72	491	120	117
-23	34675	25	3000	73	475	121	114
-22	32690	26	2872	74	459	122	111
-21	30830	27	2749	75	444	123	108
-20	29087	28	2633	76	430	124	105
-19	27453	29	2522	77	416	125	102
-18	25921	30	2417	78	402	126	100
-17	24483	31	2316	79	389	127	97
-16	23134	32	2220	80	377	128	95
-15	21866	33	2129	81	365	129	92
-14	20680	34	2042	82	353	130	90
-13	19558	35	1959	83	342	131	88
-12	18507	36	1880	84	332	132	86
-11	17518	37	1804	85	321	133	83
-10	16589	38	1732	86	311	134	81
-9	15713	39	1663	87	302	135	79
-8	14889	40	1597	88	292	136	78
-7	14114	41	1535	89	283	137	76
-6	13383	42	1475	90	275	138	74
-5	12694	43	1417	91	267	139	72
-4	12045	44	1362	92	259	140	70
-3	11433	45	1310	93	251	141	69
-2	10855	46	1260	94	243	142	67
-1	10310	47	1212	95	236	143	65
0	9795	48	1166	96	229	144	64
1	9309	49	1122	97	222	145	62
2	8850	50	1080	98	216	146	61
3	8416	51	1040	99	210	147	60
4	8006	52	1002	100	204	148	58
5	7619	53	965	101	198	149	57
6	7252	54	929	102	192	150	56
7	6905	55	895	103	187		

## Sensor Type 12. 10,000 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	336095	19	47612	78	9760	137	2642	196	885
-39	323934	20	46222	79	9526	138	2589	197	870
-38	312255	21	44878	80	9298	139	2538	198	856
-37	301040	22	43576	81	9077	140	2487	199	841
-36	290264	23	42316	82	8861	141	2438	200	827
-35	279921	24	41098	83	8652	142	2390	201	814
-34	269982	25	39919	84	8448	143	2343	202	800
-33	260429	26	38777	85	8249	144	2297	203	787
-32	251250	27	37673	86	8056	145	2252	204	774
-31	242426	28	36602	87	7868	146	2208	205	761
-30	233942	29	35566	88	7685	147	2165	206	749
-29	225794	30	34563	89	7506	148	2123	207	736
-28	217954	31	33592	90	7333	149	2082	208	724
-27	210413	32	32651	91	7164	150	2042	209	713
-26	203161	33	31739	92	6999	151	2003	210	701
-25	196184	34	30856	93	6839	152	1965	211	690
-24	189473	35	30001	94	6682	153	1927	212	678
-23	183017	36	29172	95	6530	154	1891	213	668
-22	176801	37	28369	96	6382	155	1855	214	657
-21	170821	38	27591	97	6238	156	1820	215	646
-20	165062	39	26836	98	6097	157	1785	216	636
-19	159520	40	26104	99	5960	158	1752	217	626
-18	154185	41	25395	100	5826	159	1719	218	616
-17	149045	42	24707	101	5696	160	1687	219	606
-16	144094	43	24041	102	5569	161	1655	220	597
-15	139324	44	23394	103	5446	162	1624	221	587
-14	134734	45	22767	104	5325	163	1594	222	578
-13	130307	46	22159	105	5208	164	1565	223	569
-12	126041	47	21569	106	5093	165	1536	224	560
-11	121932	48	20997	107	4981	166	1508	225	551
-10	117968	49	20442	108	4872	167	1480	226	543
-9	114152	50	19903	109	4766	168	1453	227	534
-8	110468	51	19380	110	4663	169	1427	228	526
-7	106917	52	18873	111	4562	170	1401	229	518
-6	103492	53	18381	112	4463	171	1375	230	510
-5	100192	54	17903	113	4367	172	1350	231	502
-4	97007	55	17439	114	4273	173	1326	232	494
-3	93932	56	16989	115	4182	174	1302	233	487
-2	90968	57	16551	116	4093	175	1279	234	479
-1	88106	58	16126	117	4006	176	1256	235	472
0	85346	59	15714	118	3921	177	1234	236	465
1	82680	60	15313	119	3838	178	1212	237	458
2	80109	61	14924	120	3757	179	1190	238	451
3	77624	62	14546	121	3678	180	1169	239	444
4	75226	63	14179	122	3601	181	1149	240	438
5	72910	64	13822	123	3526	182	1129	241	431
6	70675	65	13476	124	3453	183	1109	242	425
7	68515	66	13139	125	3381	184	1089	243	418
8	66428	67	12812	126	3311	185	1070	244	412
9	64411	68	12493	127	3243	186	1052	245	406
10	62464	69	12184	128	3176	187	1034	246	400
11	60581	70	11884	129	3111	188	1016	247	394
12	58762	71	11591	130	3047	189	998	248	388
13	57003	72	11307	131	2985	190	981	249	383
14	55303	73	11031	132	2925	191	964	250	377
15	53660	74	10762	133	2865	192	948		
16	52072	75	10501	134	2807	193	932		
17	50535	76	10247	135	2751	194	916		
18	49049	77	10000	136	2696	195	901		

## Sensor Type 12. 10,000 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	336095	8	21921	56	2877	104	604
-39	314553	9	20885	57	2773	105	587
-38	294525	10	19903	58	2674	106	571
-37	275896	11	18973	59	2579	107	555
-36	258562	12	18092	60	2487	108	539
-35	242426	13	17257	61	2399	109	524
-34	227400	14	16465	62	2315	110	510
-33	213391	15	15714	63	2234	111	496
-32	200338	16	15001	64	2157	112	482
-31	188162	17	14324	65	2082	113	469
-30	176801	18	13683	66	2011	114	457
-29	166199	19	13073	67	1942	115	444
-28	156295	20	12493	68	1876	116	432
-27	147041	21	11943	69	1813	117	421
-26	138393	22	11420	70	1752	118	410
-25	130307	23	10923	71	1693	119	399
-24	122742	24	10450	72	1637	120	388
-23	115663	25	10000	73	1582	121	378
-22	109032	26	9572	74	1530	122	368
-21	102824	27	9165	75	1480	123	359
-20	97007	28	8777	76	1432	124	350
-19	91552	29	8408	77	1385	125	341
-18	86438	30	8056	78	1341	126	332
-17	81640	31	7721	79	1298	127	323
-16	77138	32	7402	80	1256	128	315
-15	72910	33	7097	81	1216	129	307
-14	68940	34	6807	82	1178	130	300
-13	65209	35	6530	83	1141	131	292
-12	61703	36	6266	84	1105	132	285
-11	58406	37	6014	85	1070	133	278
-10	55303	38	5774	86	1037	134	271
-9	52385	39	5544	87	1005	135	264
-8	49638	40	5325	88	974	136	258
-7	47050	41	5116	89	945	137	252
-6	44613	42	4916	90	916	138	246
-5	42316	43	4725	91	888	139	240
-4	40152	44	4542	92	862	140	234
-3	38110	45	4367	93	836	141	228
-2	36184	46	4200	94	811	142	223
-1	34366	47	4040	95	787	143	218
0	32651	48	3887	96	764	144	212
1	31031	49	3741	97	741	145	207
2	29501	50	3601	98	720	146	203
3	28054	51	3467	99	699	147	198
4	26688	52	3339	100	678	148	193
5	25395	53	3216	101	659	149	189
6	24172	54	3098	102	640	150	185
7	23016	55	2985	103	622		

## Sensor Type 13. 5,000 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	167862	19	23805	78	4880	137	1321	196	443
-39	161791	20	23110	79	4763	138	1294	197	435
-38	155965	21	22437	80	4649	139	1269	198	428
-37	150368	22	21787	81	4538	140	1244	199	421
-36	144994	23	21158	82	4431	141	1219	200	414
-35	139828	24	20548	83	4326	142	1195	201	407
-34	134866	25	19959	84	4224	143	1171	202	400
-33	130100	26	19388	85	4125	144	1148	203	394
-32	125518	27	18836	86	4028	145	1126	204	387
-31	121114	28	18301	87	3934	146	1104	205	381
-30	116881	29	17783	88	3842	147	1083	206	374
-29	112811	30	17282	89	3753	148	1062	207	368
-28	108898	31	16796	90	3666	149	1041	208	362
-27	105131	32	16325	91	3582	150	1021	209	356
-26	101511	33	15870	92	3499	151	1001	210	351
-25	98029	34	15428	93	3419	152	982	211	345
-24	94676	35	15001	94	3341	153	964	212	339
-23	91453	36	14586	95	3265	154	945	213	334
-22	88349	37	14184	96	3191	155	927	214	329
-21	85362	38	13795	97	3119	156	910	215	323
-20	82486	39	13418	98	3048	157	893	216	318
-19	79719	40	13052	99	2980	158	876	217	313
-18	77052	41	12698	100	2913	159	859	218	308
-17	74486	42	12354	101	2848	160	843	219	303
-16	72014	43	12021	102	2785	161	828	220	298
-15	69633	44	11698	103	2723	162	812	221	294
-14	67338	45	11384	104	2662	163	797	222	289
-13	65127	46	11080	105	2604	164	782	223	285
-12	62996	47	10785	106	2546	165	768	224	280
-11	60943	48	10499	107	2491	166	754	225	276
-10	58965	49	10221	108	2436	167	740	226	271
-9	57055	50	9952	109	2383	168	727	227	267
-8	55216	51	9690	110	2331	169	713	228	263
-7	53442	52	9437	111	2281	170	700	229	259
-6	51732	53	9190	112	2231	171	688	230	255
-5	50082	54	8952	113	2183	172	675	231	251
-4	48490	55	8720	114	2137	173	663	232	247
-3	46955	56	8494	115	2091	174	651	233	244
-2	45473	57	8275	116	2046	175	640	234	240
-1	44044	58	8063	117	2003	176	628	235	236
0	42664	59	7857	118	1960	177	617	236	233
1	41332	60	7657	119	1919	178	606	237	229
2	40047	61	7462	120	1878	179	595	238	226
3	38805	62	7273	121	1839	180	585	239	222
4	37607	63	7090	122	1800	181	574	240	219
5	36450	64	6911	123	1763	182	564	241	216
6	35332	65	6738	124	1726	183	554	242	212
7	34252	66	6569	125	1690	184	545	243	209
8	33209	67	6406	126	1655	185	535	244	206
9	32202	68	6247	127	1621	186	526	245	203
10	31228	69	6092	128	1588	187	517	246	200
11	30288	70	5942	129	1555	188	508	247	197
12	29378	71	5796	130	1524	189	499	248	194
13	28499	72	5654	131	1493	190	491	249	191
14	27650	73	5515	132	1462	191	482	250	189
15	26828	74	5381	133	1433	192	474		
16	26034	75	5251	134	1404	193	466		
17	25266	76	5124	135	1375	194	458		
18	24523	77	5000	136	1348	195	450		



## Sensor Type 13. 5,000 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	167862	8	10961	56	1438	104	302
-39	157110	9	10443	57	1387	105	294
-38	147118	10	9952	58	1337	106	285
-37	137819	11	9487	59	1289	107	277
-36	129169	12	9046	60	1244	108	270
-35	121114	13	8629	61	1200	109	262
-34	113612	14	8233	62	1158	110	255
-33	106620	15	7857	63	1117	111	248
-32	100102	16	7501	64	1078	112	241
-31	94022	17	7162	65	1041	113	235
-30	88349	18	6841	66	1005	114	228
-29	83054	19	6536	67	971	115	222
-28	78108	20	6247	68	938	116	216
-27	73486	21	5971	69	906	117	211
-26	69167	22	5710	70	876	118	205
-25	65127	23	5461	71	847	119	200
-24	61347	24	5225	72	818	120	194
-23	57810	25	5000	73	791	121	189
-22	54499	26	4786	74	765	122	184
-21	51398	27	4582	75	740	123	180
-20	48490	28	4388	76	716	124	175
-19	45765	29	4204	77	693	125	170
-18	43210	30	4028	78	670	126	166
-17	40812	31	3860	79	649	127	162
-16	38562	32	3701	80	628	128	158
-15	36450	33	3549	81	608	129	154
-14	34465	34	3403	82	589	130	150
-13	32601	35	3265	83	571	131	146
-12	30848	36	3133	84	553	132	143
-11	29200	37	3007	85	535	133	139
-10	27650	38	2887	86	519	134	136
-9	26191	39	2772	87	503	135	132
-8	24817	40	2662	88	487	136	129
-7	23524	41	2558	89	472	137	126
-6	22306	42	2458	90	458	138	123
-5	21158	43	2362	91	444	139	120
-4	20075	44	2271	92	431	140	117
-3	19055	45	2183	93	418	141	114
-2	18092	46	2100	94	406	142	112
-1	17183	47	2020	95	394	143	109
0	16325	48	1944	96	382	144	106
1	15516	49	1870	97	371	145	104
2	14750	50	1800	98	360	146	101
3	14027	51	1733	99	349	147	99
4	13344	52	1669	100	339	148	97
5	12698	53	1608	101	330	149	95
6	12087	54	1549	102	320	150	92
7	11508	55	1493	103	311		

Sensor Type 15. 100,000 ohm Thermistor  
 @ 77° Fahrenheit

±0.36°F @ 77°

±1.3°F from 32° to 158°F

-35	2801K	140	24.86K
-30	2341K	145	22.51K
-25	1963K	150	20.41K
-20	1651K	155	18.54K
-15	1393K	160	16.86K
-10	1180K	165	15.35K
-5	1002K	170	14.00K
0	853.5K	175	12.78K
5	729.1K	180	11.68K
10	624.8K	185	10.70K
15	536.4K	190	9805
20	462.3K	195	8996
25	399.1K	200	8268
30	345.6K	205	7607
35	300.0K	210	7007
40	261.0K	215	6461
45	227.6K	220	5964
50	199.0K	225	5515
55	174.4K	230	5102
60	153.1K	235	4725
65	134.8K	240	4383
70	118.8K		
75	105.0K		
80	92.98K		
85	82.50K		
90	73.31K		
95	65.32K		
100	58.26K		
105	52.09K		
110	46.63K		
115	41.82K		
120	37.57K		
125	33.81K		
130	30.47K		
135	27.5K		

Sensor Type 15. 100,000 ohm Thermistor  
@ 77° Celsius

Temp	Resis	Temp	Resis
-37	2801K	60	24.86K
-34	2341K	63	22.51K
-31	1963K	65	20.41K
-29	1651K	68	18.54K
-26	1393K	71	16.86K
-23	1180K	74	15.35K
-20	1002K	77	14.00K
-17	853.5K	79	12.78K
-15	729.1K	82	11.68K
-12	624.8K	85	10.70K
-9	536.4K	88	9805
-6	462.3K	90	8996
-4	399.1K	93	8268
-1	345.6K	96	7607
1	300.0K	99	7007
4	261.0K	102	6461
7	227.6K	104	5964
10	199.0K	107	5515
12	174.4K	110	5102
15	153.1K	113	4725
18	134.8K	115	4383
21	118.8K		
24	105.0K		
26	92.98K		
29	82.50K		
32	73.31K		
35	65.32K		
38	58.26K		
40	52.09K		
43	46.63K		
46	41.82K		
49	37.57K		
52	33.81K		
54	30.47K		
57	27.5K		

## Sensor Type 17. 20,000 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	830741	19	105137	78	19488	137	4827	196	1495
-39	799087	20	101882	79	18991	138	4724	197	1468
-38	768750	21	98739	80	18508	139	4624	198	1442
-37	739670	22	95703	81	18038	140	4526	199	1416
-36	711792	23	92771	82	17582	141	4430	200	1391
-35	685061	24	89938	83	17139	142	4337	201	1366
-34	659428	25	87200	84	16709	143	4246	202	1341
-33	634842	26	84555	85	16290	144	4157	203	1318
-32	611259	27	81999	86	15884	145	4070	204	1294
-31	588633	28	79528	87	15488	146	3985	205	1271
-30	566924	29	77140	88	15104	147	3902	206	1249
-29	546090	30	74831	89	14730	148	3821	207	1227
-28	526094	31	72599	90	14367	149	3742	208	1205
-27	506899	32	70441	91	14014	150	3665	209	1184
-26	488471	33	68354	92	13671	151	3590	210	1164
-25	470776	34	66336	93	13337	152	3516	211	1143
-24	453784	35	64383	94	13012	153	3444	212	1123
-23	437463	36	62495	95	12696	154	3374	213	1104
-22	421785	37	60667	96	12389	155	3306	214	1085
-21	406723	38	58900	97	12090	156	3239	215	1066
-20	392251	39	57189	98	11799	157	3173	216	1048
-19	378343	40	55534	99	11516	158	3109	217	1030
-18	364976	41	53931	100	11241	159	3047	218	1013
-17	352127	42	52381	101	10973	160	2986	219	995
-16	339774	43	50879	102	10712	161	2926	220	978
-15	327897	44	49426	103	10459	162	2868	221	962
-14	316476	45	48019	104	10212	163	2811	222	946
-13	305491	46	46656	105	9971	164	2755	223	930
-12	294925	47	45336	106	9737	165	2701	224	914
-11	284761	48	44058	107	9509	166	2648	225	899
-10	274981	49	42820	108	9287	167	2596	226	884
-9	265570	50	41621	109	9071	168	2545	227	869
-8	256513	51	40459	110	8861	169	2495	228	854
-7	247796	52	39333	111	8656	170	2447	229	840
-6	239405	53	38242	112	8457	171	2399	230	826
-5	231326	54	37185	113	8262	172	2353	231	813
-4	223547	55	36160	114	8073	173	2307	232	799
-3	216056	56	35167	115	7889	174	2263	233	786
-2	208841	57	34204	116	7709	175	2219	234	77
-1	201892	58	33271	117	7534	176	2177	235	761
0	195197	59	32366	118	7363	177	2135	236	748
1	188746	60	31488	119	7197	178	2095	237	736
2	182530	61	30637	120	7035	179	2055	238	724
3	176540	62	29812	121	6878	180	2016	239	712
4	170767	63	29011	122	6724	181	1978	240	701
5	165201	64	28235	123	6574	182	1941	241	690
6	159836	65	27481	124	6428	183	1904	242	679
7	154663	66	26751	125	6285	184	1869	243	668
8	149674	67	26042	126	6146	185	1834	244	657
9	144863	68	25353	127	6011	186	1800	245	647
10	140223	69	24685	128	5879	187	1766	246	636
11	135746	70	24037	129	5750	188	1733	247	626
12	131428	71	23408	130	5624	189	1701	248	616
13	127261	72	22797	131	5502	190	1670	249	607
14	123240	73	22205	132	5382	191	1639	250	597
15	119359	74	21629	133	5266	192	1609		
16	115614	75	21070	134	5152	193	1580		
17	111998	76	20527	135	5041	194	1551		
18	108507	77	20000	136	4933	195	1523		

## Sensor Type 17. 20,000 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	830741	11	39555	62	4192	113	756
-39	774715	12	37604	63	4035	114	734
-38	722802	13	35759	64	3886	115	712
-37	674679	14	34015	65	3742	116	692
-36	630047	15	32366	66	3605	117	672
-35	588633	16	30805	67	3473	118	653
-34	550188	17	29329	68	3347	119	634
-33	514483	18	27931	69	3225	120	616
-32	481307	19	26607	70	3109	121	599
-31	450467	20	25353	71	2998	122	582
-30	421785	21	24165	72	2891	123	566
-29	395099	22	23040	73	2789	124	550
-28	370259	23	21972	74	2690	125	535
-27	347128	24	20960	75	2596	126	520
-26	325577	25	20000	76	2505	127	506
-25	305491	26	19089	77	2418	128	492
-24	286762	27	18224	78	2334	129	479
-23	269291	28	17404	79	2254	130	466
-22	252987	29	16624	80	2177	131	453
-21	237764	30	15884	81	2103	132	441
-20	223547	31	15180	82	2032	133	429
-19	210263	32	14511	83	1963	134	418
-18	197845	33	13876	84	1897	135	407
-17	186232	34	13271	85	1834	136	396
-16	175369	35	12696	86	1773	137	386
-15	165201	36	12149	87	1714	138	376
-14	155682	37	11629	88	1658	139	366
-13	146767	38	11133	89	1603	140	357
-12	138413	39	10661	90	1551	141	347
-11	130582	40	10212	91	1501	142	338
-10	123240	41	9783	92	1452	143	330
-9	116352	42	9375	93	1406	144	321
-8	109889	43	8987	94	1361	145	313
-7	103821	44	8616	95	1318	146	305
-6	98124	45	8262	96	1276	147	298
-5	92771	46	7925	97	1236	148	290
-4	87740	47	7603	98	1197	149	283
-3	83011	48	7296	99	1160	150	276
-2	78563	49	7003	100	1124		
-1	74379	50	6724	101	1089		
0	70441	51	6456	102	1055		
1	66734	52	6201	103	1023		
2	63243	53	5957	104	992		
3	59953	54	5724	105	962		
4	56854	55	5502	106	933		
5	53931	56	5289	107	905		
6	51176	57	5085	108	878		
7	48576	58	4890	109	852		
8	46123	59	4704	110	826		
9	43807	60	4526	111	802		
10	41621	61	4355	112	778		

## Sensor Type 18. 2,252 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	75491	19	10721	78	2198	137	595	196	199
-39	72764	20	10408	79	2145	138	583	197	196
-38	70148	21	10105	80	2094	139	571	198	193
-37	67633	22	9813	81	2044	140	560	199	190
-36	65219	23	9529	82	1996	141	549	200	186
-35	62898	24	9255	83	1948	142	538	201	183
-34	60670	25	8989	84	1902	143	528	202	180
-33	58528	26	8732	85	1858	144	517	203	177
-32	56469	27	8483	86	1814	145	507	204	174
-31	54489	28	8243	87	1772	146	497	205	172
-30	52586	29	8009	88	1731	147	488	206	169
-29	50757	30	7784	89	1690	148	478	207	166
-28	48998	31	7565	90	1651	149	469	208	163
-27	47307	32	7353	91	1613	150	460	209	161
-26	45678	33	7148	92	1576	151	451	210	158
-25	44113	34	6949	93	1540	152	442	211	155
-24	42606	35	6756	94	1505	153	434	212	153
-23	41157	36	6570	95	1471	154	426	213	150
-22	39761	37	6389	96	1437	155	418	215	146
-21	38418	38	6213	97	1405	156	410	216	143
-20	37125	39	6044	98	1373	157	402	217	141
-19	35880	40	5879	99	1342	158	394	218	139
-18	34681	41	5719	100	1312	159	387	219	137
-17	33527	42	5564	101	1283	160	380	220	134
-16	32415	43	5414	102	1254	161	373	221	132
-15	31344	44	5269	103	1226	162	366	222	130
-14	30312	45	5127	104	1199	163	359	223	128
-13	29317	46	4991	105	1173	164	352	224	126
-12	28359	47	4858	106	1147	165	346	225	124
-11	27435	48	4729	107	1122	166	340	226	122
-10	26545	49	4604	108	1097	167	333	227	120
-9	25686	50	4482	109	1073	168	327	228	119
-8	24859	51	4365	110	1050	169	321	229	117
-7	24061	52	4250	111	1027	170	315	230	115
-6	23291	53	4140	112	1005	171	310	231	113
-5	22549	54	4032	113	983	172	304	232	111
-4	21832	55	3927	114	962	173	299	233	110
-3	21141	56	3826	115	942	174	293	234	108
-2	20475	57	3727	116	922	175	288	235	106
-1	19831	58	3632	117	902	176	283	236	105
0	19210	59	3539	118	883	177	278	237	103
1	18611	60	3449	119	864	178	273	238	102
2	18032	61	3361	120	846	179	268	239	100
3	17474	62	3276	121	828	180	263	240	99
4	16935	63	3193	122	811	181	259	241	97
5	16413	64	3113	123	794	182	254	242	96
6	15911	65	3035	124	777	183	250	243	94
7	15424	66	2959	125	761	184	245	244	93
8	14955	67	2885	126	746	185	241	245	92
9	14501	68	2814	127	730	186	237	246	90
10	14063	69	2744	128	715	187	233	247	89
11	13640	70	2676	129	700	188	229	248	88
12	13230	71	2610	130	686	189	225	249	86
13	12835	72	2546	131	672	190	221	250	85
14	12452	73	2484	132	659	191	217		
15	12082	74	2424	133	645	192	214		
16	11725	75	2365	134	632	193	210		
17	11379	76	2308	135	619	194	206		
18	11044	77	2252	136	607	195	203		

## Sensor Type 18. 2,252 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	75491	8	4937	56	648	104	136
-39	70663	9	4704	57	625	105	132
-38	66173	10	4482	58	602	106	129
-37	61996	11	4273	59	581	107	125
-36	58109	12	4075	60	560	108	122
-35	54489	13	3886	61	540	109	118
-34	5117	14	3708	62	521	110	115
-33	47975	15	3539	63	503	111	112
-32	45046	16	3378	64	486	112	109
-31	42312	17	3226	65	469	113	106
-30	39761	18	3081	66	453	114	103
-29	37380	19	2944	67	437	115	100
-28	35156	20	2814	68	422	116	98
-27	33077	21	2690	69	408	117	95
-26	31134	22	2572	70	394	118	92
-25	29317	23	2460	71	381	119	90
-24	27617	24	2353	72	369	120	88
-23	26026	25	2252	73	356	121	85
-22	24536	26	2156	74	345	122	83
-21	23140	27	2064	75	333	123	81
-20	21832	28	1977	76	322	124	79
-19	20606	29	1893	77	312	125	77
-18	19456	30	1814	78	302	126	75
-17	18377	31	1739	79	292	127	73
-16	17364	32	1667	80	283	128	71
-15	16413	33	1598	81	274	129	69
-14	15520	34	1533	82	265	130	68
-13	14681	35	1471	83	257	131	66
-12	13892	36	1411	84	249	132	64
-11	13150	37	1354	85	241	133	63
-10	12452	38	1300	86	234	134	61
-9	11795	39	1248	87	226	135	60
-8	11177	40	1199	88	220	136	58
-7	10594	41	1152	89	213	137	57
-6	10046	42	1107	90	206	138	55
-5	9529	43	1064	91	200	139	54
-4	9042	44	1023	92	194	140	53
-3	8582	45	983	93	188	141	52
-2	8148	46	946	94	183	142	50
-1	7739	47	910	95	177	143	49
0	7353	48	875	96	172	144	48
1	6988	49	842	97	167	145	47
2	6644	50	811	98	162	146	46
3	6318	51	781	99	157	147	45
4	6010	52	752	100	153	148	44
5	5719	53	724	101	149	149	43
6	5444	54	698	102	144	150	42
7	5183	55	672	103	140		

## Sensor Type 21. 1,800 ohm Thermistor Fahrenheit

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	39073	19	7077	78	1762	137	558	196	213
-39	37836	20	6896	79	1725	138	548	197	210
-38	36644	21	6720	80	1689	139	539	198	207
-37	35492	22	6549	81	1653	140	529	199	204
-36	34382	23	6383	82	1619	141	520	200	201
-35	33310	24	6221	83	1585	142	511	201	198
-34	32275	25	6065	84	1552	143	502	202	195
-33	31276	26	5912	85	1520	144	494	203	192
-32	30312	27	5764	86	1489	145	485	204	189
-31	29380	28	5621	87	1458	146	477	205	187
-30	28481	29	5481	88	1428	147	469	206	184
-29	27612	30	5345	89	1399	148	461	207	181
-28	26773	31	5213	90	1370	149	453	208	179
-27	25963	32	5085	91	1343	150	445	209	176
-26	25180	33	4960	92	1315	151	438	210	173
-25	24423	34	4839	93	1289	152	430	211	171
-24	23692	35	4721	94	1263	153	423	212	169
-23	22985	36	4607	95	1238	154	416	213	166
-22	22301	37	4495	96	1213	155	409	214	164
-21	21641	38	4387	97	1189	156	402	215	161
-20	21002	39	4282	98	1165	157	395	216	159
-19	20384	40	4179	99	1142	158	389	217	157
-18	19787	41	4079	100	1120	159	382	218	155
-17	19209	42	3982	101	1098	160	376	219	153
-16	18651	43	3888	102	1076	161	370	220	150
-15	18110	44	3796	103	1055	162	364	221	148
-14	17587	45	3707	104	1034	163	358	222	146
-13	17081	46	3620	105	1014	164	352	223	144
-12	16591	47	3535	106	995	165	346	224	142
-11	16117	48	3452	107	975	166	341	225	140
-10	15658	49	3372	108	957	167	335	226	138
-9	15214	50	3294	109	938	168	330	227	137
-8	14784	51	3218	110	920	169	324	228	135
-7	14368	52	3144	111	903	170	319	229	133
-6	13964	53	3072	112	886	171	314	230	131
-5	13574	54	3002	113	869	172	309	231	129
-4	13196	55	2933	114	852	173	304	232	128
-3	12829	56	2867	115	836	174	299	233	126
-2	12474	57	2802	116	821	175	295	234	124
-1	12130	58	2739	117	805	176	290	235	122
0	11797	59	2677	118	790	177	286	236	121
1	11474	60	2617	119	776	178	281	237	119
2	11161	61	2559	120	761	179	277	238	118
3	10858	62	2502	121	747	180	272	239	116
4	10563	63	2446	122	733	181	268	240	115
5	10278	64	2392	123	720	182	264	241	113
6	10002	65	2339	124	707	183	260	242	112
7	9734	66	2288	125	694	184	256	243	110
8	9474	67	2238	126	681	185	252	244	109
9	9222	68	2189	127	669	186	248	245	107
10	8977	69	2141	128	657	187	244	246	106
11	8740	70	2095	129	645	188	241	247	104
12	8509	71	2049	130	633	189	237	248	103
13	8286	72	2005	131	622	190	233	249	102
14	8069	73	1962	132	611	191	230	250	100
15	7859	74	1920	133	600	192	226		
16	7655	75	1879	134	589	193	223		
17	7456	76	1839	135	579	194	220		
18	7264	77	1800	136	568	195	216		



## Sensor Type 21. 1,800 ohm Thermistor Celsius

Temp	Resis	Temp	Resis	Temp	Resis	Temp	Resis
-40	39073	8	3585	56	602	104	152
-39	36879	9	3436	57	583	105	148
-38	34821	10	3294	58	564	106	145
-37	32891	11	3159	59	547	107	141
-36	31081	12	3030	60	529	108	138
-35	29380	13	2906	61	513	109	134
-34	27783	14	2789	62	497	110	131
-33	26284	15	2677	63	482	111	128
-32	24874	16	2570	64	467	112	125
-31	23548	17	2468	65	453	113	122
-30	22301	18	2371	66	439	114	119
-29	21128	19	2278	67	426	115	116
-28	20024	20	2189	68	413	116	113
-27	18984	21	2104	69	401	117	111
-26	18004	22	2023	70	389	118	108
-25	17081	23	1945	71	377	119	106
-24	16211	24	1871	72	366	120	103
-23	15390	25	1800	73	356	121	101
-22	14616	26	1732	74	345	122	98
-21	13886	27	1667	75	335	123	96
-20	13196	28	1605	76	326	124	94
-19	12544	29	1546	77	316	125	92
-18	11929	30	1489	78	307	126	90
-17	11348	31	1434	79	299	127	88
-16	10798	32	1382	80	290	128	86
-15	10278	33	1332	81	282	129	84
-14	9787	34	1284	82	274	130	82
-13	9321	35	1238	83	266	131	80
-12	8881	36	1194	84	259	132	78
-11	8464	37	1151	85	252	133	77
-10	8069	38	1111	86	245	134	75
-9	7695	39	1072	87	238	135	73
-8	7340	40	1034	88	232	136	72
-7	7004	41	999	89	226	137	70
-6	6685	42	964	90	220	138	69
-5	6383	43	931	91	214	139	67
-4	6095	44	899	92	208	140	66
-3	5823	45	869	93	203	141	65
-2	5564	46	840	94	197	142	63
-1	5318	47	811	95	192	143	62
0	5085	48	784	96	187	144	61
1	4863	49	758	97	182	145	59
2	4652	50	733	98	178	146	58
3	4452	51	709	99	173	147	57
4	4261	52	686	100	169	148	56
5	4079	53	664	101	164	149	55
6	3906	54	642	102	160	150	53
7	3742	55	622	103	156		



7400 Flying Cloud Drive Minneapolis, MN 55344-3720 • USA  
800/843-5116 • 952/835-1626 • Fax 952/829-5331  
sales@mamacsys.com • www.mamacsys.com

Baird House, Units 6&7  
Pensnett Estate • Kingswinford  
West Midlands • DY6 7YA • United Kingdom  
01384-271113 • Fax 01384-271114

4 Armiger Court, Unit 2  
Holden Hill • S.A. 5088 • Australia  
08-8395-4333 • Fax 08-8395-4433

55 McIntosh Drive, Units 5&6 • Markham  
Ontario • L3R 0N6 • Canada  
905-474-9215 • Fax 905-474-0876

No. 22 Lorong 21A Geylang  
#11-02 Chin Hin Hang Building  
Singapore • 388431  
65-6392-7273 • Fax 65-6392-7276