

Temperature Transmitter Field Recalibration Procedure

MATERIALS

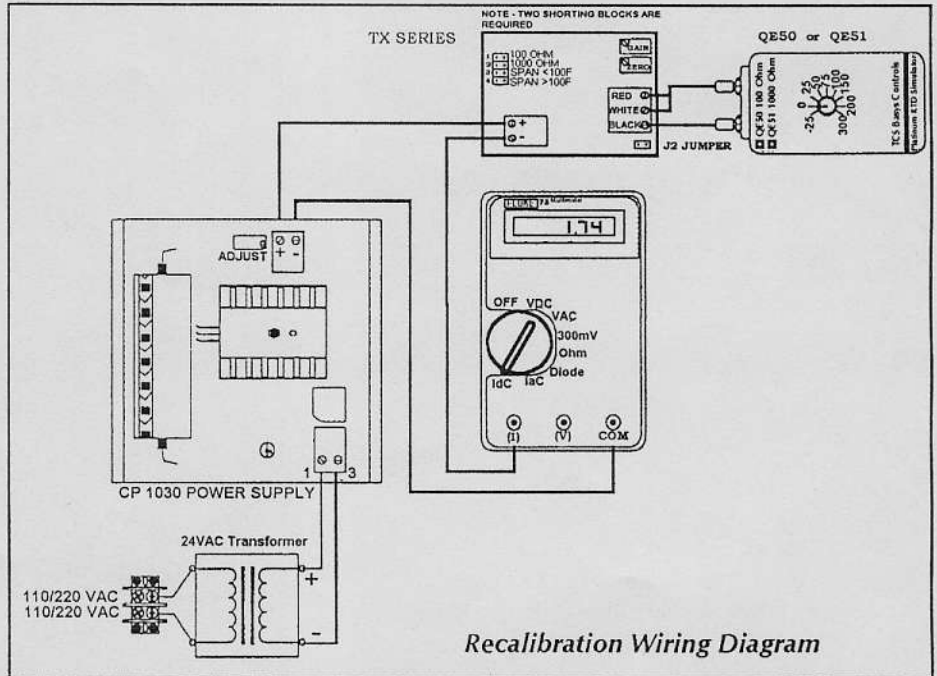
1. An 8-35 VDC regulated power supply (CP1030/QE31)
2. An accurate (DMM) current meter
3. A resistance simulator/ decade box (QE50 or QE51)

WIRING

1. + of power to + of transmitter
2. - of transmitter to + of current meter
3. - of current meter to GND of power
4. Resistance simulator to sensor input
5. Put a jumper on #1 (100Ω) or #2 (1000Ω) simulation
6. Put a jumper on #3 (span <100°F) or #4 (span >100°F) depending on desired range of span

CALIBRATION

1. Set simulator to ohms corresponding to the LOW end of the desired span. Using the ZERO pot on the transmitter, adjust until the current meter reads 4 mA.
2. Set simulator to ohms corresponding to the HIGH end of the span. Using the GAIN pot on the transmitter, adjust until the current meter reads 20 mA.
3. Redo the above two steps until you have the readings within your desired tolerance.
4. Check the midpoint of the range to verify that the current meter reads 12 mA.



Temperature Sensor Simulation Chart

°C	°F	100 Ω	1000 Ω	°C	°F	100 Ω	1000 Ω	°C	°F	100 Ω	1000 Ω	°C	°F	100 Ω	1000 Ω
-45.55	-50	82.1	820.6	4.44	40	101.7	1017.4	54.44	130	121.1	1211.1	104.44	220	140.2	1401.8
-42.77	-45	83.2	831.6	7.22	45	102.8	1028.2	57.22	135	122.2	1221.8	107.22	225	141.2	1412.4
-40.00	-40	84.3	842.6	10.00	50	103.9	1039.0	60.00	140	123.2	1232.4	110.00	230	142.3	1422.9
-37.22	-35	85.4	853.6	12.78	55	105	1049.9	62.78	145	124.3	1243.1	112.78	235	143.3	1433.3
-34.44	-30	86.5	864.6	15.56	60	106.1	1060.7	65.56	150	125.4	1253.7	115.56	240	144.5	1444.8
-31.66	-25	87.6	875.6	18.33	65	107.1	1071.5	68.33	155	126.4	1264.4	118.33	245	145.5	1455.3
-28.89	-20	88.7	886.5	21.11	70	108.2	1082.3	71.11	160	127.5	1275.0	121.11	250	146.5	1464.8
-26.11	-15	89.7	897.5	23.89	75	109.3	1093.1	73.89	165	128.6	1285.6	123.89	255	147.5	1475.2
-23.33	-10	90.8	908.4	26.67	80	110.4	1103.8	76.67	170	129.4	1294.2	126.67	260	148.6	1485.7
-20.56	-5	91.9	919.4	29.44	85	111.5	1114.6	79.44	175	130.5	1304.8	129.44	265	149.6	1496.1
-17.78	0	93.0	930.3	32.22	90	112.5	1125.4	82.22	180	131.7	1317.4	132.22	270	150.7	1506.5
-15.00	5	94.1	941.2	35.00	95	113.6	1136.1	85.00	185	132.8	1328.0	135.00	275	151.7	1517.0
-12.22	10	95.2	952.1	37.78	100	114.7	1146.8	87.78	190	133.9	1338.6	137.78	280	152.7	1527.4
-9.44	15	96.3	963.0	40.56	105	115.8	1157.6	90.56	195	134.9	1349.1	140.56	285	153.8	1537.8
-6.67	20	97.4	973.9	43.33	110	116.8	1168.3	93.33	200	136.0	1359.7	143.33	290	154.8	1548.2
-3.89	25	98.5	984.8	46.11	115	117.9	1179.0	96.11	205	137.0	1370.3	146.11	295	155.9	1558.6
-1.11	30	99.6	995.7	48.89	120	119.0	1189.7	98.89	210	138.1	1380.8	148.89	300	156.9	1568.9
1.67	35	101	1006.5	51.67	125	120.0	1200.4	101.7	215	139.1	1391.3	151.67	305	157.9	1579.3