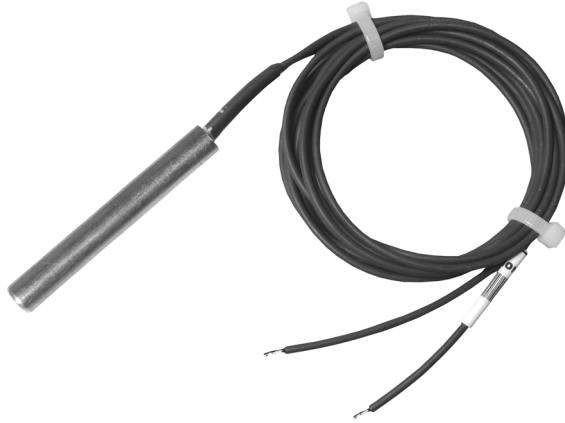


General Purpose Temperature Sensor

INSTALLATION INSTRUCTIONS



FEATURES

- NTC resistive 10K Ohm \pm 1% at 25 °C temperature sensors.
- Sensor $\beta=3950$ for 25 °C to 66 °C (β =thermistor material constant relative to its resistance versus temperature)
- Single element sensors for water tank inlet/outlet, boiler inlet, header and outdoor temperature sensing functions.
- 32003971-003 sensor kit contains sensor and hardware for strap-on or outdoor mounting of sensor.
- Sensors may be used for either strap-on or insertion type applications.
- Compatible immersion wells and accessories available. Refer to Honeywell form number 68-0040 for more information.

APPLICATION

Single element 10KOhm resistive temperature sensor used with the Honeywell Domestic Hot Water Module AquaReset system. Single element sensors provide only operation temperatures for a variety of temperature sensing applications including Domestic Hot Water Module detection.

SPECIFICATIONS

Sensors may be used in strap-on applications.

Complementary parts such as immersion wells, mounting clamps and spring clips can be found in Honeywell form #68-0040, *Immersion Wells and Compression Fittings*. The immersion wells and other complementary parts must be ordered separately.

Table 1. DHW Module Sensors.

Sensor Function	Description	Temperature Range	Termination	Part Number	Installation Information
Water Tank Inlet/Outlet	<ul style="list-style-type: none"> • Single Element NTC • 10K Ohm \pm 1% at 25 °C • $\beta=3950$ for 25 °C to 66 °C 	-40 °F to +266 °F -40 °C to +130 °C	42 in. leads, wires skinned and retained	32003971-003 Kit includes sensor, anchors, mounting screws, wire nuts, clip, tie straps	<ul style="list-style-type: none"> • 2.620 \pm 0.015 in. insertion • 0.375 \pm 0.002 in. bulb diameter • Bulb material copper

NOTE: Use 22 AWG two-wire twisted pair, insulated for low voltage such as Belden 8443 or equivalent and limit cable length to 50 feet (15.24 meters).



INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions and the product instructions for which the sensors are used.

Strap-On Mounting

The Domestic Hot Water Module application requires the sensing bulb to be strapped to the outside of a pipe. The 32003971-003 sensor kit includes hardware for mounting the sensor to a pipe.

CAUTION

Significant Calibration Shift Hazard.
Over-tightening tie straps distorts bulb calibration.
 Do not over-tighten tie straps.

1. Sand and/or clean the pipe surface as necessary in preparation for sensor mounting.
2. Secure the bulb to the pipe with the tie straps. See Fig. 1.

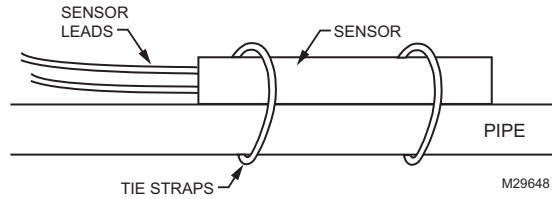


Fig. 1. Securing bulb to the pipe.

3. If necessary, cover the bulb with insulation, making sure it extends at least 6 inches (152mm) beyond both ends of the bulb. See Fig. 2.

IMPORTANT

Do not allow the tape to come into contact with the pipe.

4. Secure insulation with duct tape or foil tape. See Fig. 2.

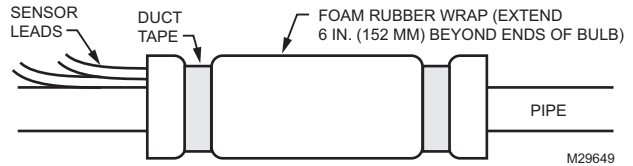


Fig. 2. Covering bulb and pipe with insulation.

CHECKOUT

General

Refer to the end control installation documentation for final system checkout.

For troubleshooting refer to Table 2 and 3 and confirm appropriate resistance using a calibrated ohm meter.

Table 2. Thermistor Resistance at Various Temperatures in Fahrenheit.

Temperature (°F)	Resistance (K ohms)									
	0	1	2	3	4	5	6	7	8	9
40	26109	25400	24712	24045	23399	22771	22163	21573	21000	20445
50	19906	19383	18876	18383	17905	17440	16990	16553	16128	15715
60	15314	14925	14548	14180	13823	13477	13140	12812	12494	12185
70	11884	11592	11308	11032	10763	10502	10248	10000	9760	9526
80	9299	9078	8862	8653	8449	8250	8057	7869	7685	7507
90	7333	7165	7000	6839	6683	6531	6383	6238	6098	5961
100	5827	5697	5570	5446	5326	5208	5094	4982	4873	4767
110	4663	4562	4464	4368	4274	4183	4094	4006	3922	3839
120	3758	3679	3602	3527	3453	3382	3312	3244	3177	3112
130	3048	2986	2925	2866	2808	2752	2697	2643	2590	2538
140	2488	2439	2391	2344	2298	2253	2209	2166	2124	2083
150	2043	2004	1966	1928	1891	1856	1820	1786	1753	1720
160	1688	1656	1625	1595	1566	1537	1509	1481	1454	1427
170	1402	1376	1351	1327	1303	1280	1257	1235	1213	1191
180	1170	1150	1129	1110	1090	1071	1053	1035	1017	999
190	982	965	949	933	917	901	886	871	857	842
200	828	814	801	788	775	762	749	737	725	713

Table 3. Thermistor Resistance at Various Temperatures in Celsius.

Temperature (°C)	Resistance (K ohms)									
	0	1	2	3	4	5	6	7	8	9
0	32648	31026	29495	28049	26682	25389	24166	23010	21915	20879
10	19898	18968	18088	17253	16461	15710	14998	14322	13680	13071
20	12492	11942	11419	10922	10450	10000	9572	9165	8778	8409
30	8057	7722	7403	7099	6808	6532	6268	6016	5775	5546
40	5327	5117	4917	4726	4543	4368	4201	4042	3889	3742
50	3602	3468	3340	3217	3099	2986	2878	2774	2675	2579
60	2488	2400	2316	2235	2157	2083	2011	1942	1876	1813
70	1752	1693	1637	1582	1530	1480	1432	1385	1340	1297
80	1256	1216	1177	1140	1105	1070	1037	1005	974	944
90	916	888	861	835	810	786	763	741	719	698

GENERAL PURPOSE TEMPERATURE SENSOR

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69-2344—01 M.S. 08-09



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