

Group: **Controls**

Part Number: **553458Y**

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MicroTech® LWC Sensor Kit

General

This bulletin provides instructions for installing the components that may be supplied with the MicroTech Loop Water Controller (LWC) sensor kits.

Inspection

Verify that all required parts have been included. See Table 1.

Table 1. Required Parts for Sensor Kits

Item Description	Quantity	
	LWC Kit (553317AG01)	LWC Kit (553317AG02)
Immersion Sensor	1	1
Outdoor Air Sensor	1	0
Flow Switch	1	1

Installation

Immersion Sensor

The immersion sensor and its well are shown in Figure 1 and Figure 2. Locate the sensor in accordance with the panel's installation instructions. Refer to Bulletin No. IM431 for the LWC panel.

Figure 1. Immersion Sensor

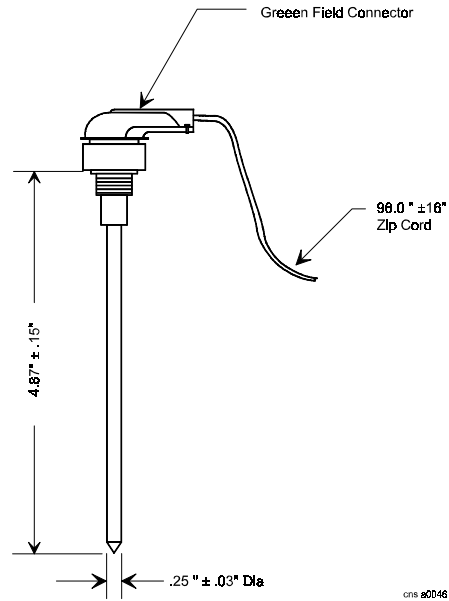
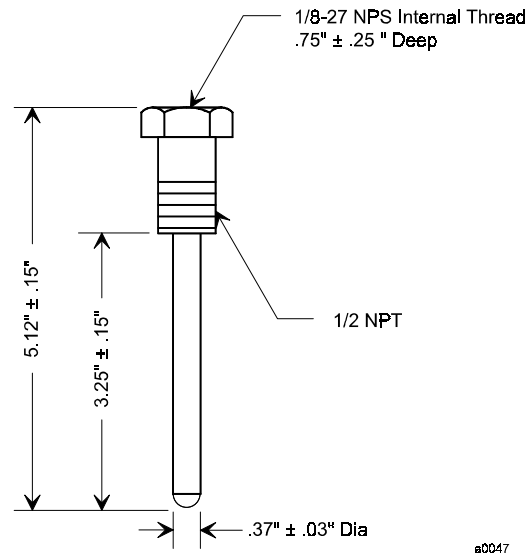


Figure 2. Brass Thermowell

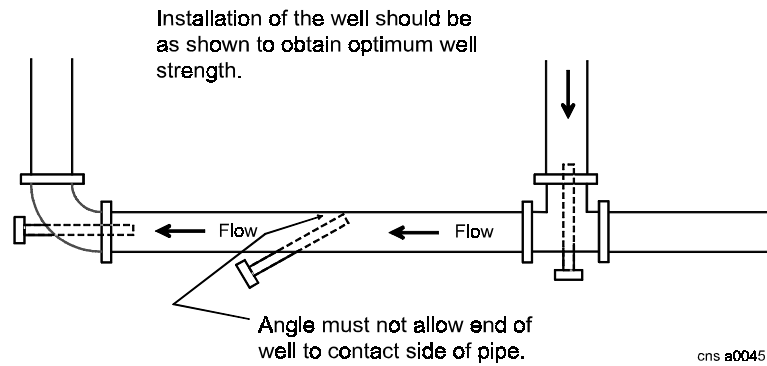


If the inner pipe diameter is too small to allow perpendicular mounting, it is recommended that the well be installed as shown in Figure 3. The brass well screws into a 1/2 inch NPT saddle or a threadolet fitting, which must be furnished by the installing contractor. The well can withstand a maximum temperature of 250° F and a maximum static pressure of 250 psig.

Because the assembly is designed with close tolerance between the sensor and the well, thermal grease is not necessary.

Wire the sensor to the panel in accordance with the panel's installation instructions. Use twisted pair cable (Belden 8762 or equivalent). Do not cut the 8-foot lead attached to the sensor (the lead length prevents moisture from entering the sensor). Attach the cable to the sensor leads with solder connections or crimp type butt splices. Do not use wire nuts. The installation must comply with the national and local electrical codes.

Figure 3. Typical Thermowell Installation

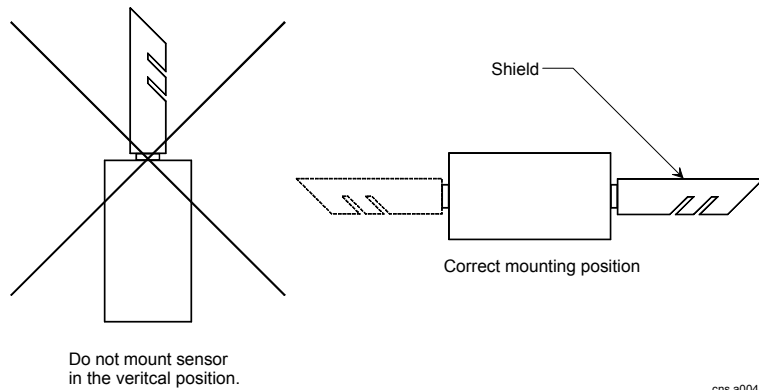


Outdoor Air Temperature Sensor

Locate the outdoor air temperature sensor in a shaded area away from devices that may affect the sensor; for example, exhaust fans or dampers. A preferred location would be under a roof soffit or a north facing wall.

As shown in Figure 4, position the junction box horizontally with the sensor shield on either the right or left. The shield can be rotated by hand, so that the angled end always faces down. **Do not** mount the sensor in a vertical position.

Figure 4. Outdoor Air Temperature Sensor Mounting



Wire the sensor to the panel in accordance with the panel's installation instructions. Refer to Bulletin No. 431 for the LWC panel. Use twisted, shielded pair cable (Belden 8762 or equivalent). Do not cut the 8-foot lead attached to the sensor (the lead length prevents moisture from entering the sensor). Attach the cable to the sensor leads with solder connections or crimp type but splices. **Do not** use wire nuts. The installation must comply with national and local codes.

Flow Switch

Figure 5 shows the flow switch supplied with LWC kits. Table 2 lists the dimension parameters for the flow switch. Locate the flow switch at the midpoint of a straight horizontal section of pipe that is at least 10 pipe diameters long. Do not locate the switch in a vertical section of pipe. Refer to the manufacture's instructions for further installation information.

Figure 5. Flow Switch

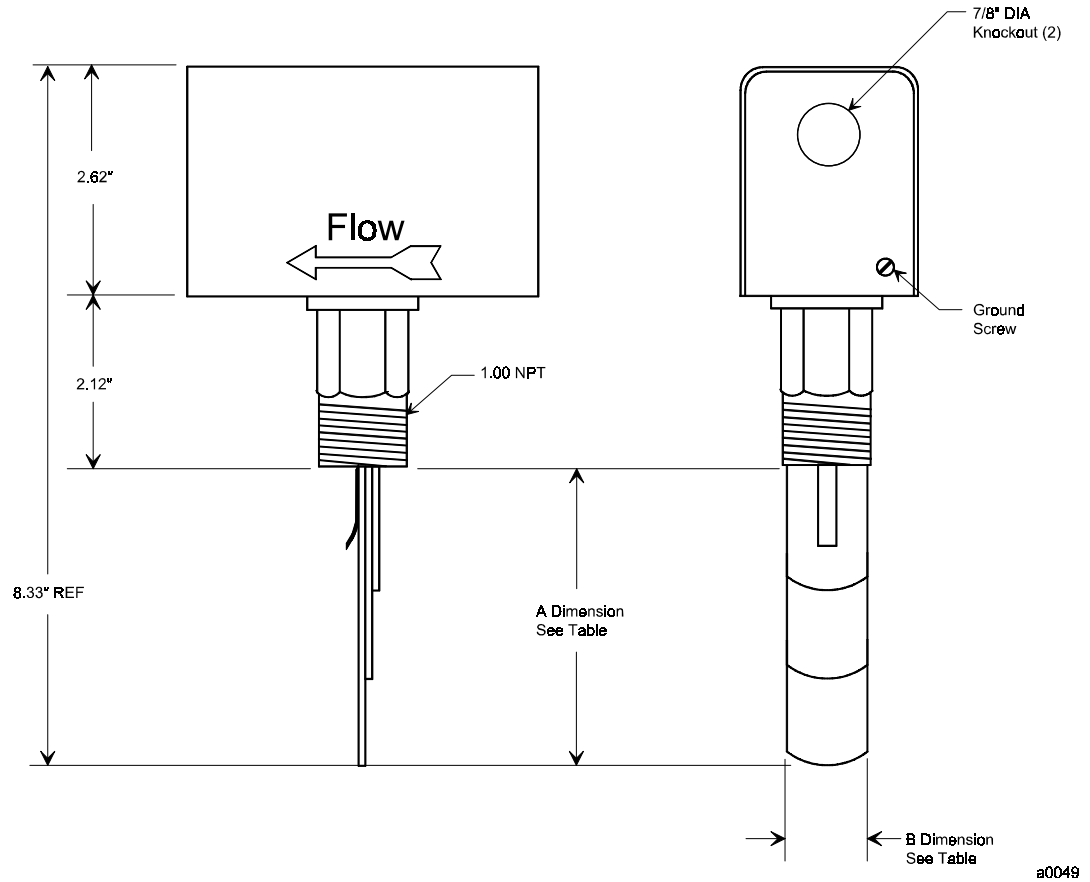


Table 2. Flow Switch Parameters

Pipe Size	Dimension A	Dimension B
1 inch	1.4375 inch	1 inch
2 inch	2.4375 inch	1.125 inch
3 inch	3.826 inch	1.125 inch

Wire the flow switch to the LWC panel in accordance with the installation instruction. Bulletin No. IM431. Twisted, shielded pair cable is not required. The installation must comply with national and local codes.