



WELL BUBBLER 5-120

INSTALLATION INSTRUCTIONS

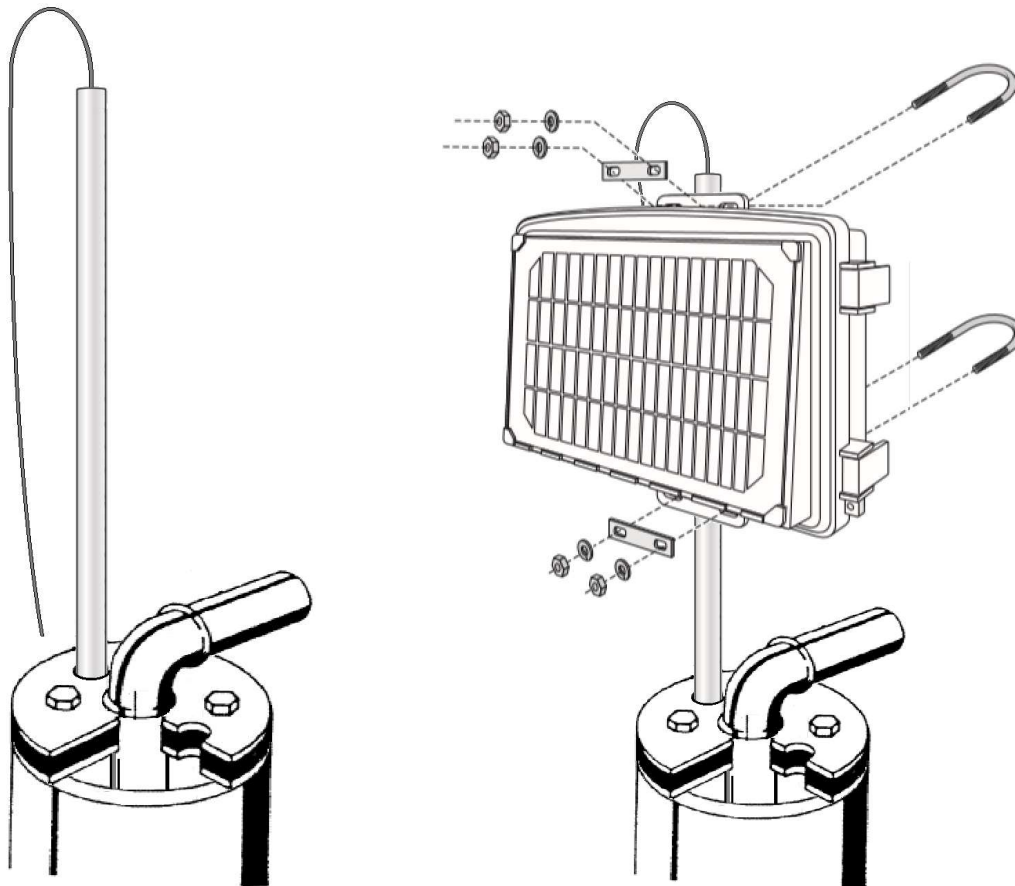
SUBMERSIBLE PUMPS

The Well Bubbler 10-120 is designed for installation on a pipe with an outside diameter of 0.84" to 1.84" (21 mm to 27 mm) using the U-bolts, backing plates, washers, and hex nuts provided. It can also be installed on a post, or flat surface, using the large screws and 1/4" flat washers included with the unit.

For installation on wells with submersible pumps, begin by installing an 18"-24" threaded pipe nipple in the threaded hole of the sanitary well seal. Most well seals are equipped with a 1/2", 3/4" or 1" NPT threaded hole, which is typically left unused, and is sealed with a plug.

Route the airline through the pipe nipple, leaving several feet exposed; to extend an existing airline, use the spare material and push-to-connect fitting included with the Well Bubbler. Orient the solar panel due South for installations in the Northern Hemisphere, and due North otherwise; install the unit on the pipe as follows:

1. While holding the Well Bubbler against the pole, place a U-bolt around the pole and through the two holes at the top of the enclosure.
2. Place a mounting plate over the bolt ends, then place a lock washer and a hex nut on each of the bolt ends.
3. Tighten the nuts using an adjustable wrench or 7/16" wrench.
4. Place the second U-bolt around the pole and through the two holes at the bottom of the sensor. Put a backing plate, lock washer, and a hex nut on each bolt end, and tighten the hex nuts.





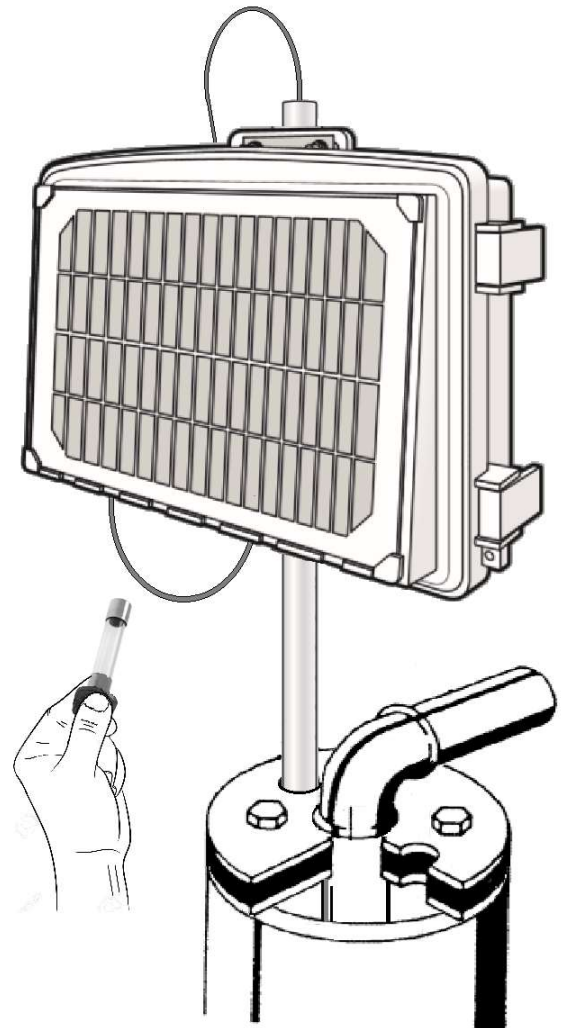
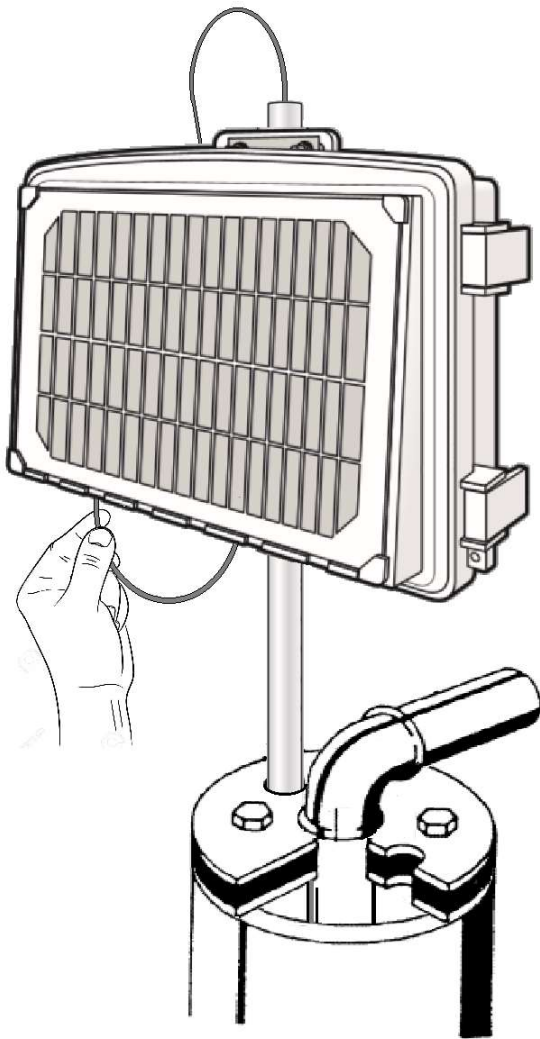
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SUBMERSIBLE PUMPS (CONTINUED)

Insert the airline into the push-to-connect fitting in the bottom of the unit. Depress the green push ring, and pull the airline, to remove it if necessary.

Install the fuse provided with the Well Bubbler into the fuse holder; do not substitute this fuse with any other type, or rating – spare fuses are shipped with the sensor. The Well Bubbler will begin operating once the fuse is installed. Refer to the Well Bubbler Manager instructions for configuring, or temporarily deactivating, the unit. The fuse should be left installed whenever the Well Bubbler is mounted outdoors, allowing the batteries to maintain a charge.





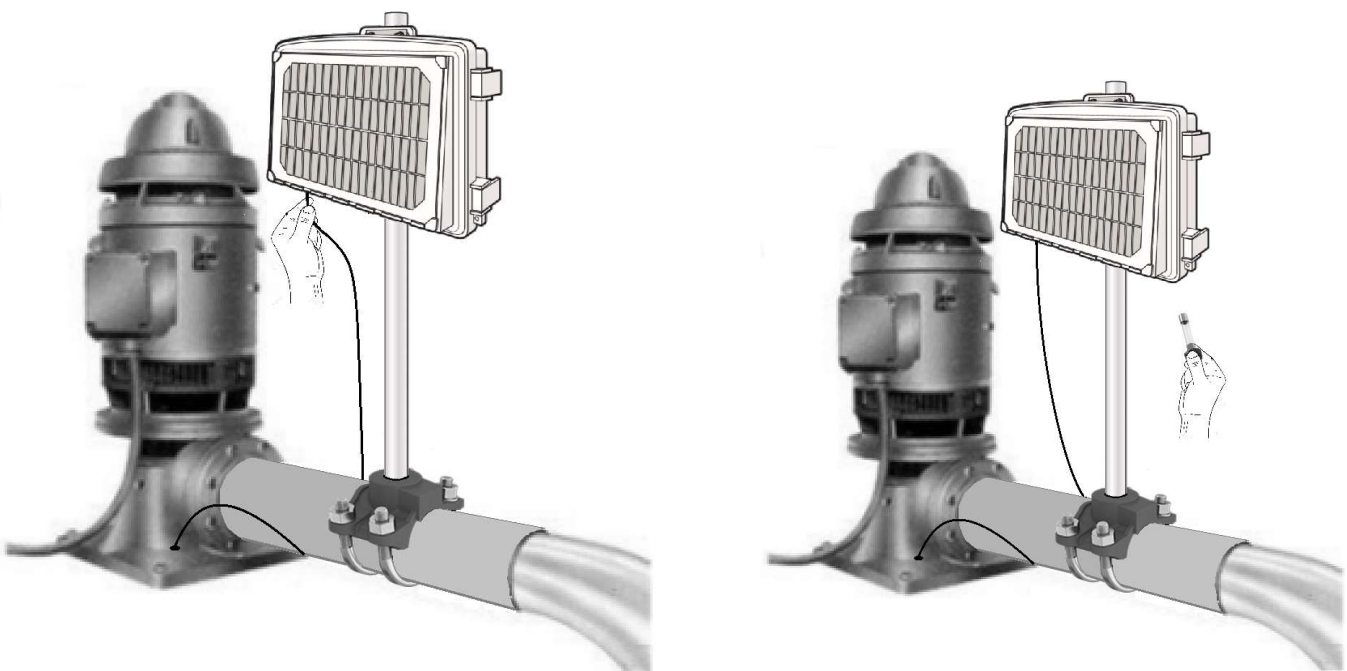
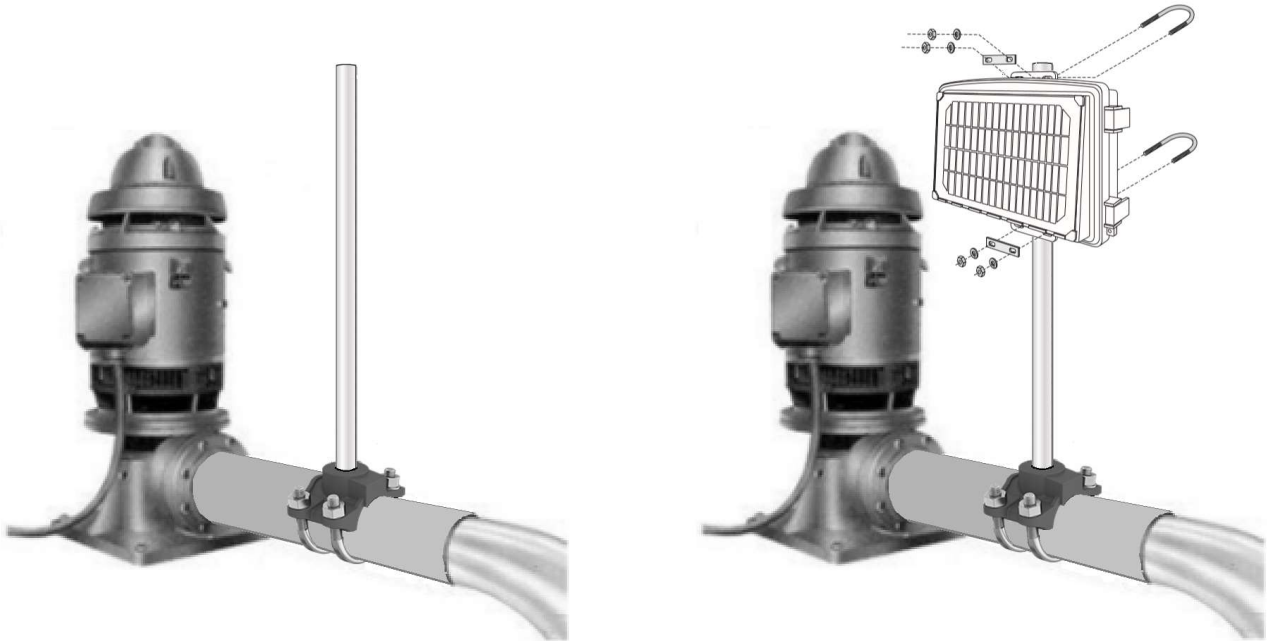
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TURBINE PUMPS

To install the Well Bubbler on a turbine pump, place a pipe saddle, or saddle tap, over the discharge several feet from the pump motor. Do NOT drill the discharge pipe – the saddle tap is used only as a mount. Install an 18"-24" threaded pipe nipple into the saddle tap; the Well Bubbler can be mounted on $\frac{1}{2}$ ", $\frac{3}{4}$ " or 1" NPT pipe.

Insert the airline into the push-to-connect fitting in the bottom of the unit. Depress the green push ring, and pull the airline, to remove it if necessary. Install the fuse provided with the Well Bubbler into the fuse holder.





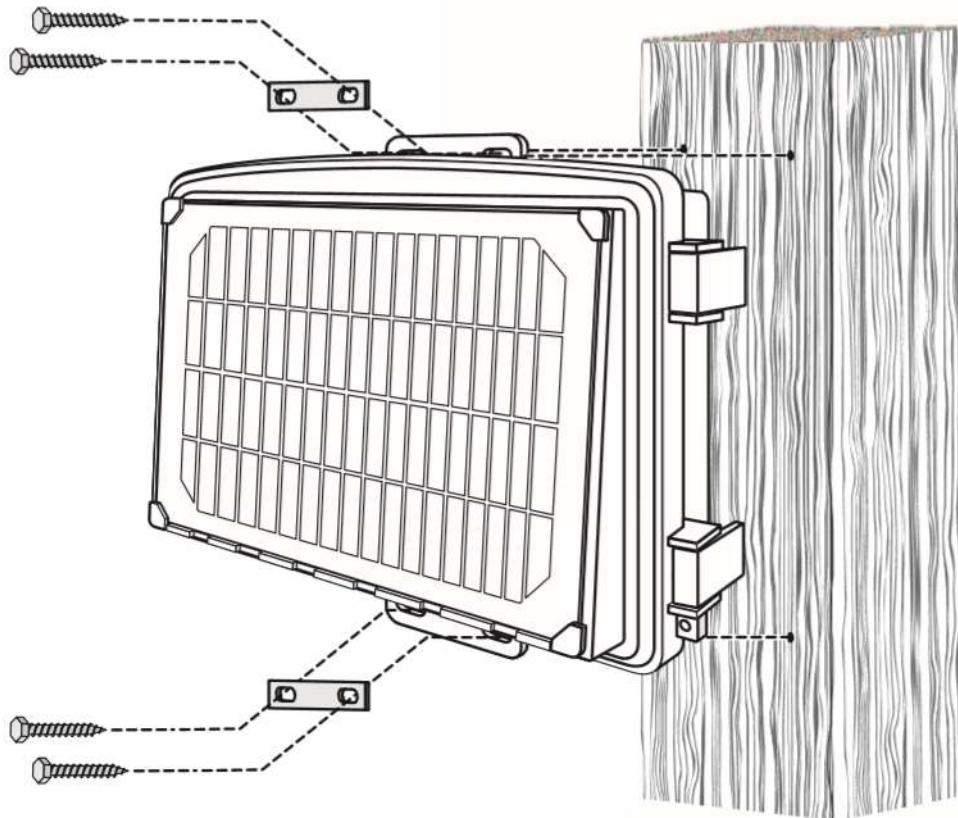
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OTHER INSTALLATIONS

The Well Bubbler can be mounted on a backboard or end post near the well, as shown below.

1. With a 3/16" (5 mm) drill bit, drill two holes approximately 2" (50 mm) apart.
2. Drill two more holes 7-1/32" below the upper holes.
3. Insert the 1/4" x 1-1/2" lag screws through the backing plate and the holes at the top of the Well Bubbler into the post.
4. Using an adjustable wrench or 7/16" wrench, tighten the lag screws.





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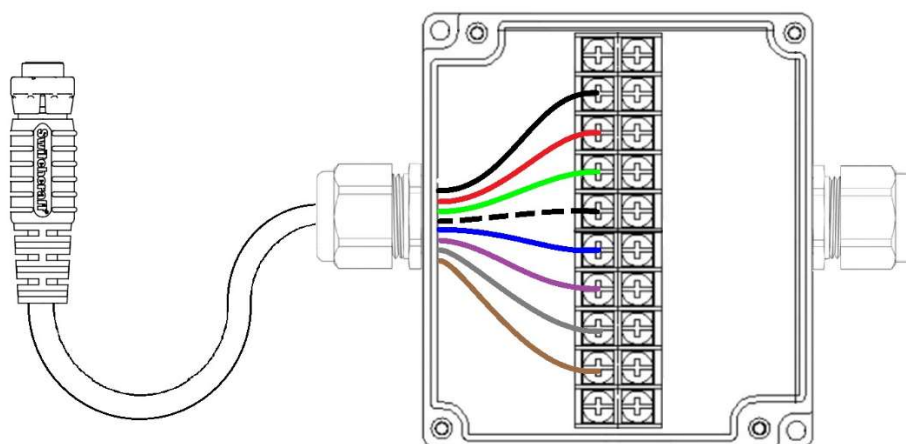
DATA LOGGER & CONFIGURATION

To access the datalogger and configuration connector, remove the threaded liquid-tight cap on the bottom right of the unit. A USB type B connector is used here, and an interface cable is provided with the unit. Refer to instructions for using the Well Bubbler Manager software tool for configuration, and data access.



INTERFACE CONNECTOR

The Well Bubbler includes an extensive list of features, wiring for which is accessed via the liquid-tight 8-pin connector and interface cable. Each of the wires is color-coded, and the wire assignment is shown below. Refer to unit specifications prior to interfacing external sensors and telemetry.



WIRING INSTRUCTIONS		
PIN #	HARNESS COLOR	FUNCTION
1	NA	N/C
2	BLACK	GND
3	RED	0-5V OUT +
4	WHITE	4-20mA OUT NEG-
5	GREEN	4-20mA OUT POS+
6	BLUE	PRESSURE SENSOR +
7	PURPLE	CURRENT SENSOR +
8	GREY	FLOW METER +
9	BROWN	ALL 4-20mA INPUTS -
10	NA	N/C