930T and Flo-Logger XT Burial Antenna Assembly

Safety information

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

Please read this entire manual before unpacking, setting up or operating this equipment. Pay attention to all danger and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment.

Make sure that the protection provided by this equipment is not impaired. Do not use or install this equipment in any manner other than that specified in this manual.

Precautionary labels
Read all labels and tags attached to the instrument. Personal injury or damage to the instrument could occur if not observed. A symbol on the instrument is referenced in the manual with a precautionary statement.



Electrical equipment marked with this symbol may not be disposed of in European domestic or public disposal systems. Return old or end-of-life equipment to the manufacturer for disposal at no charge to the user.

Introduction

The Burial Antenna provides a means of cellular communication between the Flo-Dar XT Flow Meter and the local cellular network. The Cellular Burial Antenna is intended for burial beneath the road surface adjacent to a manhole or vault that is being monitored (Figure 1).

Recommended customer-supplied equipment

- 930T or Flo-Logger XT Flow Meter with 1xRTT modem
- Remote host computer operating Telogers for Windows and appropriate communication interface
- Portable computer operating Telogers for Windows
- Asphalt saw or auger: saw capable of cutting 3 inches deep into road surface or circular boring type with 5-inch chisel
- Asphalt chisel
- Hammer drill with ¾ to 1 inch asphalt drill bit (for antenna cable installation)
- Sakrete asphalt mix (Asphalt patch)
- Bondo; Mar-Hyde P606 Traffic Detector Wire Loop Sealer or equal

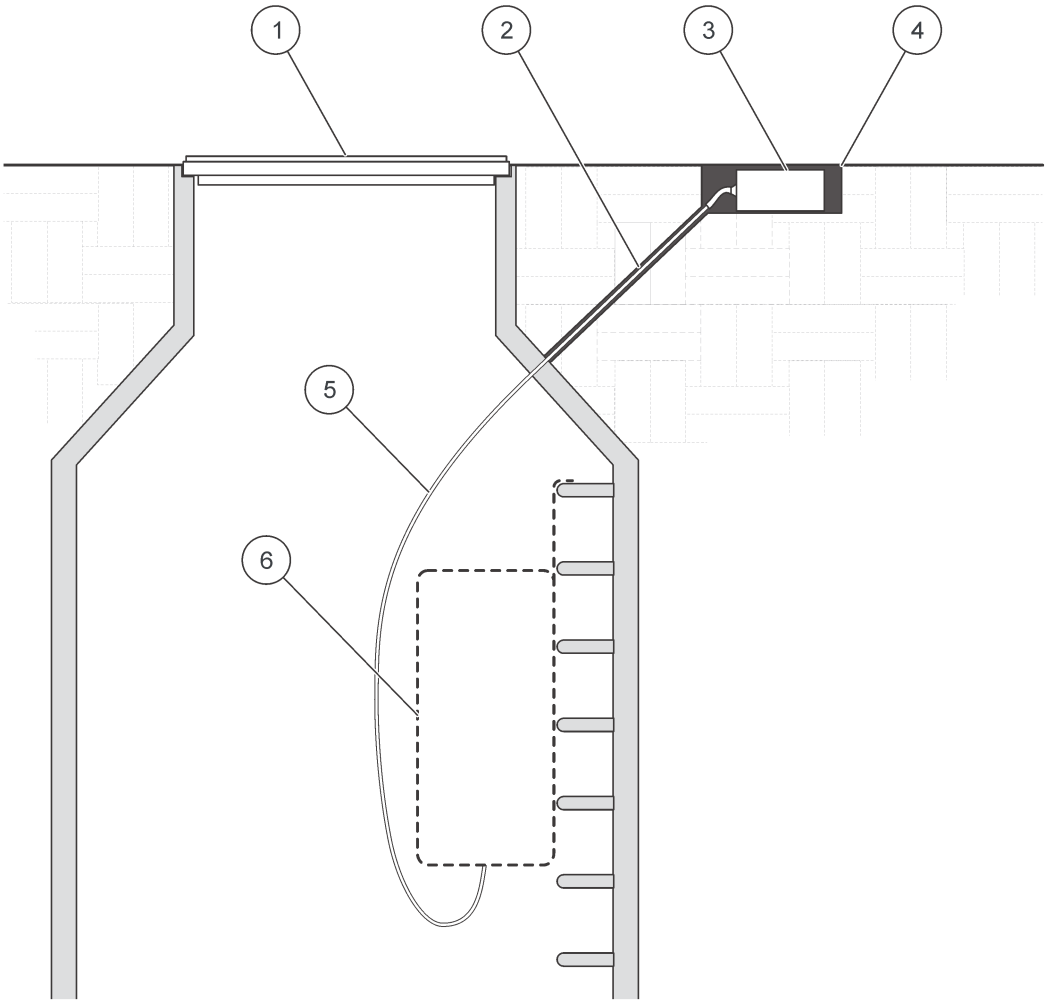

Figure 1 Burial antenna assembly

1	Manhole cover	**4**	Trench or hole for antenna
2	Hole, from the excavated hole into manhole	**5**	Antenna cable
3	Antenna	**6**	Flow meter

Antenna installation

Important Note: *The antenna should be installed in the road approximately 6 to 8 inches from the manhole or vault containing the flow meter.*

Installation procedure

1. Test the antenna and cell coverage at the site location before installation.
2. Excavate a hole or trench in the road surface approximately 5 inches in diameter (or square) and 3 inches deep.
3. Drill a ¾ to 1-inch hole from the bottom of the excavated hole closest to the manhole into the manhole, below the steel manhole cover support ring. Refer to Figure 1.
4. Route the antenna cable through the drill hole into the manhole or vault.

5. Install the antenna in the excavated hole. Pull the antenna cable taut. Locate the antenna so the top surface of the antenna (ceramic side up) is approximately ¼ to ½ inch below the road surface. Make sure the antenna sits securely in the hole.

6. Attach the antenna cable to the antenna connector. Attach the tamper module to the RS232 connector on the flow meter. Depress the tamper button to initiate a cellular call from the flow meter to the remote host computer.

7. Verify the call by successfully downloading data from the flow meter locally to the portable computer. Check the event log in Telogers to ensure the data was downloaded correctly.

Note: *This requires the flow meter to be programmed to call the host PC before field deployment.*

8. When the operation of the antenna is confirmed, permanently bury the antenna.

    a. Insert asphalt mix around the antenna and pack it in place. Make sure the antenna is sitting firmly on a solid base and cannot be rocked back and forth.

    b. Install the asphalt mix around the antenna. The mix should be level with the road surface but not over the antenna surface.

    c. Pour the Bondo sealer on and over the asphalt mix and over the top of the antenna. There should be no more than ¼ inch of Bondo sealer over the top of the antenna.

    d. Connect the desired sensors and options to the flow meter. Calibrate the sensors and install the flow meter in the manhole.

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