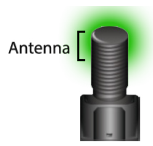
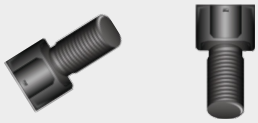
Badger Meter

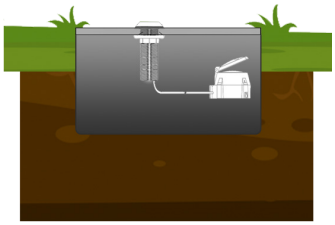
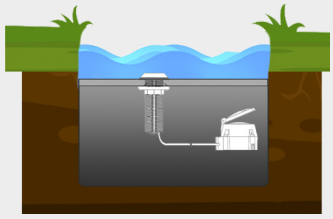
ORION® Cellular Endpoint Installation Do's and Don'ts

ORION® CELLULAR ENDPOINTS

The ORION® Cellular endpoint requires cellular coverage on the network for which it was designed and must be installed in locations where that cellular coverage has been verified through a Cellular Coverage Analysis (CCA). The clearer the signal path between the endpoint and the cell tower it communicates with, the better the endpoint works. Temporary or permanent obstructions in the signal path can interfere with the signal. See the following installation tips for better cellular communication.

DO's	DON'Ts	
		***Always install endpoint antenna straight up— Not on an angle or upside down*** *Antenna is located in the top 1/3 of the threaded tube*

PIT Installation

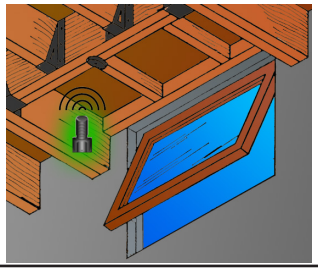
DO's	DON'Ts
Do install • through a **NON-METAL** pit lid* • at or above grade level • keeping endpoint wire loose to provide enough slack so wire doesn't break or disconnect when pit lid is lifted 	**Don't install** • using a METAL OR CAST IRON pit lid* • below grade level 

* *If metal lids must be used, ORION Cellular Lens endpoints may be installed **through the lid** to improve cellular signal and endpoint performance.*

OUTSIDE Installation

DO's	DON'Ts
Do install • **at or above grade level,** and ideally at least 24…36 inches above grade, within limits of the meter cable • with (recommended) Wall Cover Install Kit* (64394-032) for protection from weather, animals, tampering 	**Don't install** • near dense trees or shrubs that could grow and obstruct the endpoint • under anything (don't put anything on top of the endpoint)

INSIDE Installation

DO's	DON'Ts
Do install • **on an outside wall** or as close as possible • **near window**, if possible • as high as possible, within limits of meter cable 	**Don't install** • on or near any large metal objects, structures • near electrical wires/power box/electrical source • using zip ties on a horizontal pipe

Conducting objects can interfere with RF signals so, where possible, *CHOOSE AN INSTALLATION AWAY FROM...*

…Water	***…Electric Power Sources***	***…Metal***

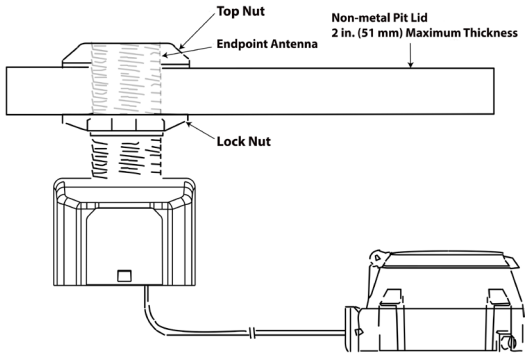
ORI-QG-03315-EN-03 (April 2026)

Quick Reference Guide

Thru-the-Lid Install Kit (64394-030)

⚠ **Always use both top nut and locking nut for secure installation.**
In pit installations, a loose or missing top nut or locking nut may allow the endpoint to fall out of the pit lid opening* and into the bottom of the pit.

* standard pit lid opening diameter: 1-7/8 inches (48 mm)



Important Site Maintenance

Install endpoint antenna through a non-metal lid*. Make sure pit cover and endpoint antenna are ***at or above grade level***.

Keep free from any obstruction (grass, mulch, gravel, garbage containers…)

*There are two types of mounting for a composite lid. **Through the lid mounting is preferred** (v. under the lid) because the pockets under the lid can fill up with water, surround the endpoint and prevent it from communicating to the network.

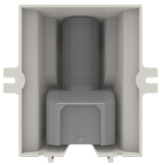
YES	***NO***	***NO***
		
Non-metal pit lid and endpoint at grade level = good communication	**Pit covered with grass = impaired communication**	**Pit covered with mulch = impaired communication**

Vault Installations

Cellular endpoints can be used in vault installations by placing the endpoints outside the vault. Two examples of successful endpoint installations are shown here.

YES	***YES***
	
Example 1: The customer drilled a hole in the side of the vault, ran conduit to a wall and mounted three endpoints using the wall cover install kits with the outdoor cover.	**Example 2: The customer drilled through side of vault, installed a 4x4 post outside and mounted the endpoints using the outdoor cover. This vault has two compound meters, which is why 4 endpoints are mounted on the pole.**

Recommended Installation Kits

Remote Wall Cover Install Kit* PN: 64394-032 *Protective enclosure for outdoor installations* 	***Wall Bracket Install Kit**** PN: 64394-031 *Secure bracket for indoor and outdoor installations* 	***Thru-the-Lid Install Kit**** PN: 64394-030 *Use both Top nut and Lock nut for secure installations* 

**Installation kit is included at no extra cost when purchased with an ORION Cellular endpoint.*

See the *ORION Water Endpoints Installation Kits Ordering Guide* for all installation kit information. See the *ORION Water Endpoint Installation Manual* for complete installation information. Both documents are available on the Badger Meter website, *www.badgermeter.com*. If you need additional help, contact Badger Meter Technical Support, 800-616-3837.

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