

Badger® GALAXY® Pit

Pit Transmitter for RTR®, ADE®, or Competitive Encoders for GALAXY Fixed Network

Installation Data

APPLICATION

The Badger Meter GALAXY® Pit Transmitter is available in a single transmitter configuration for easy adaptation to the complete Badger® Recordall® Disc, Turbo, Compound and Fire Series, and Magnetoflow® Mag meter lines. The single pit design offers a factory prewired Badger GALAXY module to Badger Meter's Recordall Transmitter Register (RTR®) encoder or Absolute Digital Encoder (ADE®) or wired to the following competitive encoders: Sensus®, Neptune®, Hersey®, AMCO®, and Metron®.

IDENTIFICATION

Each Badger GALAXY Pit Transmitter comes with a bottom locking ring, spacer, and a top nut for installation through a pit lid. The Badger RTR or ADE encoder is clearly identified on the face of the register with an assembly number, unit of measure, and meter model (see Figure 1).

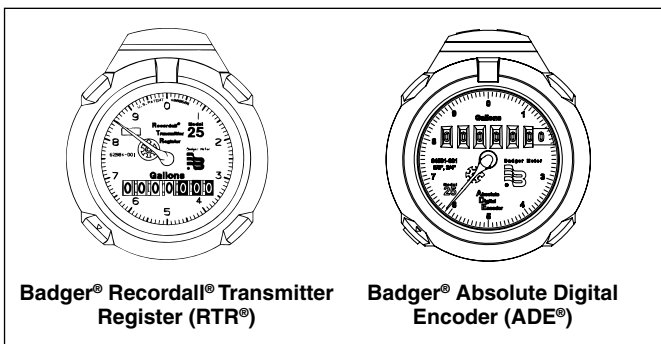


Figure 1

Badger GALAXY Pit Accessories

Actuator Magnet	64238-001
Through Lid Installation Kit	65915-001

UNPACKING

Carefully remove the prewired Badger GALAXY Pit Transmitter and encoder from the shipping carton and inspect the assembly for damage. Retain the contents for use in mounting the pit transmitter in the field. Before proceeding with the installation, be certain that the meter type and size correspond and that the proper encoder configuration has been supplied for the application. Also inspect the equipment to make sure the appropriate parts have been ordered for the installation.

Badger Meter recommends that when a pit-set transmitter is installed, the transmitter be mounted through the pit lid for efficient propagation of the radio transmission.

The necessary parts can be ordered with each transmitter for mounting through a pit lid. Note that the Badger GALAXY transmitter should not be mounted in applications where vehicle traffic and exposure to snow plow blades and other objects may damage the Badger GALAXY transmitter.

BADGER GALAXY PIT INSTALLATION

The Badger GALAXY Pit Transmitter (see Figure 2) is shipped prewired to the Badger Meter encoder for single pit configurations. Due to the factory prewired shipment, there is no splicing required and only the mounting of the register with tightening of the Torx® screw or standard seal screw is necessary. Excess wire should be coiled up inside the pit and cable tied to avoid any damage.

The Badger GALAXY Pit Transmitter should be installed through a non-metal lid, thread the locking ring (counter clockwise) on to the transmitter so that approximately three inches of the transmitter housing is above the ring.

Place the transmitter through the hole of the pit lid from the bottom. Add the spacer and then thread the top nut (counter clockwise) to the transmitter portion above the pit lid until snug. Turn the locking ring (clockwise) at the bottom of the transmitter until it is snug against the bottom of the pit lid. (Figure 2)

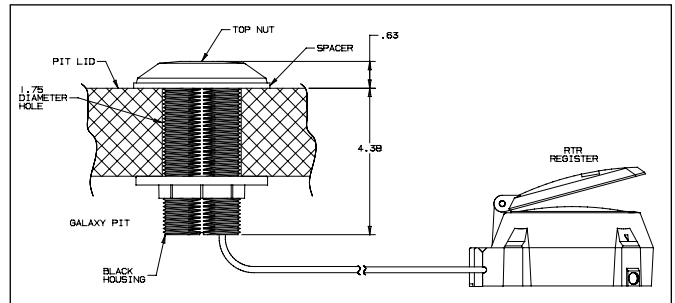


Figure 2 - Badger GALAXY Pit Transmitter

ENCODER INSTALLATION

Install the encoder on the water meter and secure it using either the Torx® screw or standard seal screw provided.

ACTIVATION

The Badger GALAXY Pit Transmitter is shipped in a dormant, non-transmitting state. To activate the transmitter, hold it so that the infrared ports are in the 12 o'clock position (Figure 3). Hold the magnet to the right (3 o'clock position) of the infrared ports for three seconds (Figure 4).



Figure 3 - Location of Infrared Ports

FORCING A TRANSMISSION

After activation, a transmitter can be forced to send a transmission. To do so, hold it so that the infrared ports are in the 12 o'clock position (Figure 3). Hold the magnet to the right (3 o'clock position) of the infrared ports for three seconds (Figure 4).



Figure 4 - Activation of Badger® GALAXY® Pit Transmitter



DISABLING

A properly operating transmitter should not be turned off once it is activated. A transmitter can be disabled for special circumstances, such as return shipment of a defective unit for warranty purposes. To disable a transmitter, use the Badger® handheld tool in conjunction with the infrared port in the transmitter module.

CUT CABLE

If the wire is cut or broken and requires a field splice after initial installation, connect the correct (see wiring chart below) like color wires to maintain proper installation.

	Badger	Sensus	Hersey	AMCO / ABB	Neptune
GALAXY					
Universal	RTR®, ADE®	ICE®, ECR®	Translator®	Scancode®, InVISION®	ARB V®, ProRead®, Ecoder®
Red	R	R	R	G	B
Green	G	G	G	R	R
Black	B	B	B	B	G

Badger GALAXY Wiring Chart

TRANSPORTATION

The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, the Badger GALAXY transmitter is considered an operating transmitter and cannot be shipped by air.

FCC COMPLIANCE

This product complies with Part 90 of the Federal Communications Commission Rules. An FCC license is required for operation of the Badger GALAXY system.

WIRING A BADGER GALAXY UNIVERSAL TRANSMITTER TO ENCODER

The Badger GALAXY Universal pit transmitter is a three-wire AMR device that requires connection to an encoder to complete the assembly. All three wires must be connected to complete an installation.

The Badger GALAXY Universal transmitter connection can be made to either existing wires from the encoder or directly to the terminal screws of the encoder, depending on the application and manufacturer. If making a connection to existing wires use the installation kit provided and follow the instructions below.

To connect an encoder with existing wires to a Badger GALAXY Universal pit transmitter, strip approximately 1 ½" of outer insulation sheath from the encoder and transmitter cables using the stripping tool. Badger recommends using part number 59989-001 Coax Stripper, as the stripping tool. Use caution when removing the outer sheath so that the inner signal wire insulation is not nicked or damaged.

Unwind the outer foil shield from the transmitter cable and cut it off even with the outer sheath using a cutting device.

Using the wiring chart above, wire the Badger GALAXY Universal pit transmitter to an approved encoder according to the following guide lines.

Connect the encoder cable wires to the Badger GALAXY Universal Pit Transmitter wires using the insulation gel connectors provided in the installation kit. Using the chart, determine what wires need to be connected

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to complete an installation. **Note that the encoder must be programmed to communicate using Sensus protocol, three wire mode.**

CAUTION

Do not strip any insulation from the ends of the wires before you push them into the connector.

Push the wires that are to be connected together as far as possible into the connector.

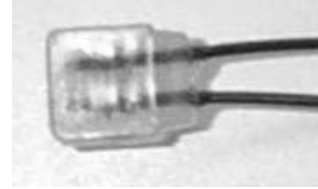


Figure 5

Using the required Gel Splice Crimping Tool, Badger Meter number 59983-001, place the connector with the wires into the jaws of the crimping tool.



Figure 6

Crimp the connector by squeezing the handles until the connector is completely compressed. The crimp tool is designed to prevent applying too much pressure to the gel cap. Continue to apply pressure for three seconds.



Figure 7

Place the two plastic cable ties and tighten securely for strain relief. Remove excess cable tie with the cutting device.

For pit installations, place all three connected wires with gel caps into the field splice tube provided in the installation kit. Make sure that the wires with gel caps are inserted as far as possible into the field splice tube. Close the field splice tube. The connection is now complete.

TESTING THE WIRE CONNECTIONS

The connection of the encoder and Badger GALAXY Universal Transmitter can be tested using a Badger handheld computer. It is recommended that all wiring connections be tested while on site. To test, place the Badger handheld computer into the Badger GALAXY Quick Read function. See the Badger Meter installation Manual RAD-IOM-01 for more information on the Quick Read function and how to operate the Badger handheld computer.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.



Please see our website at
www.badgermeter.com
 for specific contacts.



BadgerMeter, Inc.

P.O. Box 245036, Milwaukee, WI 53224-9536

(800) 876-3837 / Fax: (888) 371-5982

www.badgermeter.com