

**PRELIMINARY  
FOR REVIEW ONLY (040604)**

|                                             |                                              |                              |
|---------------------------------------------|----------------------------------------------|------------------------------|
| ORION®<br>Automated Meter<br>Reading System | ORION Integral<br>Transmitter for Gas Meters | <b>INSTALLATION<br/>DATA</b> |
|---------------------------------------------|----------------------------------------------|------------------------------|

**IDENTIFICATION**

ORION integral transmitters for Gas Meters are designed for use with a variety of major brands of hardcase gas meters. Although the basic design of the transmitter is the same, slight variations are required to adapt the transmitter to different gas meter configurations. A model number code that corresponds to the different makes and models of gas meters is used to identify each transmitter relative to the gas meter on which it is to be used. Refer to the identification table listed within this document.

**IDENTIFICATION TABLE**

| <b>Gas Meter Mfgr</b>       | <b>Gas Meter Model</b> | <b>ORION Transmitter #</b> |
|-----------------------------|------------------------|----------------------------|
| American Meter              | AL-175                 | 64989-002                  |
| Invensys/Rockwell/Equimeter | R-175 11 tooth         | 64989-001                  |
| Actaris                     | 175                    | 64989-003                  |

**SUGGESTED INSTALLATION TOOLS AND MATERIALS**

1/8" flat blade screwdriver  
1/4" flat blade screwdriver  
3/8" flat blade screwdriver  
#1 Phillips  
Pliers (wire-cutting, long-nose and utility)  
Optical programming probe and laptop

**TRANSMITTER INSTALLATION**

For specific transmitter model installation instructions, refer to the installation data supplied with each transmitter shipment. Because of the vast differences in the various types and models of gas meters, it is not practical to discuss a generic installation procedure for the Orion transmitter. However, the following list of helpful installation tips will generally provide trouble-free operation.

- Before proceeding with the installation, make sure that the transmitter model number matches the model number of the gas meter.
- Remove the cover seal screws and housing cover from the gas meter index.
- Use care in handling the Orion transmitter to insure that the drive pawl is not subjected to any physical abuse which might cause this drive spindle to become bent, misaligned, or otherwise inoperative.
- When mounting the transmitter to the gas meter, make sure that the meter drive dog engages the transmitter drive pawl and that these two drive pawls mate without causing any binding or potential for disengagement.

- When attaching the gas meter index to the Orion transmitter, make sure the meter index mounts securely to the transmitter and that the two drive pawls mate without causing any binding or potential for disengagement.

## **PROGRAMMING AN ORION TRANSMITTER**

- Plug the Optical probe into the laptop.
- Start the Orion Optical Probe software.
- Place the Optical probe near the optical port on the Orion transmitter (define location)
- Select the Read Option
- The transmitter ID number will appear in the Serial # block. The current reading will appear in the Odometer # block. The Status box will indicate the communication steps and success of each.
- If reading is unsuccessful, reposition the Optical probe and try again.
- Once a successful read is obtained, verify the Serial # matches the tag on the transmitter.
- Compare the Odometer # to the register's odometer reading. The Orion reading will include the moving indices.
- Enter a new Odometer reading, if required. Include each of the moving indices.
- Place the Optical probe in position over the optical port of the transmitter.
- Select the Set Odometer button.
- Monitor status box to verify successful programming.
- If programming is unsuccessful, verify ID number and odometer #, reposition the Optical probe and try again.
- Once programming is complete, you may want to verify success. With the Optical probe in place, touch Read and verify the reading. Remember the Orion odometer reading will include each of the moving indices.

## **COMPLETE THE INSTALLATION**

- Replace the housing cover over the index and insert and tighten the cover seal screws.
- Attach seal wires and insert security cap seals.

## **LICENSE REQUIREMENTS**

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following condition: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes made by the user not approved by Badger Meter can void the user's authority to operate the equipment. No license is required by the utility to operate an ORION meter reading system.

