InVISION™ encoder (polymer lens) to wall pad potable cold water meters wiring and installation instructions

Supplement to Installation/Start-up Instructions No. MTR-INS-018

Introduction

The Encoder Electronic Meter Read (EMR) system is designed for installations where absolute electronic remote meter reading is desired. It includes a cold water meter equipped with an encoder register inside a basement, crawl space, shopping center, industrial plant or other location and a remotely installed wall pad. The meter arrives equipped with the encoder register and accompanied by the pad. If ordered, a continuous roll of 2 (or 3) -wire cable is separately packed for connecting to a wall pad. A 12-foot length of 3-wire cable is connected (and potted) to the pit pad, unless a longer length has been ordered.

The meters piston or rotor movements are transferred by a magnetic drive to the sealed encoder register that accumulates the water throughput. The pad is 2-wire connected to the encoder register. The encoder register is read by placing Elster AMCO Waters VersaProbe, T450 Mini Reader or other compatible hand-held interrogator in close proximity to the pad to activate the encoder register. The encoders microprocessor sends the meter reading and ID number to the interrogator where it is displayed on an LCD screen or stored in memory for later processing and billing.

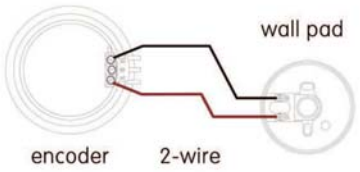
Cable Recommendations

1 Do not coil the wire
2 Use shielded cable

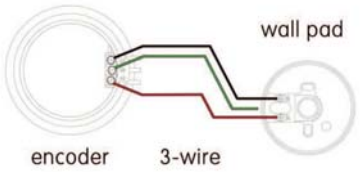
Installing the cable between the meter and the remote wall pad

1 Identify the outside location for the remote wall pad at adult chest level.
2 Drill a suitable hole in the outside wall for the cable to pass to the proposed location of the remote wall pad.
3 Pass the cable through the drilled hole from the outside and extend it to the meters location.
4 Starting from the meters location, staple the cable to internal walls, floor studs and sills to the point where it passes outside. Avoid contact with heated devices. Be sure fastening staples do not cut the cables insulation. Be sure that exposed wire ends do not touch.
Note: A minimum of 6 feet of wire should be used.
5 Determine cable length from the wall access hole to the wall pads location.
6 Cut the cable, allowing at least 6" of extra cable for future use.
7 Remove the pad's front plate, and mark the position chosen to receive the two (2) mounting screws (not supplied).
8 Pre-drill the two (2) marks.
9 Guide the cable between the strain-relief posts in the back of the base plate in an "S" pattern and through the opening into the plate's interior.
10 Attach the pad to the wall using two (2) screws.
11 Staple the exposed cable to the wall being careful not to penetrate the cables outer sheath.
12 Weatherproof the cables wall access hole by filling it with an approved material.
13 Strip the insulation from the wire, exposing 1/2 of bare wire.
14 **Note:** a 3-conductor cable is recommended, to allow for future upgrade. For a 2-wire connection, connect a wire to each terminal inside the base plate of the wall pad. Wire should be wrapped around each screw in a clockwise rotation. No polarity is required. If a 3-core cable is used instead of 2-core, then this third (GREEN) core should be not be electrically connected to the wall pad.
See ILL. 2

ILL. 1



ILL. 2



15 Once wire is installed, crimp wire loop (around terminal) closed with needle nose pliers. This will ensure wire contact 360 degrees.
16 Tighten terminal screws snugly; 1/4 turn after contact is enough. Replace pad's front plate.
17 For extra moisture protection on terminals, please use Novagard silicone, Part #XXX-03-G624-DAN-AGM.

Connecting the cables to the encoder register

18 Remove terminal cover from meter register.
19 Strip the outer cable jacket back 1 1/2 (ILL 3).
20 Strip the insulation from each wire, exposing 1/4 of bare wire (ILL 3).
21 a. Connect a wire to each terminal screw marked B (Black), G (Green) and R (Red) (ILL. 4). Wire should be wrapped around the screw in a clockwise rotation.
b. Once wire is installed, crimp wire loop (around terminal) closed with needle nose pliers. This will ensure wire contact 360 degrees.
c. Tighten terminal screws snugly; -turn after contact is enough.
d. Bend and fold wires as shown (ILL. 5). Ensure bare wires do not touch

Testing the circuit between encoder register and pad

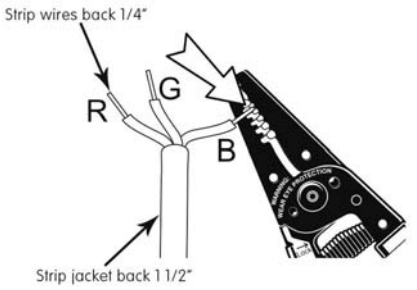
22 Before securing the encoders connector block or terminal cover, test the circuit between the encoder register and the pad.
a. With the Elster AMCO Water VersaProbe power on, place its probe to the pad and press the trigger read button. The present encoder register reading (6 digits) and the registers identification number (10 digits) are displayed on the Elster AMCO Water VersaProbes LCD screen.
b. Should the Elster AMCO Water VersaProbe indicate NO METER with the encoder register, check all cable connections to insure that the wires are correctly connected. Check to see if a fastening staple has penetrated the wire insulation. Be sure no exposed wires are touching.
c. Fit terminal cover and thread wire through the strain relief (ILL.6).

Proceed only after completing a satisfactory test

System final test

Gradually open an outside faucet and cause water to pass through the meter. Carefully increase the flow of water. The meter piston or rotor can be damaged if the meter is subjected to full flow conditions prior to expelling all the air from the piping. Continue the water flow until the registers first totalizer wheel advances one (1) number. Again, electronically read the meter with the Elster AMCO Water VersaProbe to assure the system is functioning. Record the encoders identification number (10 digits) and the present reading (6 digits) for data processing and billing purposes.

ILL. 3



ILL. 4

ILL. 5

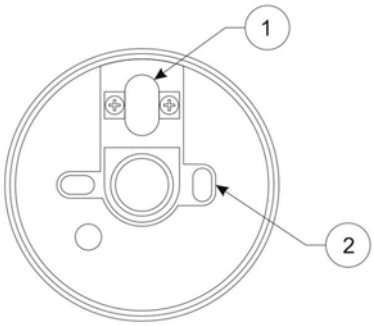
ILL. 6

Recommended installer tools and accessories

- Elster AMCO VersaProbe or T450 Mini Reader*
- Elster AMCO tamperproof screwdriver
- Small and medium sized screwdrivers
- Needle nosed pliers, wire cutting and stripping type
- Measuring tape
- Power drill
- Masonry and wood drill bits
- Heavy duty stapler with all-weather 9/16" staples
- 2- or 3-core, 22-24 gauge vinyl covered copper wire
- An assortment of masonry fasteners, screws and cleats
- Pocket knife

*See User Instructions INS-T450.

Encoder



Common parts

1 Opening for wire
2 Wall Pad (internal view)

Pit pad - top view

InVISION Encoder parts

3 Snap-on terminal cover
4 Encoder register can

About Elster Group

Elster Group is the worlds leading manufacturer and supplier of highly accurate, high quality, integrated metering and utilization solutions to the gas, electricity and water industries. In addition, through its subsidiary Ipsen International, it is the leading global manufacturer of high level thermo-chemical treatment equipment.

The group has over 9,000 staff, operations in 38 countries and serves over 115 markets around the world. Elsters high quality products and systems reflect the wealth of knowledge and experience gained from over 170 years of dedication to measuring precious resources and energy.

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