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## **AMCO Remote Meter Read (RMR) For Potable Cold Water Meters *Supplement to Installation/Start-Up Instructions MTR-INS-018***

### **INTRODUCTION**

The Remote Meter Read system is designed for installations where direct meter reading is either impossible or restricted. It provides a remote reading register outside a basement, crawl space, shopping center, industrial plant or other limited-access location. It includes a cold water meter equipped with a two-wire generator register sealed to the meter and a remote wall unit bearing the same serial number. If ordered, a continuous roll of wire cable is separately packed for connecting the register to the remote wall unit.

The meter's piston movements are transferred by a magnetic drive to the sealed register which totalizes the water throughput. At predetermined volumes of water, the register generates a pulse which is transmitted to the remote wall unit. The wall unit's totalizer counts the pulses, advancing one number for each pulse received. The pulse rate and pulse value are indicated on the face of the generator dial. The meter reader secures the current reading by visually reading the wall unit's totalizer.

### **INSTALLING THE CABLE BETWEEN THE METER AND THE REMOTE WALL UNIT**

- (1) Identify the outside location for the remote wall unit at adult eye level above ground.
- (2) Drill a suitable hole in the outside wall for the cable to pass to the proposed location of the remote wall unit.
- (3) Pass the wire through the drilled hole from the outside and extend it to the meter's location.
- (4) Starting from the meter's location, staple the cable to internal walls, floor studs and sills to the point where it passes outside. Avoid contact with heated surfaces. Be sure that fastening staples do not cut the cable's insulation. Be sure that exposed wire ends do not touch.

### **MOUNTING THE REMOTE WALL UNIT**

- (5) Remove the wall unit's latch [7], and lift off the lens cover [6] from the base assembly [5].
- (6) Using the base assembly as a template, mark the surface to receive the two mounting screws (not supplied).
- (7) Fix the base assembly to the wall using suitable screws.

- (8) Insert the cable into the hole on the bottom of the base assembly.
- (9) Strip the insulation from the wire, exposing 1/2" of bare wire.
- (10) Connect each wire to a terminal - polarity is not important. Tighten each terminal screw [8].
- (11) Remove the colored tag between the unit's coil and totalizer, exposing the totalizer's numbers set at 99995.

### **TESTING THE CABLE'S CIRCUIT TO THE WALL UNIT**

Before proceeding with further installation steps, it is important to test the circuit between the meter and the wall unit.

- (12) Attach AMCO's portable wall unit tester to the two (2) open wires.
- (13) Press the tester's button one (1) time for each number required to advance the wall unit's totalizer to 00000. When successfully done, this procedure proves the integrity of the cable's circuit and sets the wall unit's numbers to correspond to the zero value of the generator's totalizer.

### **OPTIONALLY TESTING THE GENERATOR'S INTERNAL WIRING**

- (14) Remove the terminal cover [2] from generator register.
- (15) Attach AMCO's circuit tester to the generator's terminals.
- (16) Press the Tester's button. The circuit is good when the tester's bulb is lit.

### **CONNECTING THE WIRES TO THE GENERATOR REGISTER**

#### ***AFTER THE CIRCUITS ARE VERIFIED,***

- (17) Strip the insulation from the wire, exposing 1/2" of bare wire.
- (18) Connect each wire to a terminal on the generator register. Polarity is not important. Wire should be wrapped around each terminal in a clockwise rotation.
- (19) Once wire is installed, crimp wire loop (around terminal) closed with needle nose pliers. This will ensure wire contact 360 degrees.
- (20) Tighten terminal nuts [3] snugly; 1/4 turn after contact is enough.

### **WATERPROOFING REGISTER TERMINALS AND INSTALLING COVER**

- (21) If flooding is expected and/or if the meter is pit installed, waterproof the register terminals. A resin and catalyst mixture is recommended. After mixing the solution, pour some into the void inside the terminal cover. Completely fill the area inside the cover with the mixed solution.
- (22) Install the terminal cover and secure with the two (2) screws provided. When the mixture has cured and hardened, the terminals shall be completely waterproof.

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**GENERATOR REGISTER TOTALIZERS**

Generator registers may not be reverse run without causing irreparable damage. *DO NOT REVERSE RUN GENERATOR REGISTERS. AMCO WATER METERING SYSTEMS INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES.*

**RESETTING NUMBER WHEELS ON WALL UNIT**

When required to set the wall unit's totalizer to a given reading:

(23) To set all number wheels to 00000. Beginning with the first number wheel on the far left, place curved end of latch - preset tool, with two (2) locking pins to the bottom of wheel applying upward leverage to the number 9. Repeat for each number wheel from left to right until the numbers read 99995. Operate the mechanism manually to advance the numbers to 00000.

(24) To set number wheels to correspond to a reading required; first, set all numbers to 00000 as above. Then, beginning with the first number wheel on the far left, place curved end of latch - preset tool, with two (2) locking pins to the bottom of wheel applying upward leverage to the number required. Repeat for each number wheel from left to right, except for the last two (2) wheels. Set the second to last wheel at a number one (1) less than required, and the last wheel to nine (9).

(25) Check that the numbers are in line. Operate the mechanism manually to advance the second to last wheel to the next number, and the last number wheel to the number required. This simple procedure will assure full movement and correct operation of the totalizer.

**ATTACHING LENS COVER TO THE MOUNTED WALL UNIT**

(26) Hinge lens cover to the inside top of base assembly and swing it downward.

(27) Depress the lens cover against the gasket and insert the lock pin into the aligned holes of the lens cover and the base assembly.

(28) Thread seal wire through the aligned holes of the wall unit's lens cover, latch and base assembly. Secure with copper wire and lead seal.

(29) Starting approximately 12" below the wall unit, staple the exposed cable to the wall being careful not to penetrate the cable's outer sheath.

(30) Weatherproof the cable's access hole by filling with an approved material.

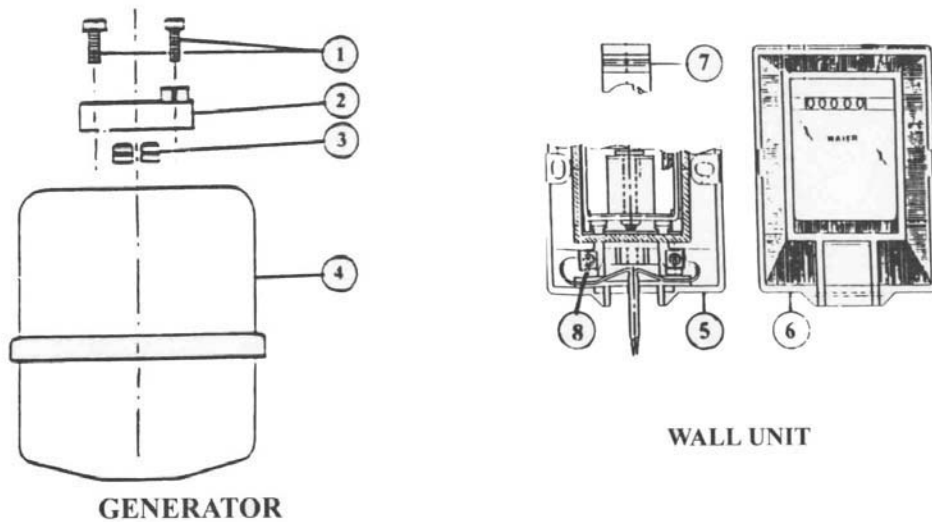
**FINAL TEST OF SYSTEM**

Gradually open an outside faucet and cause water to pass through the meter. Carefully increase the flow of water. The meter piston 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 wall unit's first totalizer wheel advances one (1) number. This is final proof of the system's operation.

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**RECOMMENDED INSTALLER TOOLS AND ACCESSORIES**

- . AMCO Wall Unit and Circuit Tester - including two (2) AA batteries
- . 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-core, 18-22 gauge vinyl covered copper wire
- . An assortment of masonry fasteners, screws and cleats
- . Pocket knife


**REMOTE READOUT PART NAMES**

1. Terminal Cover Screw (2)
2. Terminal Cover
3. Terminal Nut (2)
4. Sealed Generator Can
5. Base Assembly
6. Lens Cover
7. Latch – Preset Tool
8. Terminal Screw (2)