



Excellence in Compliance Testing

Certification Exhibit

FCC ID: SM6-HOTRODV1LO

FCC Rule Part: 15.249

ACS Project Number: 12-0115

Manufacturer: Mueller Systems
Model: AHRV1LO-DL

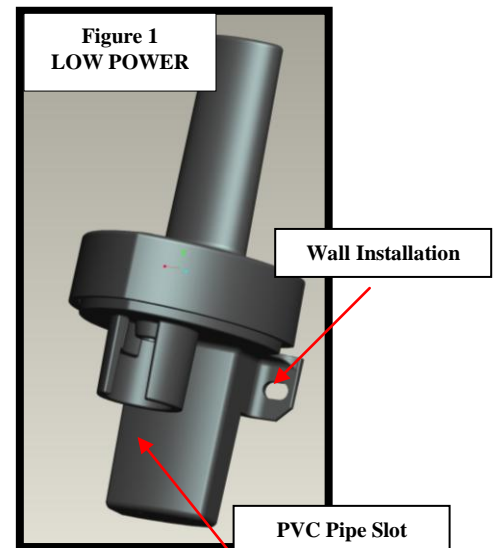
Manual

OVERVIEW

This document is intended to assist professional installers with Mueller Systems' AMR transmitters. It provides instructions on how to successfully connect, operate, and troubleshoot the transmitters. Mueller Systems' remote meter reading transmitters were designed with an "easy to install approach" for utilities. The **SM6-HOTRODV1LO** allows the utility to receive data from any water meter equipped with a Translator register. The transmitter collects data from the register and transmits it via radio frequency (RF) to be collected by a mobile receiver.

PRODUCT FEATURES

- The thermoplastic housing design reduces material and helps eliminate air space within the transmitter. (Figures 1)
- Mounting features include two holes for wall installation and a 1/2 inch female PVC pipe fitting for easy pit installation. (Figure 1)
- The transmitter units are molded from gray plastic so that the low power units are easily distinguishable from high power units molded in yellow plastic. The high power unit should only be used within a metal meter box.
- A quarter wavelength whip antenna is internally mounted.
- A non-replaceable, non-rechargeable Lithium battery is internally mounted allowing the unit to transmit readings every two seconds for a calculated battery life of over 10 years.
- The electronic design utilizes the latest in RF microchip technology which reduces cost and increases reliability when compared to older RF designs.
- In order to protect the AMR transmitter from moisture ingress, the design incorporates the use of thermoplastic injection molded housings, rubber seals, a potting compound that completely incases the internal electronics and a coated circuit board which provides the final barrier of protection. Internal wire strain relief has been built into the housing to protect the wire connections against damage. Please note that this does not mean meters or registers can be carried while supported only by the AMR transmitter or wiring.



CONNECTING AND OPERATING THE MUELLER AMR TRANSMITTER

The AMR transmitter is preprogrammed prior to being attached to the meter. All pit set units come with either 5' or 25' of wire attached and potted at the factory as specified. If a retro fit is required, the wires should be spliced to the existing wires coming from the register. Wire the red to red, green to green, and black to black wires using 3M UY2

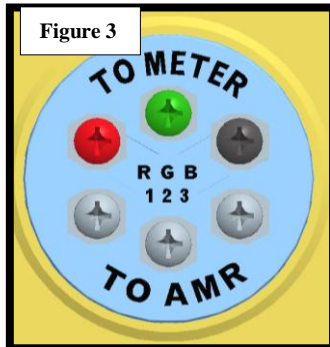


Figure 3

Scotchlok splices with the E-9Y application tool. (Figure 2) If a new wall unit is being installed it can be directly mounted to any surface by using the holes shown in Figure 1 and the appropriate screws. Please note that

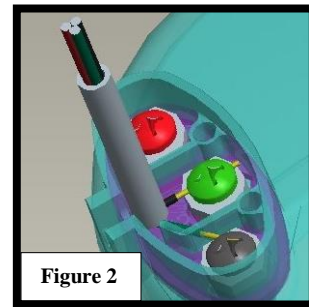


Figure 2

the AMR transmitter will only support the Hersey Translator register and will not work with Hersey's ER, pulse registers. A TRU-Read remote display can be used in conjunction with the Translator register and AMR transmitter for visual remote readings if desired. Refer to TRU-Read installation instructions below to attach both devices. When wiring the TRU-Read to the Translator you must connect the red wire to the red terminal, the green to green, and the black to black. (Figure 3) To attach the AMR transmitter, wire the red wire to terminal #1, the green wire to #2, and the black wire to terminal #3 on the TRU-Read. (Figure 3) Once the transmitter is attached it will begin sending out data automatically. Please note that the AMR transmitter and TRU-Read should never be disassembled or user serviced.

AMR TRANSMITTER TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE
POOR RANGE	CHECK ORIENTATION OF THE HOT ROD ANTENNA CHECK THE RECEIVER ANTENNA CHECK FOR INTERFERENCE
NOT TRANSMITTING CORRECT DATA	CHECK WIRING CONNECTIONS CHECK WIRES FOR SHORT CHECK FOR INTERFERENCE CHECK DISTANCE TO RECEIVER CHECK TRANSLATOR STATUS
NOT TRANSMITTING	CHECK POWER ON AMR TRANSMITTER

FCC INFORMATION

Changes or modifications not expressly approved by Mueller Systems, LLC could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

This transmitter operates in the license exempt 902 MHz to 928 MHz ISM band and are certified for operation in the US under FCC Part 15.249. FCC ID: **SM6-HOTRODV1LO**. Information pertaining to their certification can be found on the web at WWW.FCC.GOV.