MTU Single Port Pulse Devices

Installation Instructions (Y20965-TUM Rev. A)

FCC/ISED Compliance

This product/device has been tested and certified to be in compliance with all appropriate requirements of both the FCC and ISED.

Any changes or modification to this product/device, or the use of any antenna other than the one provided by or authorized with expressed written approval by Aclara Technologies LLC may void the user's authority to operate this product/device.

This product/device and/or its antenna must be fixed-mounted on indoor or outdoor permanent structure(s) providing a separation distance of at least 20 cm from all persons during normal operation. This device is not designed (and it has no external connection) to operate in conjunction with any other antennas or transmitters. No other operating instructions for satisfying RF exposure compliance are needed.

This product/device has been tested and calibrated at the factory. It has no user adjustable controls and can only be adjusted by authorized, trained personnel.

French translation:

Conformité FCC/ISDE

Cet équipement a été testé et il est conforme à toutes les exigences appropriées de la FCC et de l'ISDE.

Tout changement ou toute modification à cet appareil, ou l'emploi de n'importe quelle antenne autre que celle fournie par ou autorisée sous l'accord exprès donné par écrit d'Aclara Technologies LLC peut annuler l'autorisation d'utiliser de cet appareil.

Cet appareil ainsi que son antenne doivent être montés de manière fixe sur des structures intérieures ou extérieures permanentes en conférant une distance d'au moins 20 cm des personnes pendant le fonctionnement normal. Cet appareil n'est pas conçu (et il n'a aucun branchement externe) pour être utilisé en association avec toute autre antenne ou tout émetteur. Aucune autre instruction d'utilisation n'est requise pour assurer la conformité aux règles d'exposition aux RF.

Cet appareil a été soumis à des tests et calibré en usine. Il n'a pas de contrôle d'ajustement et ne peut être ajusté que par un personnel autorisé et qualifié.

Purpose & Scope

These instructions outline general practices and procedures for the installation and wiring of single port MTUs to third party, pulse-output devices. These instructions cover the Aclara catalog number 3621-000-RBS2W.

Parts Required

Item	Part Number	Quantity
Series 3600 Remote Mount Single Port MTU (Extended Range)	3621-000-RB52W	1

NOTE

The mounting kit contains the exact quantity of hardware required for a single installation. Keep extra hardware on hand.

NOTE

No repair or maintenance of MTU is required. Defective MTU will be replaced.

NOTE

MTU may be wiped with damp cloth to prevent electrostatic charge hazard.

Use and Setup Instructions:

Recommended Tools

- Safety glasses
- Torque Limiting Screw Driver
- 3/8" Cordless drill
- 1/4" Drill bit
- 9/16" Stapler and staples
- Wire cutters
- Needle-nose pliers
- Wire stripper
- Connector crimping tool 3M™ E-9Y
- Screwdrivers, assorted Phillips and slotted
- MTU Programmer with cable, programming coil and STAR Programming Software
- Mounting screws

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Scope

The Single Port Pulse MTU is for use with:

- gas meters that are outfitted with a third party pulse module;
- pulse units without a tamper detection circuit

Mount the MTU

MTUs must be positioned and mounted properly to ensure optimum RF signal propagation. Each MTU contains an internal antenna near the top front surface of the sealed enclosure. As a result, the MTU should always be mounted vertically and the Aclara logo should face the installer.

If a cellular phone signal drops dramatically or indicates no signal at the desired location, it is possible that the MTU signal will also be blocked at this location. In this case, the MTU will have to be mounted in a different location, possibly on the outside of the structure.

Keep the MTU away from all other electrical wires.

Make sure screws used to mount the MTU do not damage any wires, cables, or pipes.

NOTE

Do not mount the MTU under wiring such as Romex, AC power wires, cable TV wire, or telephone wire. Do not allow these wires to lie on top of, or in front of the MTU.

Outdoor Mounting

MTUs mounted outdoors are typically mounted to the side of buildings, to a stationery post, to the piping surrounding the meter, or to a pit lid.

If the unit is being mounted to the outside of a building, the MTU will be connected to wires that lead from the inside to the outside of the building. If existing wire is used, it must be of the same quality as specified in *Wiring the MTU*. It must also be in good condition, without breaks, damage, or corrosion.

1. Select a mounting location for the MTU that will allow optimum signal transmission.

2. Mount the MTU on the side of the building. The MTU must be mounted level, vertically with the Aclara logo facing the installer. Allow a 1" space between the top of the MTU and the overhang of the siding above it. **This is important for proper radio signal transmission.**

Indoor Mounting

For indoor mounting, mount the MTU vertically on a basement ceiling joist. It is important to mount the MTU as high as possible.

NOTE

The MTU must be mounted above grade.

Because the outside wall of a building can have metal siding or foil insulation, keep the MTU a few inches away from the outside wall. Transmissions easily pass through wood and masonry.

Do not install an MTU inside if the basement has a metal ceiling or foil-lined insulation in the ceiling or if it has foil on the sidewalls running from grade to ceiling. This will prevent the signal from transmitting effectively.

Large metal objects such as heating ducts, steel cabinets or metal ceiling structures can block MTU transmissions. Select locations that are at least five to ten feet away from objects such as these.

Do not mount the MTU if large metal objects, such as heating ducts, block both the front and rear of the MTU. If absolutely necessary, a single large metal object may be located several feet away from the MTU.

1. Select a mounting location for the MTU that will allow optimum signal transmission. In unfinished basements, this is typically high on a ceiling joist.

   In finished basements, this may be high on a ceiling joist in an unfinished section of the basement or high on an interior wall near a window or outside wall.

The MTU should always be mounted at least a few inches from outside walls.

2. Mount the MTU vertically and level, with the ACLARA logo facing the installer. Allow a 1" space between the top of the MTU and any overhang above it. **This is critical for proper radio signal transmission.**

NOTE

Do not over tighten screws. Excessive torque will damage the MTU enclosure. Do not tighten screws beyond the point that the MTU touches the mounting surface.

Wiring the MTU

General

Many MTUs connect to the meter by means of a 3-conductor, 22-gauge solid conductor wire. The wire is housed in a PVC jacket with UV inhibitors. A black-jacketed wire is supplied on single-port MTU. Make sure inner conductors are not nicked during stripping..

Wire	Description
Black	Ground
White	Tamper
Red	Pulse

NOTE

For pulse units without a tamper detection circuit, connect the white wire to the black wire for proper cut-wire detection functionality.

Wire Length

MTUs are provided with a standard wire length of 12 feet. Additional wire may be used if necessary. A maximum run of up to 500 feet can be used to position the MTU in a favorable location. Use like colors for cable jackets and individual wires when extending MTU wiring.

Some specific meters may impose other wire length limitations. Consult the meter manufacturer.

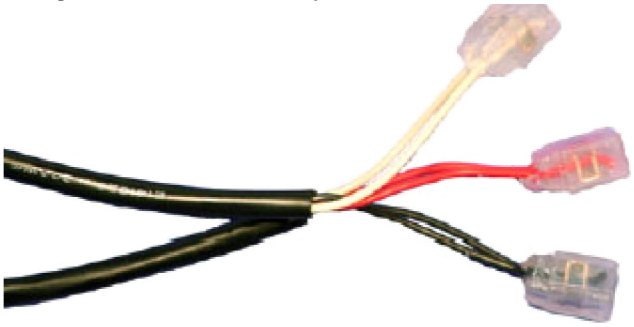
Wire Protection

A drip loop below the MTU is not required.

Inspect wire to ensure that routing and stapling have not caused wire damage. Pull the wire lightly at each staple to make sure that the staple is not set too tightly.

Any splices made to wire must be suitable for the environment and made in accordance with national and local codes, as well as the connection supplier's instructions. Generally, gel-filled Insulation Displacement Connectors (IDCs) such as 3M ScotchLok or AMP TelSplice connectors should be used on all wire-to-wire connections.

Figure 1.1 Insulation Displacement Connectors



Splices located outdoors or in meter pits should be further protected through the use of a direct burial kit. This consists of gel-filled plastic enclosures that house the individual wire-to-wire splices and provide additional protection from the elements.

Figure 1.2 Burial Enclosures

1. Run wiring from the MTU to the meter.
   - All wiring should be behind the wall, if possible. Otherwise, carefully staple the
   - wire to the wall every 18", and at every change in direction using 9/16" staples.
   - All turns are to be at right angles.
   - If wire must be run on masonry, secure it with wire clips.
   - Run wires parallel to ceiling joist. If a joist must be crossed, do so at a 90 degree angle.

- If the MTU input cable must be extended, use an appropriate splice.
- If wire clearance holes are needed to route wire from the meter to the MTU, drill a ¼" hole using an appropriate drill bit. The installer is responsible for the selection of an appropriate location for any hole to be drilled.

2. Make the appropriate connections to the meter. Refer to the meter documentation, if necessary.

Putting the Device into Service

Program the MTU

Program the MTU using the STAR Programmer Software.

Remove the MTU

Taking out of service by following steps in reverse order.

MTU Label Example

NOTE

Specific Conditions of use in hazardous locations indicated on label.

List of Standards

1. ANSI/ISA 12.12.01
2. CSA 22.2

NOTE

Training can be provided by Aclara or Aclara can train and certify third party installers. Installers may be anyone certified by Aclara.