



Mi.Net[®] Mobile Transceiver

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⚠ WARNING:

1. Read and follow instructions carefully. Proper training and periodic review regarding the use of this equipment is essential to prevent possible serious injury and/or property damage. The instructions contained herein were developed for using this equipment on fittings manufactured by Mueller Systems only, and may not be applicable for any other use.
2. DO NOT exceed the pressure ratings of any components or equipment. Exceeding the rated pressure may result in serious injury and/or property damage.
3. Safety goggles and other appropriate protective gear should be used. Failure to do so could result in serious injury.

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OVERVIEW

The Mi.Net Mobile Transceiver is capable of collecting meter data in one-way mobile AMR system from Hot Rod transmitters and Mi.Node M transmitters. The transceiver is also capable of collecting and transmitting data in a two-way mobile AMR system that

utilizes a combination of Hot Rod transmitters and Mi.Node M units. In AMR systems, the transceiver captures water meter data via radio frequency while driving a meter route at posted speed limits. When utilized in a Mi.Net AMI system, the Mobile Transceiver is capable of

being used as a backup or primary reading device in the event of sustained power outages in parts of or an entire system. It is capable of receiving data and sending messages to Mi.Node M devices.

HARDWARE COMPONENTS

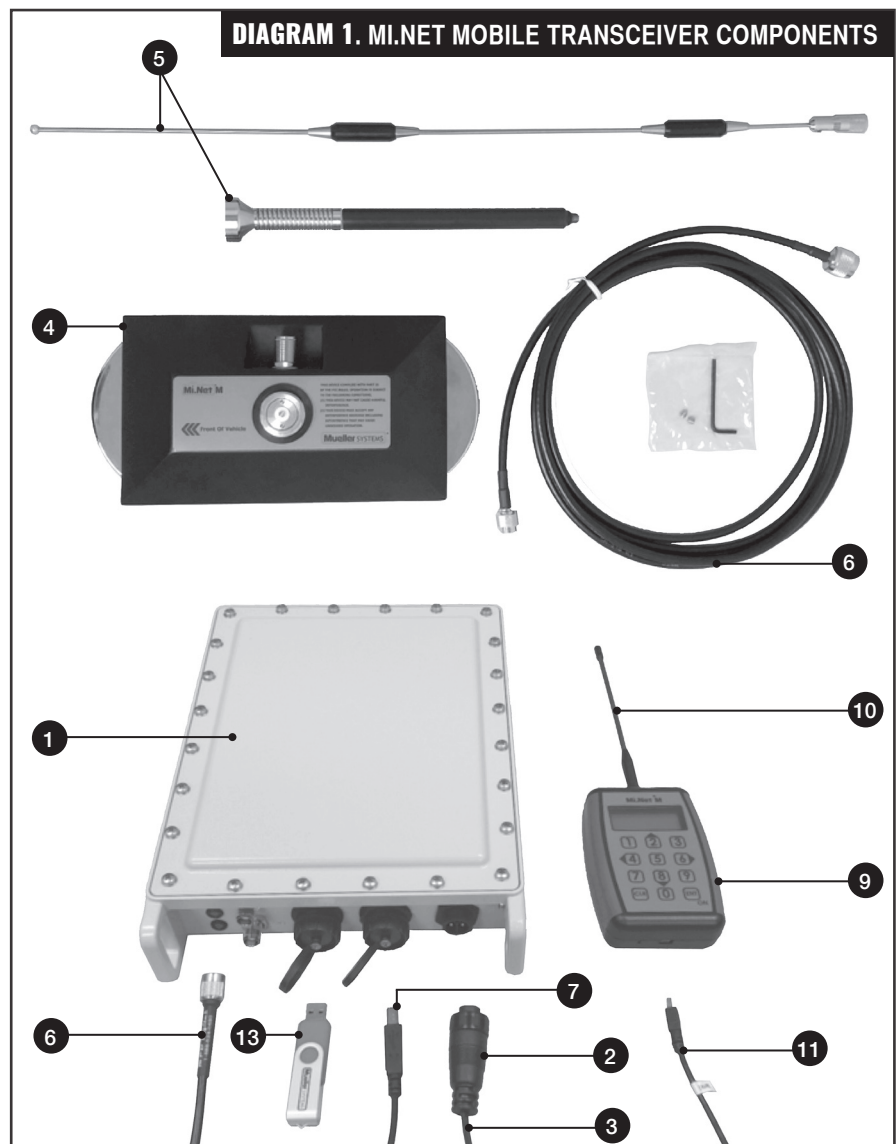
The Mi.Net Mobile Transceiver ships with the following, see **Diagram 1**:

1. Mi.Net Mobile Transceiver
2. 110 V AC to 12V adapter
3. 12V auxiliary transceiver power cord (for vehicle)
4. Mi.Net Mobile antenna base
5. Mi.Net Mobile antenna (2 pieces) with gasket
6. Mi.Net Mobile antenna cable (connects transceiver to antenna)
7. USB 2.0 cable, Type B to Type A (connects transceiver to laptop)
8. Quick Start Guide (this document)
9. Mi.Net M Install Tool
10. Mi.Net M Install Tool antenna
11. USB 2.0 cable, Type A to mini (charges Install Tool)
12. Mi.Net M Install Tool User Manual*
13. USB Flash Drive, 4GB (used only for upgrades)
14. AC to DC Wall Power Adapter*

*Not Pictured

Antenna

The Mi.Net Mobile Transceiver connects to a magnetic mount antenna mounted to the roof or other area of your vehicle. The antenna port is located at the back of the unit at lower left.



SETUP

Install the Mobile Transceiver in a safe place within the vehicle, for example on the dashboard or under

it or buckled into a seat with a seat belt holding it in place. A standard AV mounting bracket is provided

on the bottom of the transceiver in the event a permanent mounting is desired.

VEHICLE INSTALLATION

Mount the antenna on top of the vehicle

1. Attach the gasket and assembled antenna to the antenna base. DO NOT yet attach the antenna cable.

IMPORTANT: Ensure the gasket and antenna whip remain tightened and in place to avoid moisture intrusion in the unit. DO NOT remove the gasket or antenna, or water intrusion may occur, potentially causing failure.

2. Place the assembled antenna on the roof of the vehicle. Ensure the antenna base is positioned so the arrow on the antenna base points toward the front of the vehicle.

NOTE: DO NOT place the antenna assembly within 12" of any other antennas on the vehicle. If there are other antennas on the vehicle, orient the antenna assembly (if possible) such that all the antennas are in a straight line along the direction of travel.

3. Attach the cable to the antenna base. Wrap the antenna cable one turn around one of the magnets (A.). The objective is to provide strain

relief for the cable to protect the point of connection at the antenna base.

4. Route the cable through a door or window (B.). Make sure that there is enough slack in the cable so that opening or closing the door does not pull on either end of the cable.



B.

Make power and cable connections

1. Using the supplied power cord/ adapter, plug the adapter into the vehicle's 12-volt power supply and connect the other end to the port labeled POWER at the back of the transceiver, see **Diagram 2**.

2. Using the supplied USB cable, connect the USB 2.0 Type B to the jack labeled COMPUTER in the rear of the transceiver and the USB Type A plug into the laptop computer.

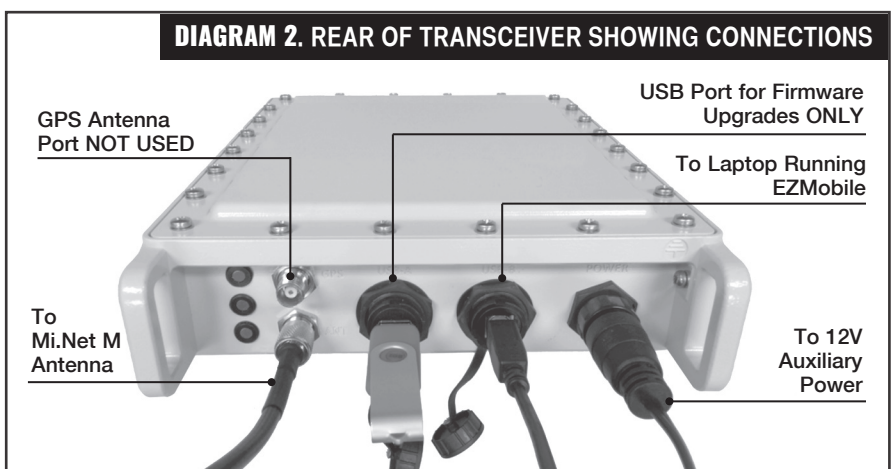
3. Attach the antenna's connector into the Mobile transceiver's port labeled RF.

NOTES:

- Before meter reading, ensure there is nothing in the USB port used for upgrades (labeled USB-A). A flash drive left in the port may be damaged, or can cause damage to the port.
- After connecting to 12V power, startup may take up to two minutes while the transceiver performs boot-up processing. DO NOT attempt to use the transceiver for any purpose while it is booting up.
- If the data USB from the laptop becomes disconnected at any time, the transceiver goes to low power mode in approximately two minutes with 12V power applied. When both are disconnected, the unit powers down completely in approximately two minutes.



A.



COM PORT CONFIGURATION

You will need to determine the transceiver's COM port and then identify the port in the EZMobile software.

Before you begin

1. Connect the Mi.Net Mobile Transceiver to a power source
2. Ensure your laptop is connected to the internet the first time the transceiver is set up so the appropriate drivers can be downloaded from the web.
3. Ensure you have the latest Windows Updates. For Windows 7 Pro: Select the Start button, then select Control Panel. On the All Control Panel Items window, click Windows Update. Look for a green checkmark indicating updates are current (**C.**). If Windows Updates are not current, click Change Settings. Consult your administrator about proceeding with updates to your computer.

Configuring COM Port

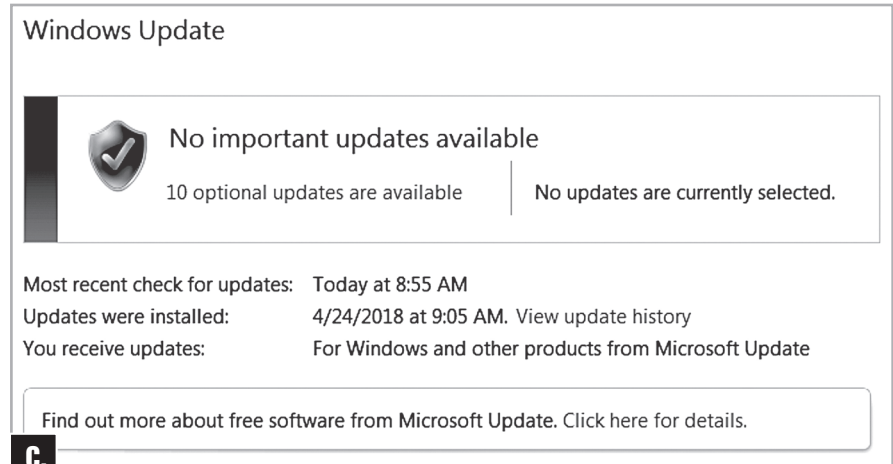
Provided Windows Updates are current, when you initially connect the Mi.Net Mobile Transceiver to the laptop, drivers are automatically installed from the Windows internet site. This may take a few moments.

1. Using the provided USB cable, connect the Mi.Net M Transceiver to the laptop computer. The computer indicates that Driver Software Installation is in progress.
2. To open Windows Device Manager, click the Windows Start button and type "device manager" in the Search programs and files field. In the results pane, click Device Manager. Alternatively, click Control Panel, then **Device Manager (D.)**.
3. After the drivers have installed, the device named "USB Serial Port (COMx)" will appear in the Ports (COM & LPT) section (**E.**).

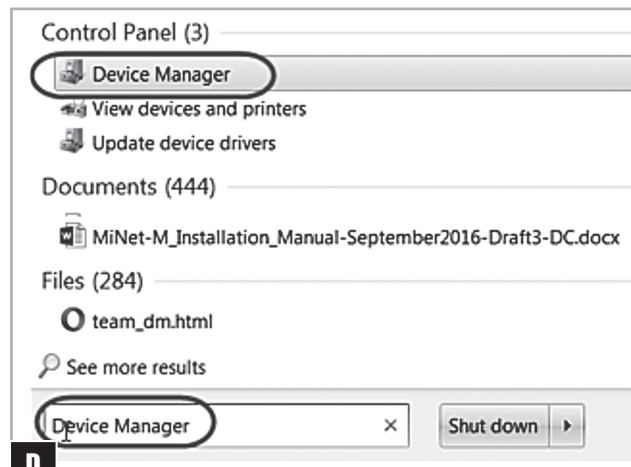
4. In the EZMobile software, click on the Mi.Net Mobile Transceiver button in the System tab and specify the

correct COM Port (the other settings are defaulted to the correct settings).

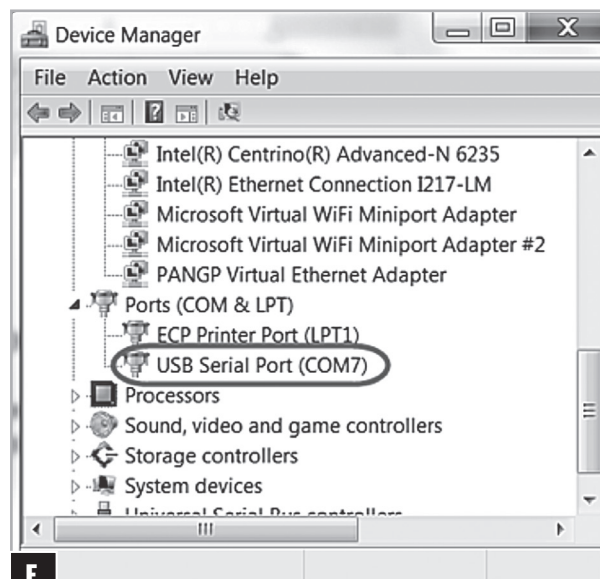
5. Click **Save**.



C.



D.



E.

Laptop USB Power

⚠ CAUTION: Some laptop computers are configured to supply power to USB port(s) even when the laptop is turned off. If the mobile transceiver is connected to such a USB port, the transceiver will continue to draw power from the laptop's battery or the vehicle's accessory power outlet, presenting the risk of draining the battery over time. To prevent this, do either of these options:

- Ensure the Mi.Net M transceiver is unplugged from the laptop at the end of the day.
- Configure the USB not to supply power after laptop shutdown. See USB Configuration.

USB Configuration

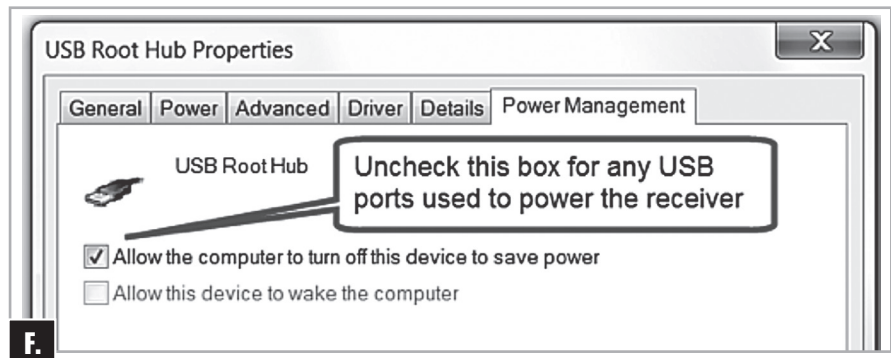
To configure a laptop to cease power to USB ports:

1. Click Windows Start button > Control Panel > Device Manager.
2. Right-click USB Root Hub and select Properties.

3. Click the Power Management tab.

4. Clear the checkbox for Allow the computer to turn off this device to save power (F.).

With the checkbox cleared, the computer will not supply charging power to the USB port.



LED INDICATORS

Three LEDs on the front of the transceiver indicate by color the status of the transceiver and its operation (G.).

1. **TEMP** – Transceiver's operating temperature

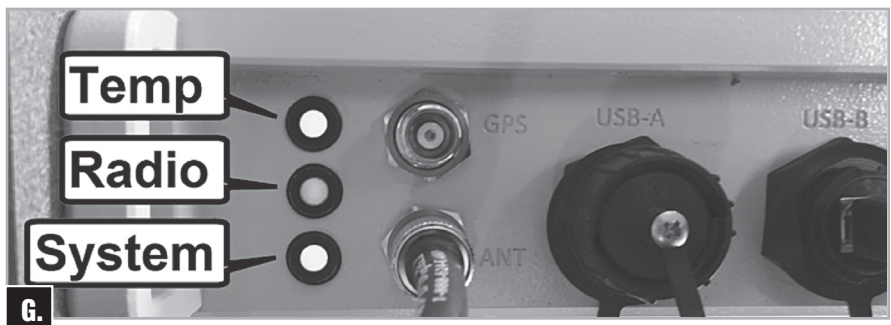
- **Green** – normal.
- **Red** – temperature is too high for normal operation. Transceiver powers down its internal RF board and ceases operation until acceptable operating temperature is reached.

2. **RADIO** – RF signal send/receive status

- **Blinking red** – valid message received.
- **Solid green** – message sending.
- **Solid red** – RF failure.

3. **SYSTEM** – Power Status

- **Solid Green** – operational, fully booted.
- **Solid Amber** – booting.
- **Solid RED** – unit is powering down, also when updating firmware. After update, light blinks red to prompt user to remove USB stick and allow reset.



ABOUT MUELLER SYSTEMS

Where Intelligence Meets Infrastructure®

Mueller Systems provides Smart Metering solutions to optimize the delivery and use of water and energy. Municipalities that supply water, electricity or — or any combination of the three services — need innovative ways to increase efficiencies, reduce costs, conserve water and energy, and improve customer service. The Mi.Net® Mueller Infrastructure Network for Utilities from Mueller Systems meets that need.

Mueller Systems develops meters and metering systems that are a Smart Move™ for the most demanding applications including residential, commercial and fire-

line meters, advanced metering infrastructure (AMI)/automated meter reading (AMR) systems and related products. We provide utilities with infrastructure technology—including the water industry's first AMI system with 2-way mesh network configuration—that enables them to access the intelligent, actionable data needed to increase efficiencies, reduce costs, conserve water and energy, and improve customer service.

Mueller Systems is part of Mueller Water Products, Inc., a leading manufacturer and marketer of products and services used in the transmission, distribution and measurement of water.

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