

# AN-115 - Display MDT Setup and Wiring

## Overview

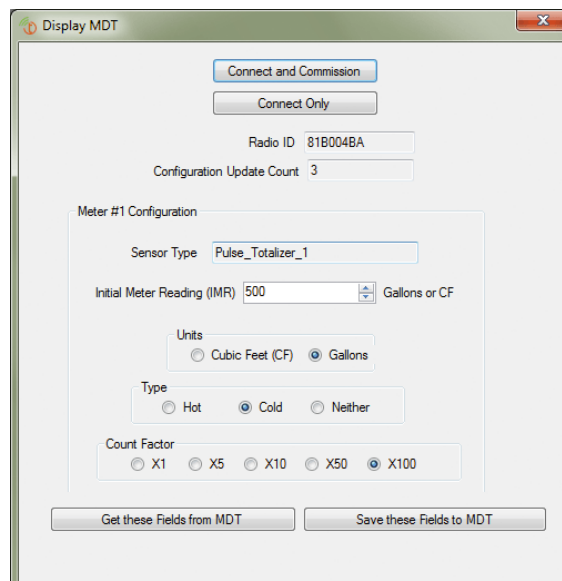
Once configured the display is activated with a push of the button. The Display MDT (D-MDT) will display the value on the meter face including the fixed 0 digits if the meter is 10 or 100 units per pulse resolution. If the D-MDT is a dual input unit for co-located hot and cold metering, the display will toggle between the hot and cold values every five seconds. Pushing the button while the display is on will also toggle between the hot and cold displays.

## Configuration

Configuration of the unit is done using the Tehama CIT software and a USB cable available from Tehama, part number TWA09. Plug the male connector into the D-MDT and the USB side into your laptop or tablet as shown here.



Using the CIT software, select the D-MDT menu item, then Configure. The following screen appears:



You have two choices to connect to the D-MDT. The top button is **Connect and Commission**, the second is just **Connect**. Both will open a secure link to the D-MDT in a few seconds, but the Commission option will also add the MDT RadioID to the current Configuration Data -> Node View table. This provides an easy way to collect the RadioIDs of each MDT without the need for a bar-code scanner.

Sensor Type will be either Pulse Totalizer or Encoder. If the unit is a dual display D-MDT, two side by side panels will appear with separately configurable panels for each meter.

You can configure the following four parameters:

- Initial Meter Reading (IMR). For Pulse Totalizer inputs you can set the IMR. This value should be the full value shown on the meter face, in Gallons or Cubic Feet. Encoder meters do not need an IMR as the D-MDT reads the meter face directly. You will not see an IMR field for Encoder D-MDTs.
- Units can be set to Gallons or Cubic Feet
- Type can be set to Hot, Cold, or none (blank)
- Count Factor (CF) can be set to these values: 1, 5, 10, 50, or 100.

When correctly setup, the D-MDT Display will match the meter face. For example, if the count factor is set to 100, the display will add two fixed zeros to the D-MDT display such that the display units match the meter units.

The IMR value you enter should be exactly what the meter shows, *including* any fixed zeros. In other words, enter the full reading in Gallons or Cubic Feet. If the meter is 10 gallons per pulse but the meter shows 1 gallon resolution on the wheels, enter all the digits. The CIT will automatically truncate the value based on the Count Factor setting you select.

When all settings are entered, press the **Save these fields to the MDT** button. The CIT will send the settings to the D-MDT and will zero the count for Pulse inputs. Note that D-MDT units will **NOT** zero their count if the button is held for 10 seconds, unlike our regular MDT units. This is required for regulatory compliance. Also, display units cannot be turned off for the same reasons; remove the batteries if the unit is placed out of service.

The information saved in this step will be transmitted to the DCAP shortly after you hit the **Save...** button. All four parameters (IMR, Units, Type and CF) will show up in the Configuration Data : Sensor View : General Configuration tab in the CIT. This will inform how the CIT and the Daily report display the data.



Alerts							
Sensor (Read Only)	Count Factor	Units	Meter Type	Meter Style	Meter Note	Meter Serial Number	Initial Meter Reading
1	10	Gallons	Water	Hot			319000

Please note the following:

- While you are still able to update these fields in the CIT with data, the D-MDT continuously sends the information you have set every 24 hours and will overwrite anything you enter in the CIT. **Therefore it is very important that the settings**



**you program into the Display MDT are correct as they *cannot* be changed later in the CIT.** Again this is required for regulatory compliance.

- In California, some inspectors may need to certify the D-MDT installation and seal the D-MDT with stickers covering the communication port.
- To see the values in the CIT, you must re-download data from the DCAP using the  icon, or using the menu selection CIT | Load Image from | DCAP | Configuration Data. Using just the  button to update the CIT will not get this configuration data.

The D-MDT display, as well as the value shown in the CIT and in daily reports, will use this formula:

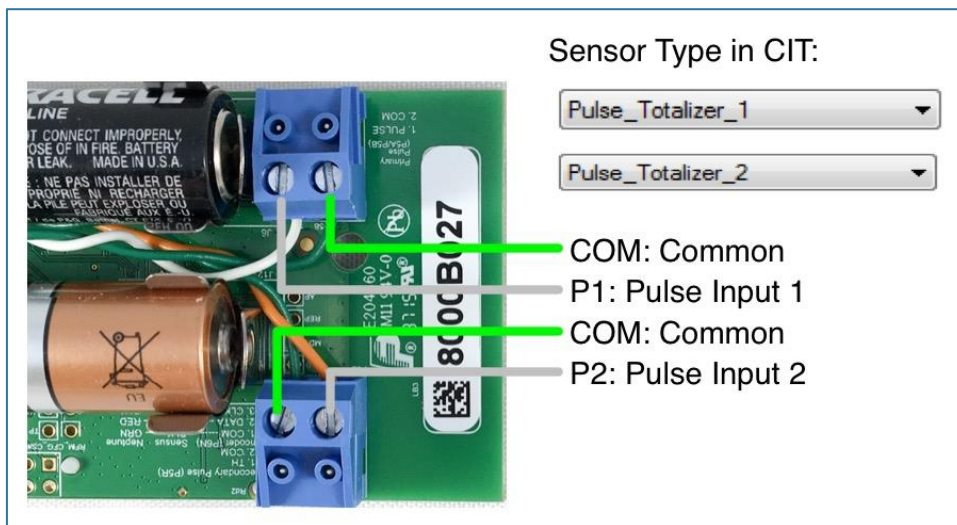
$$\text{Initial Meter Reading} + (\text{Count Factor} * \text{MDT Count})$$

For Encoder D-MDTs:

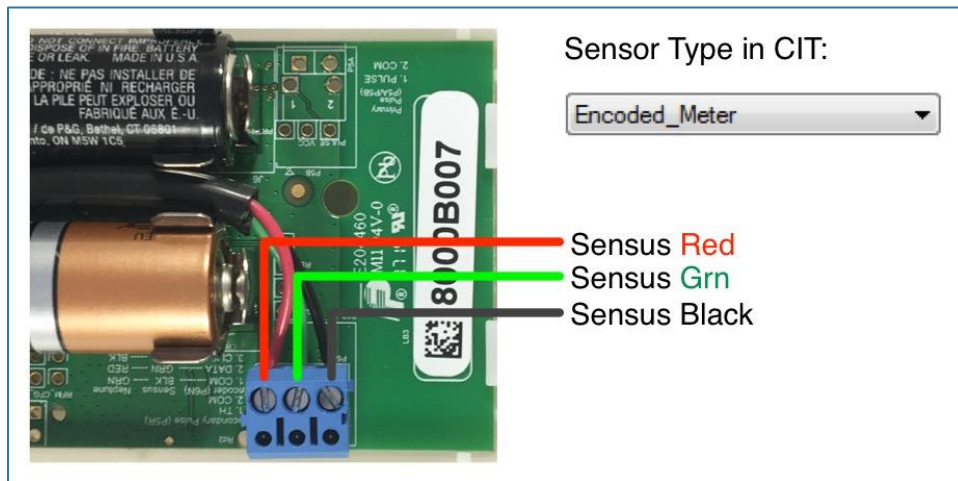
- The Meter Serial Number is also transmitted to the DCAP and will appear in the Sensor View tab. This is true for all our Encoder MDTs, not just the Display MDTs.
- The display will show a string of dashes if the D-MDT is unable to read the meter. In this case the wiring should be checked. An example of this is shown in the photo on page 1.

## Wiring

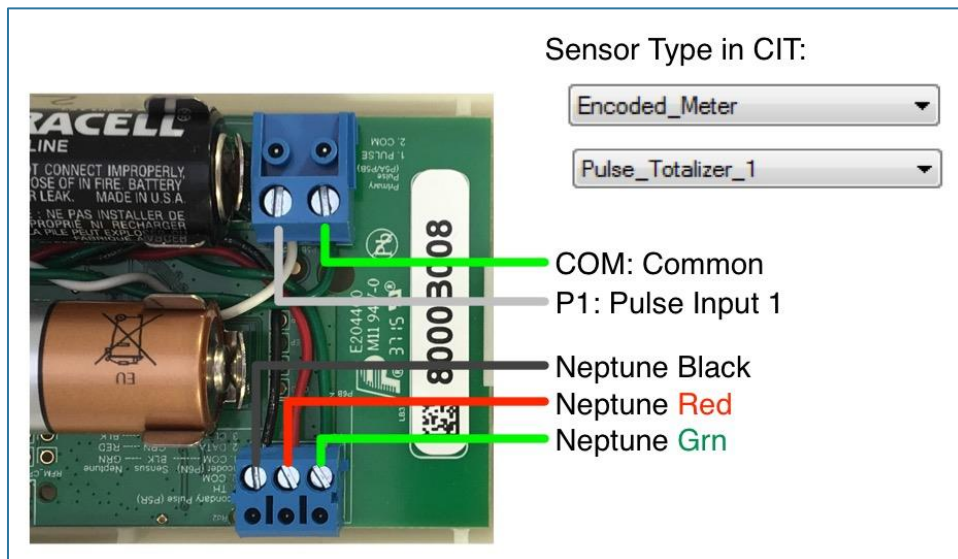
Pulse MDTs:



## Encoder (Sensus wiring)



## Encoder (Neptune wiring) + Pulse



Contact us:

**Tehama Wireless**

2431 5th Street  
 Berkeley, CA 94710  
 415.495.7344

[info@TehamaWireless.com](mailto:info@TehamaWireless.com)  
[www.TehamaWireless.com](http://www.TehamaWireless.com)

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