M800 Calibration map

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Mettler-Toledo recommends that M800 instruments receive annual recalibration at the factory. This document provides step by step instructions for technicians to perform recalibration of Mettler-Toledo M800 resistivity transmitters returned by customers for routine service.

Required Equipment

This entry describes all of the equipment required for the recalibration of an M800 meter.

All of the equipment is stored in the Technical Services laboratory for technicians to use. Have the following equipment ready at the calibration station before starting:

- Screwdriver with Phillips-head bit
- Screwdriver with flat head, less than 1mm wide
- Power cord with tinned leads (if needed)
- USB cable
- Hewlett-Packard 33401A multimeter or equivalent with banana plug leads, red and black

  The multimeter must have a current calibration sticker.
- Mettler-Toledo Thornton UniCond Verifier Kit

  The verifier kit must have a current calibration sticker.
- M800 patch cord, part number 52080271 OR 58080272
- M800 Transmitter Service Tool
- 770MAX equipped with 10-inch power leads and an additional 10-inch jumper wire (for cleaning mechanical relays, if needed
- Quick Setup Guide Transmitter M800

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Meter Calibration Overview

This entry describes the major steps in any conductivity meter recalibration.

Most industries require periodic recalibration of key instruments. The periods are sometimes determined by external regulations.

To recalibrate a meter:

1. Log in the meter.
2. Inspect the meter.
3. Record the meter's setup.
4. Perform the meter's recalibration.
5. Update the records.
6. Restore the meter's setup.

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Receiving a Customer Meter

This entry describes how to log in a customer's M800 meter for recalibration.

Each customer's meter has been assigned a "Return Material Authorization" (RMA) number which is written on a tag attached to both the M00 and the bin. The same RMA number appears at the top of the associated paperwork.

To log in a meter:

1. Get the bin containing the M800 and the customer paperwork from the assignment shelf in Technical Services and carry it to the calibration station.
2. Review the paperwork received with the M800 unit for recalibration. Make sure that the RMA number on the sheet matches the tags on the equipment. Also check that the part number and the serial number on the sheets match the transmitter received.
3. Note on the cover sheet any extra pieces received, such as patch cords, by writing down the part numbers from the labels.

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Record the M800 Setup

This entry describes how to record the customer's M800 meter setup.

Record the customer's setup so that it can be restored after the transmitter recalibration and the customer can place the M800 back into service quickly.

To record the setup of an M800 meter:

1. Use the USB cable to connect the M800 to the computer.
2. Open the M800 Transmitter Calibration Tool (TCT) program.

   If the M800 software is older than 1.3.00, the TCT will not work. In that case, the configuration must be checked manually and settings written on the customer's paperwork.
3. Click `Get All Transmitter Setup Files.`
4. Once the files transfer successfully, the program will give the message "Get all transmitter setup files successfully!" Press `OK.`
5. Store the setup files in the network.
   a) Click `Save All Transmitter Setup Files`
   b) Click `Make New Folder`
   c) In the dialog box, rename the folder with the RMA number, then click `OK`.
6. When done, press `EXIT` then `OK` to close the program.

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Inspect the transmitter

Record details of the M800 meter's condition as received.

Use SalesLogix to record the condition of the customer’s equipment as received. This protects Mettler-Toledo from claims that customer equipment became damaged while in the Mettler-Toledo facility for service.

To inspect the meter:

1. Log into SalesLogix and open the RMA number listed on the paperwork.
2. Inspect the enclosure of the M800 meter and check the appearance of the front panel, looking for any visible damage.
3. Use the Phillips-head screwdriver to loosen the 4 screws on the front panel to allow the top to lift open.
4. Inspect the visible boards and connectors. Look for any broken or damaged connectors, cracked surfaces, or exposed wires.
5. If the customer did not send a usable power cord, attach one. Power the M800 and watch to make sure it turns on and progresses through the start-up screens until the measurement screen displays.
6. If the customer sent a patch cord, disconnect the leads by pushing the orange spring clips with the small flat-head screwdriver one at a time while pulling gently on each lead.
7. Record the details of any observed damage in SalesLogix. If the M800 looks to be in good condition, put in the notes that the equipment looks fine.

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Restore the M800 Setup

This entry describes how to restore the customer’s M800 meter setup.

Restoring the M800 setup allows the customer to put the transmitter back into service quickly without having to reprogram it. If the M800’s software version did not allow the files to be stored electronically, use your notes on the customer’s paperwork to manually restore the settings.

To electronically restore the setup of an M800 meter:

1. Use the USB cable to connect the M800 to the computer.
2. Open the M800 Transmitter Calibration Tool (TCT) program.
3. Click `Open All Transmitter Setup Files.`
4. The program will open the directory. Highlight the folder name stored earlier and `OK.`
5. Once the files open, the program will give the message “Open files successfully!” Press `OK` to continue.
6. Click `Send All Transmitter Setup Files.`
7. The program will return the message "Send all transmitter files successfully!" Press `OK` to continue.
8. When the loading finishes, press `EXIT` then `OK` to close the program.

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