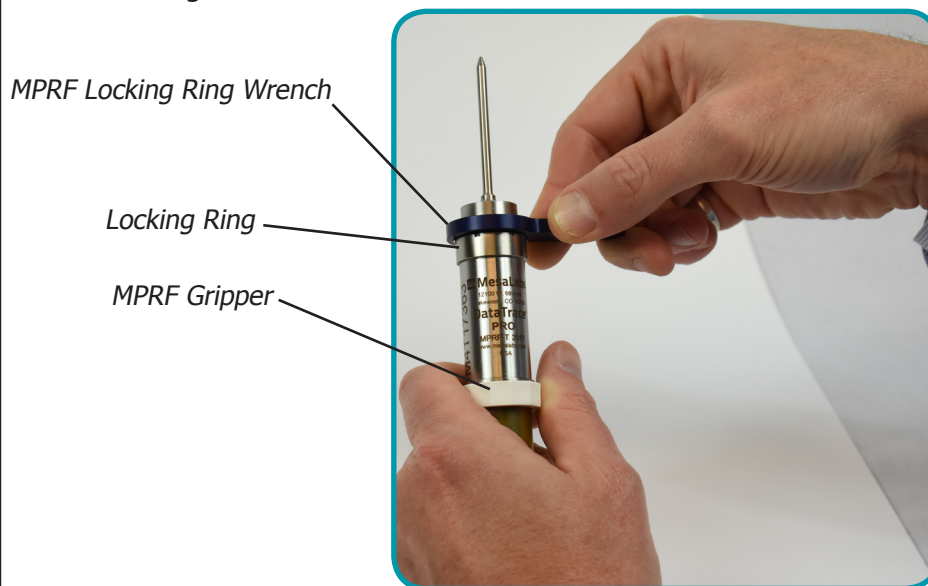# MPRF Battery Change Quick Start Guide

Each time the logger body is opened, the O-ring must be replaced to avoid water/liquid intrusion into the logger. Please review and follow these important guidelines and tips:

1 The MPRF Locking Ring Wrench (DT270009-1) should always be used when tightening the Upper Assembly Ring.

2 There may be minor loosening of the MPRF's Upper Assembly Locking Ring through repetitive temperature cycling, thus the Upper Assembly Locking Ring should always be checked for tightness prior to each use.

3 When replacing batteries, do so in a low relative humidity environment (< 40% RH preferred) and do not leave loggers open to ambient conditions for more than four (4) hours.

4 Following the use of an MPRF logger in an environment below -40 °C, leave the logger at ambient room temperature for a minimum 24 hours to allow the O-rings to recover. The Upper Assembly Ring should be checked for tightness prior to being used in a submersed and/or steam environment.

5 If there is minor condensation in the lower housing, this may indicate that the logger's seal have been compromised or the logger has been exposed (left opened) in a relativity high humidity environment allowing for the absorption of excess moisture into the logger's components.

For temperature and pressure loggers, it is recommended that you open the logger and place it in an oven overnight at 130 °C (275 °F) to remove any moisture that may have been absorbed by the logger's components. Following the drying out of the logger, replace the upper housing O-ring and tighten the Upper Assembly Locking Ring.

For humidity loggers, open the logger and place in an oven overnight at 85 °C. Once cool, replace the o-ring and reassembly the logger using the instructions above. Anytime after you subject the humidity logger to high temperatures and low humidity, you must rehydrate the sensor prior to use. To do so, we recommend you store the logger at room temperature at ≥50% RH overnight.

MPRF Locking Ring Wrench

Locking Ring

MPRF Gripper

Step-by-Step Instructions

This quick start guide is intended to help you change the battery for a DataTrace MPRF data logger.

Supplies
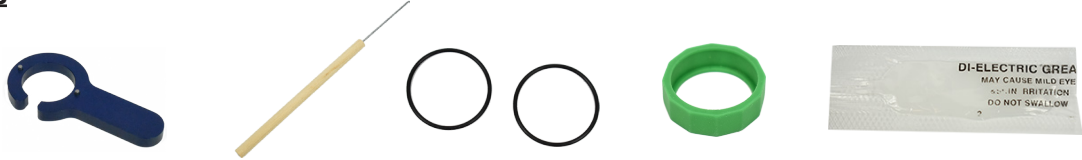
- Your MPRF Data Logger
- MPRF Locking Ring Wrench (DT270009-1)
- MPRF Battery Replacement Kit -- O-ring removal tool, 4 spare batteries, new O-rings
- (Optional) MPRF Gripper (124915-XXX, XXX=501-505 color options)
- (Optional) DT-270038 MPRF O-Ring Kit (25 O-Rings, O-Ring removal tool, and 1 tube of silicone grease)

1 Start by holding the MPRF and squeezing to compress it. Then, loosen up and unscrew the lock ring. Use the gripper tool or the Locking Ring Wrench if this is too tight.

2 Lift the Locking Ring away. Carefully slide it over the temperature probe and set it to the side. *Note: This Locking Ring could easily become damaged as it is very sensitive to shock dropping on a hard surface.*

3 Open up the housing. You'll notice that this lifts away. Try not to pull it too far back because there is a ribbon cable here that can become damaged. The board could also become loose if it gets pulled too hard.

4 Remove the battery. If it is not sticking out for you to easily grab and pull, it may be stuck. Try giving it a shake and it should come loose. **Make sure to discard of the Lithium battery properly.**

5 Change the O-Ring seal. Use the O-Ring removal tool to poke into the O-Ring and remove it from the groove. You want to get the sharp end in as tightly as you can, then push down, and then push it to the side so it lifts up and out of the groove. Then use the tool to pull the O-Ring out completely. *Please note that any time you open the MPRF, you must replace the O-Ring with a new one.*

6 Remove the O-Ring from the housing. You may also use scissors for this, as you will discard the O-Ring.

7 Prepare the replacement O-Ring. Get a little bit of the grease from the o-ring removal tool kit and put some on your fingers. You will only need a small amount. We recommend rubbing the grease between your middle finger and thumb, and then slowly pulling the O-Ring through your fingers to allow the grease to completely cover it. It helps to have a paper towel nearby to wipe your hands once you are done.

8 Insert the replacement battery with the positive end down. If you need to know which way to put the battery, there is a marking on the housing of the MPRF that shows the direction it should go.

Please note that the O-Ring is designed to only be used once, so you will need to change it each time you open the logger. This is even more important if you are using your data logger in an autoclave of some sort of pressurized or vacuum environment.

9 Carefully slide the greased O-Ring over the housing. When it gets near the bottom, you will need to slightly stretch it to get it over the lip on the housing. Carefully push it into the groove. You should not need a lot of force, and rolling your finger around on the O-Ring will help if needed.

10 Seal the logger. Use the lock ring and gripper tool to carefully slide it over the probe to get it into place. Hold it loosely and begin screwing the lock ring down first. Once the lock ring is done, you can put some compression on the upper and lower housing and use the gripper tool or Locking Ring Wrench to tighten it. Remove the gripper tool from the logger and you have successfully changed the MPRF battery.
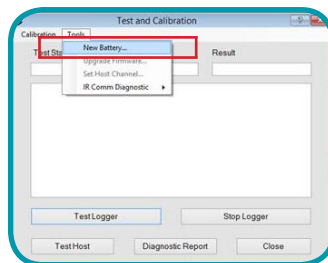
11 Place the logger in the interface. In DTPro in the Test and Calibration window, click the "New Battery" button under the "Tools" menu. Follow the on-screen prompts to reset the battery and perform a "test logger." The new battery is now successfully installed and the logger is now ready for use.