

Device Maintenance

Battery Replacement

Materials:
Small Needle Nose Pliers
Replacement Battery (TL-2150)

- Carefully unscrew the sensor end cap and pull the electronics out.
- The battery is the purple cylinder on the circuit board.
- Gently pull out the old battery.
- Insert the new battery one lead at a time, using pliers to fully push the leads into the sockets.

Note: The battery should be flat against the circuit board, and the positive lead should be closest to the communications jack.

- Ensure the circuit board is inserted into the white plastic bushing. The sensor cable should not be twisted, or kinked. From the connection to the circuit board, it should run up towards the battery, then down to the sensor.
- Insert the electronics back into the tube and carefully screw the cap on.

Battery Warning

WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80°C (176° F).

Recalibration

The Level2000 standard calibration is performed at 25°C for the temperature channel and 0 inH2O and between 375-415 inH2O for the level channel.

Pricing:

Recalibration traceable to NIST \$90.00
Recalibration \$70.00

Additional:

As Found Data \$15.00 per parameter/channel
Verification Point \$15.00 per point

To send the devices back, visit www.madgetech.com, select Services then RMA Process.

| Part Number | Level2000 | |
|----------------------------|---|--|
| Temperature Sensor | Internal Semiconductor | |
| Temperature Range | -40 to +80°C | |
| Temperature Resolution | 0.1°C | |
| Calibrated Accuracy | ±0.5°C | |
| Pressure Sensor | Semiconductor (strain gauge) | |
| Nominal Range | 0 to 30' (0 to 9m) | |
| Level Resolution | 0.05" (1.27mm) | |
| Calibrated Accuracy | ±0.3%FSR @ 25°C | |
| Memory | 16,383/channel | |
| Sample Rate | 2 seconds up to 12 hours | |
| Required Interface Package | IFC110 or IFC200 | |
| Baud Rate | 2,400 | |
| Typical Battery Life | 1 year | |
| Operating Environment | -40 to +80°C (0 to 100%RH) | |
| Material | 303 stainless steel | |
| Dimensions | Submersible end: 9.1" x 1.25" dia. (232mm x 32mm dia) | Communications end: 7.1" x 1.2" dia. (181mm x 31mm dia), + cable |
| Approvals | CE | |

Specifications subject to change.

See MadgeTech's terms and conditions at www.madgetech.com

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Level2000

Vented Water Level and Temperature Recorder

Product Notes

Submergibility

The Level2000 is fully* submergible and rated IP68. It can be placed in environments with up to 100 feet (30m) of water, sensor range dependant (30ft Standard).

*The Level2000 is atmospheric pressure compensated; therefore, the end of the tubing must remain above water. The tubing also contains a serial cable for connecting the data logger to a pc; **do not allow water or other liquids to come into contact with the end of the serial cable.**

O-Rings

O-ring maintenance is a key factor when properly caring for the Level2000. The o-rings ensure a tight seal and prevent liquid from entering the inside of the device.

Please refer to the app note "O-Rings 101: Protecting Your Data", found on the MadgeTech website, for information on how to prevent O-ring failure.

Installation Guide

Installing the Interface cable

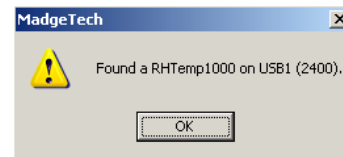
- IFC200, IFC202 or IFC300
Refer to the "Quick Start Guide" included in the package.
- IFC110, IFC102 or IFC103
Plug the serial cable into the port and verify it is secure.
- USB-1 or USB-101
Install the USB drivers from the CD provided in the kit, then plug the USB cable into the computer and the serial cable into the serial port.

Installing the software

Insert the Software CD in the CD-ROM Drive. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Connecting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Click the **Communication Menu**, then **Auto Configure Port**.
- After a moment, a box similar to the following will appear;



- Click **OK**. The **Device Status** box will appear. Click **OK**.
- At this point, communications have been configured for your logger. These settings can be found under the **Communication Menu**.

Note: For additional installation instructions refer to your "Data Logger & Software Operating Manual".

Device Operation

Starting the data logger

- Click **Device Menu** then **Start Device**.
- Choose the desired start method.
- Choose the start parameters by selecting a **Reading Rate** suitable for your application.
- Enter in any other desired parameters and click **Start**.
- A box will appear stating the data logger has been started. Click **OK**.



- Disconnect the data logger from the interface cable and place it in the environment to measure.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Connect the data logger to the interface cable.
- Click the **Device Menu** then **Read Device Data**. This will offload all recorded data onto the PC.

Technical Support

Visit www.madgetech.com, or call (603) 456-2011. Technical support is also available by e-mailing support@madgetech.com

Additional product information is available by e-mailing info@madgetech.com.