Water Loss Management Solutions

MLOG Controller User Guide

Putting knowledge to work.

Identification
MLOG Controller User Guide
10/28/2009   TDC-0796-001

Patent Notice
US and foreign patents pending

Compliance Statement
Trade name: MLOG Controller
Model number: MLC4

FCC
This equipment has been tested and found to comply with the limits, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Operation is subject to the following conditions:

- This device may not cause interference.
- This device must accept any interference that may cause undesired operation of the device.

Industry Canada
This equipment complies with policies RSS-210 and RSS-GEN of the Industry Canada rules. Operation is subject to the following two conditions:

- This device may not cause interference, and
- This device must accept any interference, including interference that may cause undesired operation of the device.

 Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.

Transportation Classification
The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, MLOG Controllers are considered operating transmitters and receivers and cannot be shipped by air. All product returns must be shipped by ground transportation.

Trademark Notice
Itron is a registered trademark of Itron, Inc.
All other product names and logos in this documentation are used for identification purposes only and may be trademarks or registered trademarks of their respective companies.

Suggestions
If you have comments or suggestions on how we may improve this documentation, send them to TechnicalCommunicationsManager@itron.com
If you have questions or comments about the software or hardware product, contact Itron Technical Support:

Support
If you have questions about this product, contact Itron Inc. Technical Support:
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Introduction

The MLOG Controller collects data from field-installed MLOG Radio-Loggers and transfers that data to mlogonline™ Network Leak Monitoring System for analysis. This guide describes the components and use of the MLOG Controller.

Document Conventions

Caution   A Caution note warns the user that failure to heed the information in the note could result in loss of data. Be sure to carefully read a Caution note and heed the advice, instructions.

Warning   A Warning note alerts users of potential physical harm to the user or hardware. Pay strict attention to Warning notes, read the information carefully, and heed the advice, instructions.

Tip   A tip provides the user with extra hints to make a task easier to perform or a concept easier to understand.

Note   A Note supplies generic information to the user. The information could be ignored and the user could continue with a task without suffering any adverse consequences.

C H A P T E R 2

Controller Connections/Components

The MLOG Controller communicates with mlogonline™ through the MLOG Controller software (SFL-1082-XXX). The MLOG Controller is initially programmed at Itron specifically for your water system.

External Antenna Connector

Use only an Itron-approved and supplied antenna with the MLOG Controller.

Caution This device has been designed to operate with the antennas listed below (MLOG Controller Accessories on page 9), and having a maximum gain of 5 dB. Antennas not included in this list or having a gain greater than 5 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.

Failure to use an Itron-approved and supplied antenna with the MLOG Controller will also void the warranty.

Note Itron offers an optional magnetic, vehicle roof-mounted antenna for the MLOG Controller to improve 2-way radio communication for mobile data collection.

Mini USB Data Connector

⚠️ **Caution** MLOG Controller software (SFL-1082-XXX) must be installed on your system PC before initial use. Remove the yellow label to access the MLOG Controller's mini USB port.

The MLOG Controller is setup and powered through a mini USB data cable.

To connect the mini USB data cable

1. Connect the MLOG Controller power/data cable (mini USB) to the MLOG Controller as shown.

2. Plug the USB connector end into an open USB port on the PC with MLOG Controller desktop software loaded (ships with the MLOG Controller).

While the MLOG Controller is connected to the computer, the Controller recharges its internal battery. Keep the Controller connected for approximately 6 hours to fully recharge the battery.

MLOG Controller Accessories

The MLOG Controller is shipped with an 8" 902 - 928 MHz antenna, USB Power/Data Cable, the MLOG Controller holster, and an MLOG Controller Documentation CD (includes MLOG Controller Software SFL-1082-XXX). Accessories and replacement parts are shown in the MLOG Controller Accessories table. Itron recommends the use of the MLOG Controller holster with the MLOG Controller.

MLOG Controller & Accessories

Component	Itron Part Number
MLOG Controller	MLC-0001-001
Antenna, 8" - 902 - 928 MHz, RPM SMA connector	MSE-0131-001
USB Power/Data Cable	CBL-0067-001
MLOG Controller Holster	FAB-0370-002
Antenna, magnetic roof mount	MSE-0370-003
MLOG Controller Software Installation and User Guide	TDC-0793-XXX
MLOG Controller Software	SFL-1082-XXX
MLOG Controller Documentation CD	SWK-0085-XXX
MLOG Controller Software	SFL-1082-XXX
MLOG Controller Software Installation and User Guide	TDC-0793-XXX
MLOG Controller User Guide	TDC-0796-XXX
mlogonline User Guide	TDC-0792-XXX

C H A P T E R 3

Operating the MLOG Controller

The following sections describe the physical operation of the MLOG Controller.

Power management

The MLOG Controller features a rechargeable battery. The Controller's rechargeable battery has no memory effect and can be recharged at any time. On a full charge, the Controller operates for approximately 5 days. The Controller only transmits a radio wake-up signal while the rechargeable battery has a charge. Plug the MLOG Controller into a USB data port for approximately 6 hours to recharge.

When the rechargeable battery is discharged:

- The MLOG Controller radio turns "OFF" regardless of settings.
- The time and current settings are maintained (for approximately 2 years).
- The LCD display is switched off.
- The USB interface remains active.
- The data memory is maintained.

If the MLOG Controller's rechargeable battery completely discharges, the data stored in the Controller's memory can be accessed by connecting the Controller USB data cable to a PC. The display activates, data is available, and the Controller recharges while the MLOG Controller is connected to the PC.

Caution Do not repeatedly drain the MLOG Controller's rechargeable battery. Repeated deep discharge will reduce MLOG Controller battery life and recharging functionality. A discharged battery does not affect data stored in the Controller's memory.

Reading MLOGs in the field

The MLOG Controller is mounted in the vehicle or carried by a person.

Date/Time: Date/Time field shows the current date and time transmitted to MLOG Radio-Logger.

Radio INHIBIT/ON-OFF (MLOG Controller): Push the power button next to the USB port on the Controller to turn the Controller Radio "ON" or "OFF" during the hours of 7 a.m. to 4 p.m. Monday through Friday. When the Controller's radio power is on, the MLOG Controller will continuously listen for a beacon from MLOG Radio-Loggers in range. The Controller's radio, if switched on, has an active window of 7:00 a.m. to 4:00 p.m., Monday through Friday. An LED and the Controller's backlight illuminate to indicate the Controller's radio is on. The Controller will not transmit outside of these hours (at night or on weekends).

MLOG Controller Display: The Controller's display has two operational modes dependent on the unit's setting:

- Idle: time and battery life display. The backlight is off.

- Active: time, battery life, number of MLOG Radio-Loggers read, and the last read MLOG Radio-Logger ID displays on the screen. The backlight is on.

Display Messages:

- Low Battery: the rechargeable battery has less than 10% charge remaining. Charge the Controller with the USB data cable and a PC.

- Memory Full: The Controller's memory is full. Connect the Controller to PC and open the mlogonline upload program to read the data saved to memory and clear this setting.

- USB Communications: The Controller is communicating with the PC.

MLOG Controller's Memory

The MLOG Controller can hold approximately 4000 readings. The number in the top left corner of the display indicates the current number of MLOG-Logger's read. This number clears when the MLOG Controller's power button is cycled. When the memory is full, the LCD display will indicate "Memory Full" and the MLOG Controller will switch OFF. No further radio communications will occur until the memory is read by mlogonline using the software (SFL-1082-XXX). Reading the Controller's memory will clear the memory archive and the MLOG Controller will activate.

Battery Charging Indicator/Percent of Battery Charge Indicator

- Battery Charging Indicator

  The MLOG Controller has a rechargeable battery. It takes up to 6 hours to fully charge (or recharge) the battery. While the battery is recharging, the battery charging indicator flashes in sequence as the darkened box moves from right to left (spending approximately two seconds in each box).

- Percent of Battery Charge Indicator

  The MLOG Controller displays the percent of charge remaining in the battery when the unit is in use or not being charged. The battery charge indicator displays the charge remaining as shown below:

  ▪▪▪▪ Fully charged or >90%

  ▫▪▪▪ 75% charge remaining

  ▫▫▪▪ 50% charge remaining

  ▫▫▫▪ 25% charge remaining

  ▫▫▫▫ 10% charge remaining
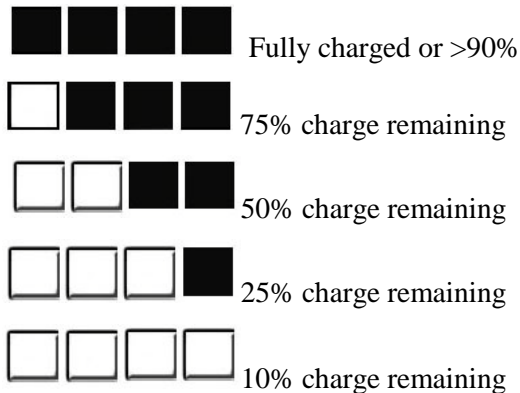
MLOG Power Management: MLOG Radio-Logger's battery life can be increased by selecting the number of days a MLOG Radio-Logger keeps its radio switched *OFF*. The MLOG Power Management setting can only be changed from the original programming settings by Itron. Contact Itron for more information about MLOG Power Management.

Radio Range of the MLOG Controller

The Controller's radio range is dependent on field conditions. Range varies from 50 to 800 feet (or more.) The principal factors affecting range are:

- Orientation of the MLOG Radio-Logger's antenna to the Controller - Itron recommends mounting the MLOG Radio-Logger Leak Detection Sensor in a vertical orientation to keep the antenna directed in an upright position.

- Location - mounting MLOG Radio-Loggers in pits with metal lids will reduce radio range.

- MLOG Radio-Logger's altitude - if the MLOG Radio-Logger's antenna is at grade or above ground level, radio range will be significantly increased.

- MLOG Controller's antenna altitude - a roof-mounted vehicle antenna (available from Itron) will increase overall radio range.

Itron Recommended MLOG Radio-Logger Mounting