

LDM Toolkit General Instructions for LDM Release Five

Revision History:

Rev 2.1 January 14, 2008
Rev 2.0 November 7, 2007
Rev 1.0 June 20, 2007 New

Scope:

This document describes the Liebert Distribution Monitoring (LDM) Toolkit for Release Five Firmware also known as LDM Toolkit V2.00. The toolkit consists of three Windows applications that provide the following capabilities:

- Flash Update Tool: Allows the user to update the LDM firmware
- Monitoring Tool: Provides basic monitoring of panels, branches and subfeeds including all measurements and event logs.
- Configuration Tool: Allows the user to add, delete and rename breakers, modify alarm set-points and set the communication address.

Purpose:

The purpose of this document is to provide an overview of the LDM Tools, how they are used, and to address some frequently asked questions.

Requirements:

The tools require a PC running Windows 2000, Windows XP or Vista. The minimum screen resolution is 1024 x 768, although 1280 x 1024 is recommended.

The LDM Toolkit requires LDM Firmware Build 73 or later. However, it is strongly recommended that the firmware be updated to Build 87 which is included in Firmware Release Five (Liebert Part Number 528878R4).

A DB9 null modem cable is required for communication between the PC and the LDM. The LDM tools will not operate unless the workstation is connected to a powered LDM.

Installation

The installation process consists of copying all toolkit files into a single directory. Installation does not require any changes to the registry, so the tools can be copied, moved or deleted as needed.

LDM Firmware:

The first step to use the tools is to determine if the LDM firmware requires an update (build 73 or higher is required). You can determine the firmware build number by starting the monitoring tool (Monitor.exe) and connecting to the LDM. The firmware build number is displayed in the title bar (see below). LDM Release 5 (Build 87) was released in November, 2007.

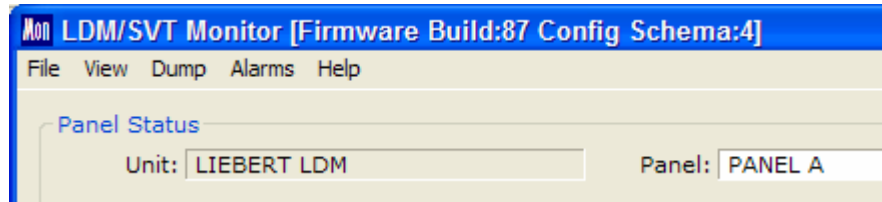


Figure 1: The firmware build and configuration schema are displayed in the title bar.

However, if you receive the following message when attempting to connect to the LDM, then you have an earlier firmware build installed which is incompatible. In this case, the firmware must be updated using the flash update tool:

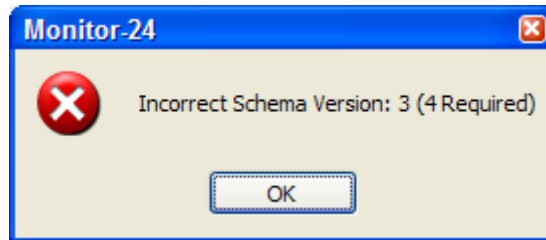


Figure 2: Notification of incompatible firmware build.

The schema version, which identifies the structure of the configuration data, was last changed with LDM Release 4 firmware to accommodate product enhancements. There is no schema change when updating from Release 4 firmware to Release 5.

The LDM tools work independently -- they do not share the connection to the LDM. Each tool must be exited before using another tool, otherwise the required COM port will not be available.

FLASH Update:

The LDM firmware is updated using the FLASH Update Tool (Flash.exe). There is a FLASH Walkthrough document included in the toolkit showing the update procedure with example screens. Do not interrupt the communications while the file is being transferred and written to FLASH memory.

When installing new firmware, the tool examines the existing LDM configuration schema. If it finds a schema version 3 configuration, it checks for errors, then automatically converts it schema 4. There may be warnings, if so, select OK to proceed.

It is recommended that the converted configuration be saved to a file using the configuration tool in case the configuration needs to be restored at a later time.

Monitoring Tool:

The Monitoring Tool (Monitor.exe) provides following live status information:

- Main panel board power feed

- Individual branches in the panel board
- Subfeeds and output circuit breakers

This information includes measurement data, alarms, and an event log.

There is also a feature that allows setting of the LDM clock to the workstation. Before setting the clock, check that your workstation clock is accurate and is set for the correct time zone.

Configuration Tool:

The purpose of the Configuration Tool (LDM-Config.exe) is to edit the LDM configuration information. You can also load, extract, install, or save the information to a file.

The editable information includes alarms and warning settings, panel board branch ratings, panel board names and branch labels.

You can also view the MODBUS slave address and the MODBUS dipswitch setting. If the dipswitch is set to address zero, then the MODBUS address can be set in software using the Configuration Tool.

Please note that subfeeds and output breakers are listed as “auxiliary” circuit breakers.

The default unit name is the abbreviated configuration name.

It is good practice to save the configuration file before making changes. There may be a custom configuration installed by the factory or by LGS based on product options. Also, when a configuration is modified, it must be installed in the LDM or it will be lost after exiting the tool.

Special Configurations:

The LDM can be highly customized. When power distribution products are purchased with the LDM option selected, the LDM is configured for that product by the factory. Contact LGS for configuring the LDM for hardware changes such as new subfeeds or other field installed options.

FAQs:

1. What is the Baud Rate for the LDM Toolkit connection?

The baud rate is automatically set by the toolkit to 115.2 KB.

2. The Toolkit starts but will not perform any functions.

The Toolkit must be connected to a powered LDM using a null modem cable. Verify the COM port number and cable type. Some cables are straight through, whereas null-modem cables switch the signals on pins 2 and 3.

3. The circuit breakers shown in the Configuration Tool are incorrect for the type of panel board.

The wrong configuration file or the default configuration may be installed. The panel board name shows an abbreviated configuration name. Contact LGS for more information.

4. The LDM doesn't seem to be saving the configuration information.

There are three places where configuration information resides; in the Configuration Tool, in the LDM, and in a Windows file.

When the Configuration Tool is started, it extracts the configuration from the LDM. If the configuration is modified using the tool, it must be installed in the LDM. It can also be saved to a file.

To install a new configuration, it must be loaded from a file, and then installed in the LDM.

5: Why are there A and B panel boards shown in the tools?

One LDM Control Board monitors two panel boards. To prevent confusion with the panel board numbers, the board has A and B sides.

The MODBUS port responds to two addresses, one per panel board. An even address, "N" is set for the A side of the board. The B side is automatically address "N+1".