Building Automation, Inc.

LX Link Power Module
LXLPM and LXPMR

Installation and Setup Procedure

Hubbell Building Automation, Inc.
9601 Dessau Road • Building One • Suite 100
Austin, Texas 78754
512-450-1100 • 512-450-1215 Fax
www.hubbell-automation.com

Overview
These instructions are presented as a guideline for installing the LX Series Link Power Module.

Contents
These instructions include information as follows:

Description
The LX Link Power Module is a self-contained power supply and interface system that is designed to provide operating power to a LonWorks® "Open Systems" architecture twisted pair communication network (see additional information below). The unit is supplied by a 90-264 VAC input voltage and converts this to a low voltage (Class 2) supply for the network. The interface couples power from the internal power supply to the network, terminates the twisted pair network, isolates the internal power supply from network wiring faults, and prevents the network voltage from exceeding 42.5VDC which allows it to comply with Underwriters Laboratories low voltage requirements. The interface uses a single point grounding system, located in the unit, and floats the network relative to this point. The interface is versatile and supports a variety of network topologies including star, bus, and/or loop wiring methods. The interface versatility also allows connection of a multitude of device types and quantities to the network providing seamless integration of building management systems.

In the event that the number of network devices of a device type or total quantity exceeds the network capability or if the network wire length needs exceed the wire distance restrictions, an optional link power repeater may be used to create and interconnect multiple communication network segments. The repeater allows two independently powered networks (each having its own Link Power Module) to couple their data information while maintaining each networks power system separately. Link Power Modules containing a repeater are designated LXLPMR. If a repeater is required but not included in the Link Power Module, it can be added via a Repeater Retrofit Kit (LXREPEATER). If necessary, see applicable installation instructions for connecting and setting up the Repeater Retrofit Kit.

LX Communications Network

The LX network is a 2-wire communication network. It can operate using any topology (layout) or combination of topologies including Star and T-configurations.

Network cable shall be Belden 8471 or approved equal. Contact HBA for alternate cable types. Maximum total wire length per network segment (without requiring the use of the lLX Router/Repeater Module, p/n LXRRM) shall not exceed 1500 feet. Up to 56 devices can be supported per segment.

NOTE: Do not use shielded cable.

General Precautions

- **RISK OF ELECTRICAL SHOCK.** To prevent electrical shock, turn off power at the circuit breaker before installing or servicing unit. Do not operate unit with enclosure covers removed.
- For installation by a qualified electrician in accordance with these instructions and National and/or local Electrical Codes.
- No user serviceable parts contained inside unit. Refer all service related questions to the factory.
- Be sure to read and understand all instructions before installing or servicing unit.
- **USE COPPER CONDUCTORS ONLY.**
- **NOTICE:** Do not install or operate unit if any damage is noticed.

Pre-mounting Preparation

The Link Power Module is typically installed in close proximity to the Lighting Control Panel whose communication network it is going to supply power to. Select an appropriate location that meets the environmental conditions listed in the specification section of this document.

Remove the Link Power Module's two cover plates by removing the cover plate screws. Remove the Link Power Module's interior assembly by removing its four mounting bolts as shown in Figure 1 and lifting the interior assembly out of the enclosure. Store interior assembly in a clean, secure location away from the installation location until ready to reinstall.

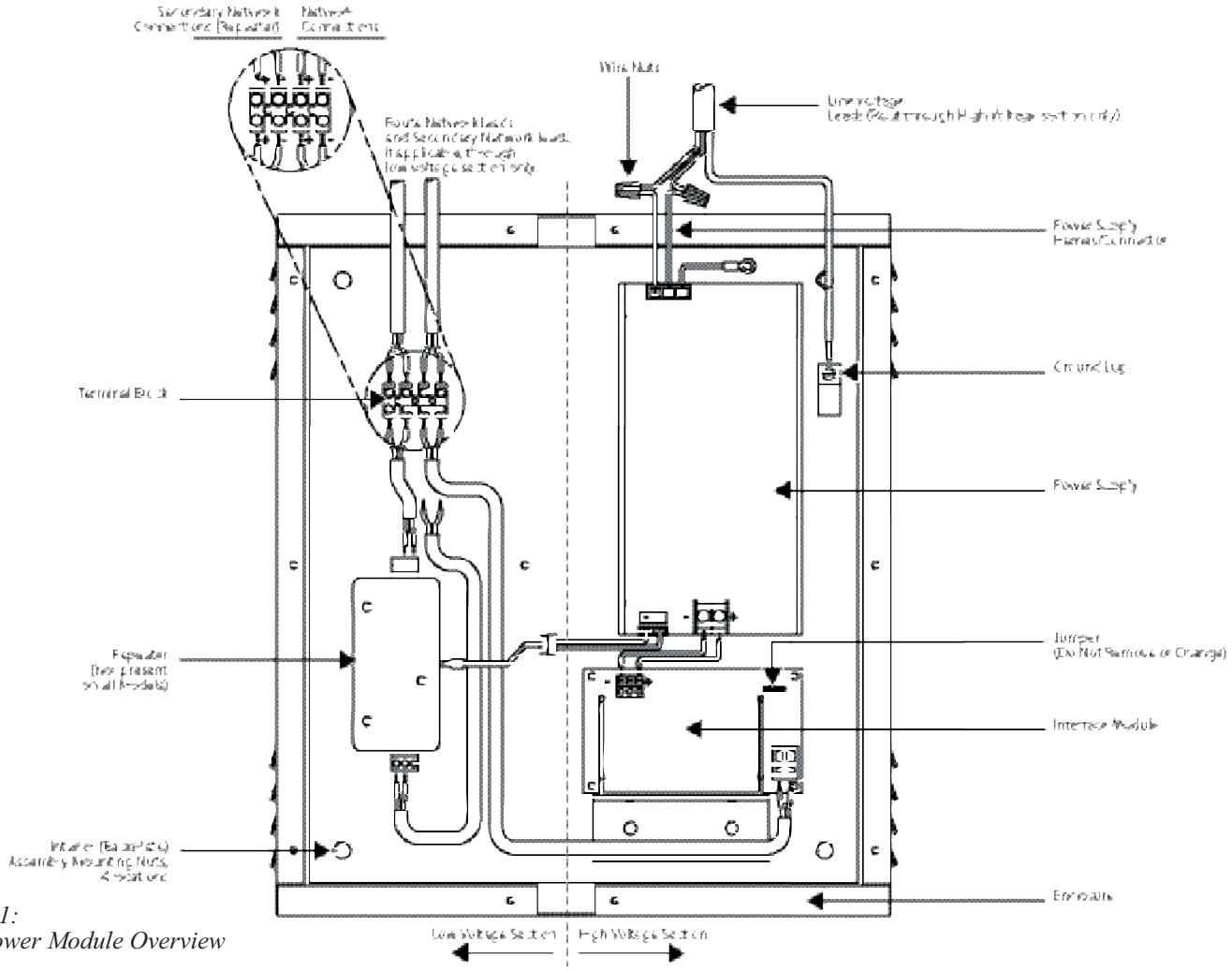

Figure 1:
Link Power Module Overview

The Link Power Module interior is divided into high voltage and low voltage sections as shown in Figure 1.

After drilling the holes, completely remove ALL metal cuttings and dust from the enclosure cavity. Failure to do so may result in damage to the unit and void its warranty.

Enclosure Mounting

Locate the enclosure on the mounting surface and use a level to ensure that it is oriented/aligned properly. Secure the enclosure to the mounting surface with hardware as appropriate for the application using the four pre-drilled mounting holes located near the corners of the enclosure as shown in Figure 2.

Attach conduit runs to the enclosure as appropriate. Feed the power supply and communication network leads through the appropriate conduit and into the enclosure.

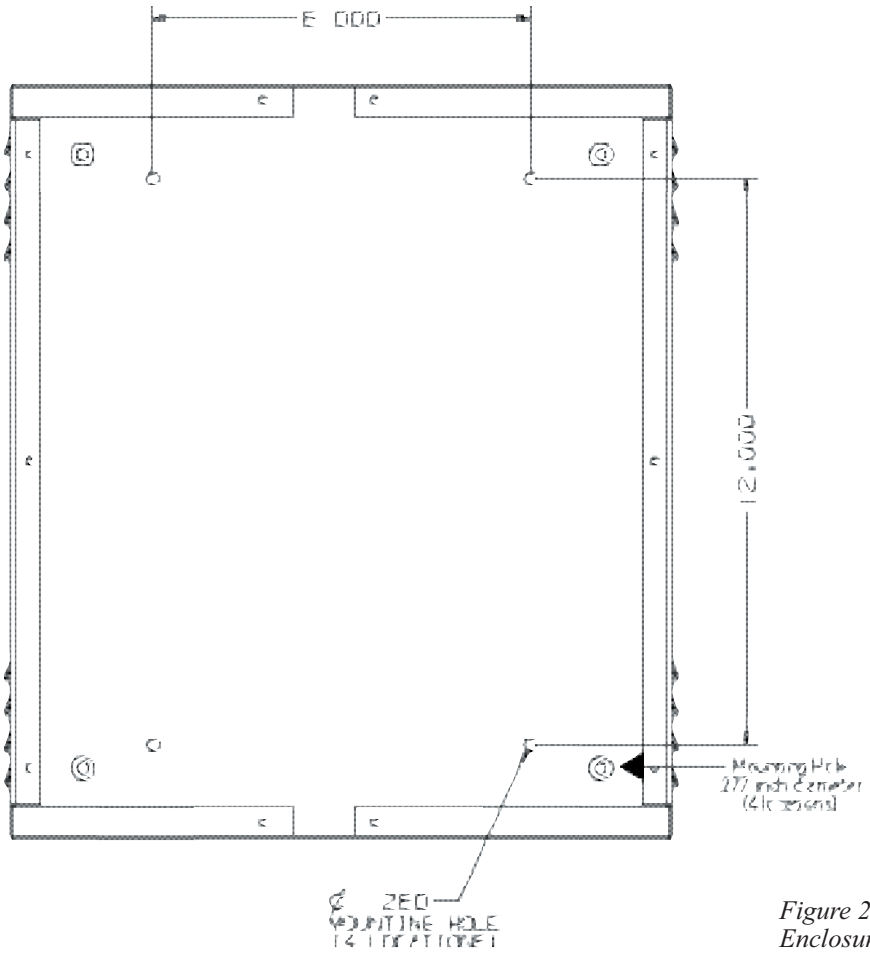

Figure 2:
Enclosure Mounting Hole Locations

Caution: Due to its weight, it is essential that the Link Power Module be securely mounted to structural elements such as the wall studs or a secure mounting frame. Failure to do so could result in personal injury and/or damage.

Visually inspect enclosure and clean out any dust and/or metal cuttings as necessary. Likewise, visually inspect Link Power Module's interior assembly for any dust or foreign materials. Clean as necessary. Failure to do so may result in damage to the unit and void its warranty.

Insert the interior assembly into enclosure and install on mounting bolts. Secure with mounting bolts as shown in Figure 1.

Connecting Power Supply and Communication Network
Attach the power supply cable harness to the power supply leads with wire nuts as shown in Figure 1. Connect the power supply ground to the ground lug as shown in Figure 1 and tightening ground lug screw. Check that power supply cable harness is securely attached to the power supply board as shown in Figure 1.

Route communication network cables to the appropriate contacts on terminal block connector as shown in Figure 1 and secure by tightening terminal block screws. If using a repeater in conjunction with a multiple network system, connect the leads from the other network segment to the appropriate contacts on the terminal block connector as shown in Figure 1 and secure by tightening the terminal block screws.

Apply power to the Link Power Module and verify that both the power supply and network status indicator lights turn on (see Figure 1).

Reinstall cover plates on Link Power Module routing network leads through the opening provided to avoid pinching the network leads. Secure cover with screws.

Troubleshooting
In the event of a problem with the Link Power Module's operation, use the procedures below to identify and correct the issue.

<u>Link Power Module Does Not Power-up, Status Light Does Not Turn On</u>

1. Turn panel power off at the circuit breaker.
2. Step through the Connecting Power Supply and Communication Network procedure above and verify that the line voltage (including ground) is connected to the appropriate leads of the power supply cable harness.
3. Verify that the power supply cable harness is properly attached to the power supply as shown in Figure 1.
4. Verify that the power supply cable harness ground is properly terminated to the Link Power Module's back plate as shown in Figure 1.
5. Restore power at the circuit breaker and verify that the Link Power Module power supply and network status indicator lights are now on.

Network Does Not Power-up

1. Verify that the network leads are properly attached to the terminal block connector and that no grounding to the Link Power Module's back plate (grounded) has occurred.
2. Verify that the network harness is properly connected to the interface module.
3. If using a loop topology, verify that network terminations at each device on the network have not been crossed; thereby producing a short in the network.

Portion of Network Does Not Power Up

1. Verify that all devices on the network are properly connected.
2. Verify that all network leads are interconnected properly with no disconnects.

Tablet Indicates "Duplicate Node Address Detected" While Programming Panel(s)

Two or more devices of the same device type (Panel, Switch Station, etc.) have the same network address. To correct this condition:

1. Review the device address settings for each device on the network and identify those devices of the same device type with the same address.
2. Change device address(es) as necessary so that each has a unique network address.

Devices on Secondary Network Segment are not Visible/Communicating

1. Verify that the leads from the secondary network segment are properly attached to the terminal block connector and that no grounding to the Link Power Module's back plate (grounded) has occurred.
2. Examine the condition of the secondary network segment's Link Power Module. Step though applicable troubleshooting steps on the secondary Link Power Module as necessary.

Notice: If, after stepping through applicable troubleshooting procedures described above, problem still persists or a defective condition is identified, contact factory Technical Support at (512) 450-1100 or (888) 698-3242 for further assistance.

Link Power Module Specifications

Overall Dimensions:	Enclosure Dimensions	16" x 14" x 4"	(Width x Height x Depth)
	Mounting Hole Dimensions	8" x 12"	(Width x Height)
Supply Voltage:		90-264 VAC	
Operating Environment:	Operating Temperature	0 to 50°C	
	Relative Humidity	10 to 90%, non-condensing	
Agency Approval		UL and cUL (Tested in accordance with UL 508)	

HUBBELL Building Automation, Inc.

Hubbell Building Automation, Inc.
9601 Dessau Road • Building One • Suite 100 • Austin, Texas 78754
512-450-1100 • 512-450-1215 Fax
www.hubbell-automation.com