OVERVIEW

Traditionally, network managed power systems have required one network connection and IP address for each enclosure being monitored. Previously, with the NLX, an installer was able to monitor multiple enclosures via an RS485 buss (up to 24 total monitored LSP modules) with a single network drop.

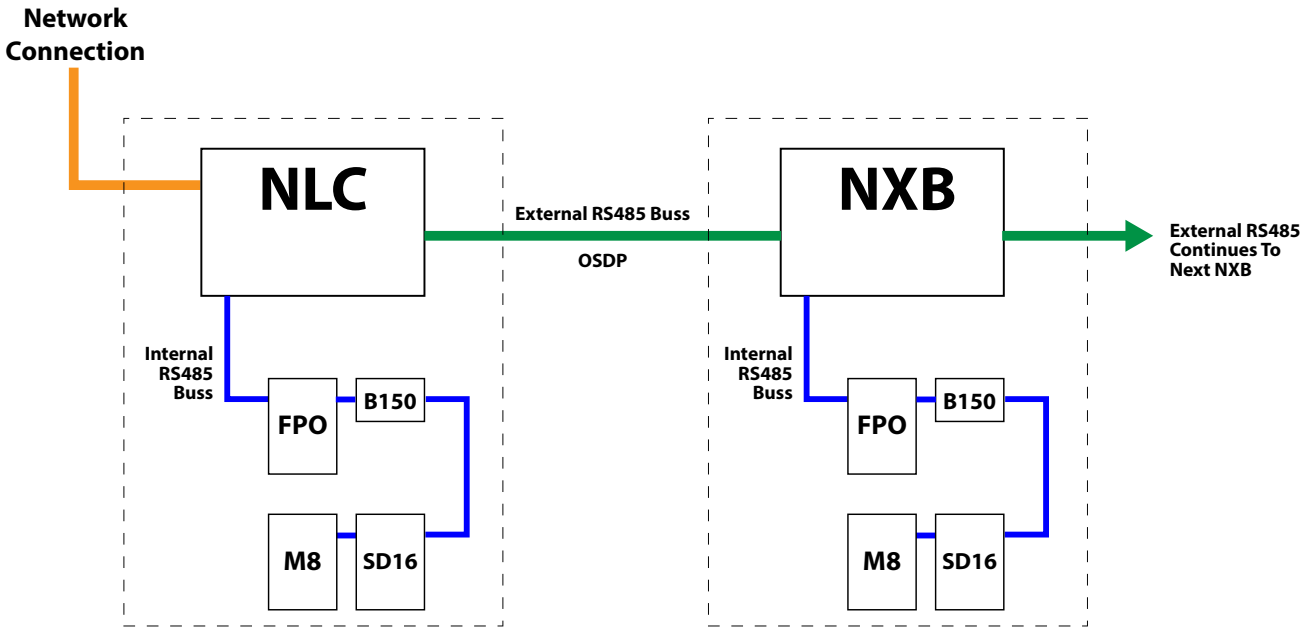
Now, LifeSafety Power (LSP) managed systems using the NetLink Connect (NLC) network management board with one or more NXB expansion boards are capable of monitoring up to 64 LSP devices, greatly reducing the number of network drops needed in an installation while also reducing the cost per door.

Installations using the NLC and NXB can securely monitor multiple power systems of 192 or more doors* from a single network drop.

**Based on typical 16 door systems containing two FPO power supplies, two M8 lock control modules, and one SD16 auxiliary output module.*

WHAT IS DISTRIBUTED POWER MONITORING?

Distributed Power Monitoring (DPM) allows network management of multple LSP devices across many locations up to 2000 feet (609 meters) away. A single network connection is only needed at the base NLC module. This NLC module can monitor up to 32 devices locally. The NLC can also securely monitor up to 31 NXB expansion modules via OSDB RS485 - with each NXB module able to monitor up to 32 local devices. NXB modules do not require network connections.



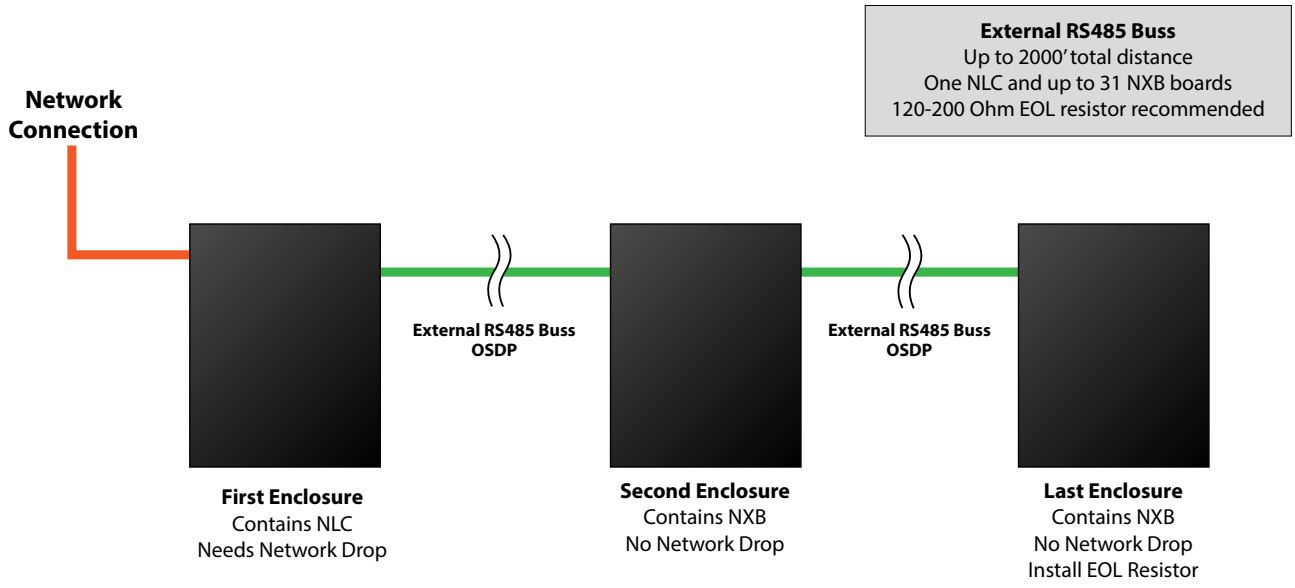
Using distributed power monitoring allows expansion of a networked system to up to 64 LSP managed modules, such as FPO power supplies, M8 managed lock boards, SD4 or SD16 managed auxiliary boards, or B150 voltage conversion modules.

The total length of the external RS485 connection should not exceed 2000 feet. The external RS485 buss uses secure OSDP communication.

ABOUT THE NLC EXTERNAL RS485 CONNECTION

The NLC uses an External RS485 connection to communicate with NXB expansion modules via daisy-chaining. This connection must use a shielded, twisted pair cable suitable for RS485 data communications. Data on the External RS485 buss is OSDB encoded to provide greater security between enclosures.

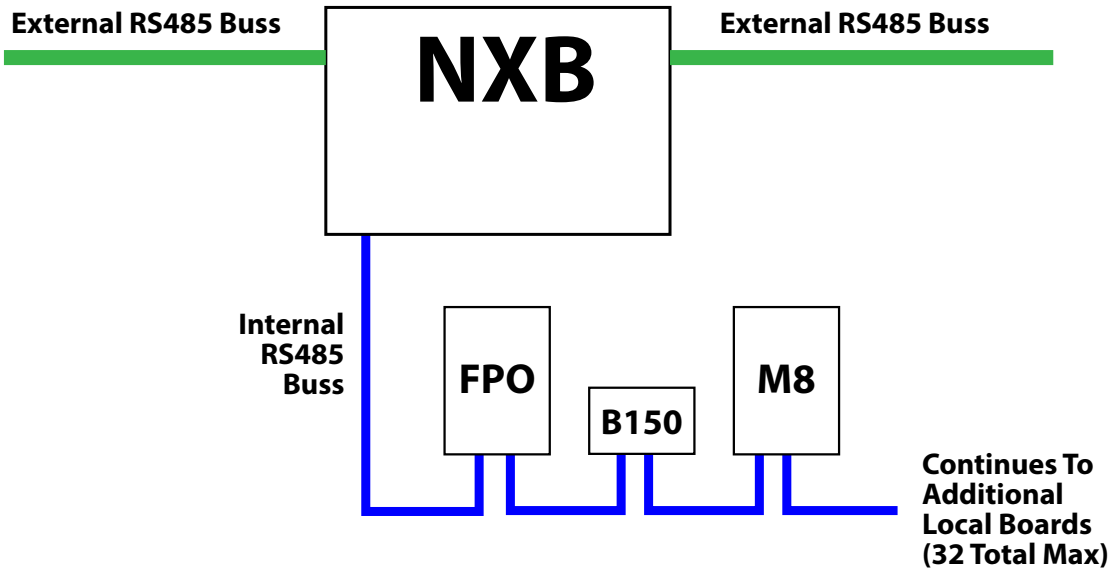
The maximum length of the external RS485 buss is 2000 feet. For best results, an end of line resistor between 120 and 200 ohms should be placed on the last NXB device in the chain.



ABOUT THE NLC INTERNAL RS485 CONNECTION

Each NLC and each NXB uses a separate Internal RS485 buss to communicate with the power supplies and managed accessory boards within that enclosure. The Internal RS485 buss daisy-chains from the NLC or NXB to each module's RS485 input. Some LSP modules have an on-board RS485 input, while others require an RSMOD board to be added to add the RS485 connection. Consult with the manual for the module(s) being installed for details on the RS485 connection.

If the system was bought preassembled from LifeSafety Power, the Internal RS485 Buss will be prewired from the factory.



DESIGNING A DISTRIBUTED POWER MONITORING APPLICATION USING NETLINK CONNECT

When designing power enclosures for a DPM application using the NLC and NXB modules, the first enclosure will contain the NLC module and the power system required for that location. All of the devices within this enclosure are connected to the Internal RS485 connection of the NLC. Up to 32 local devices may be connected to the NLC.

Additional enclosures can be designed with NXB modules in place of NLCs. The NXB does not need a network connection and communicates to the host NLC via OSDP through the External RS485 buss. Each NXB may have up to 32 devices connected to its Internal RS485 buss. Note that the total number of LSP modules allowed across all NLC and NXB boards is 64.

Example 1 - Standard Power System

In this example, the lock power system for an existing access control panel in a four floor building is being replaced with a managed power system. The first floor has 32 controlled openings and the other three floors have 24 each. Each door is specified at 0.5A for a total of 16A for the first floor and 12A for floors 2-4.

First Floor

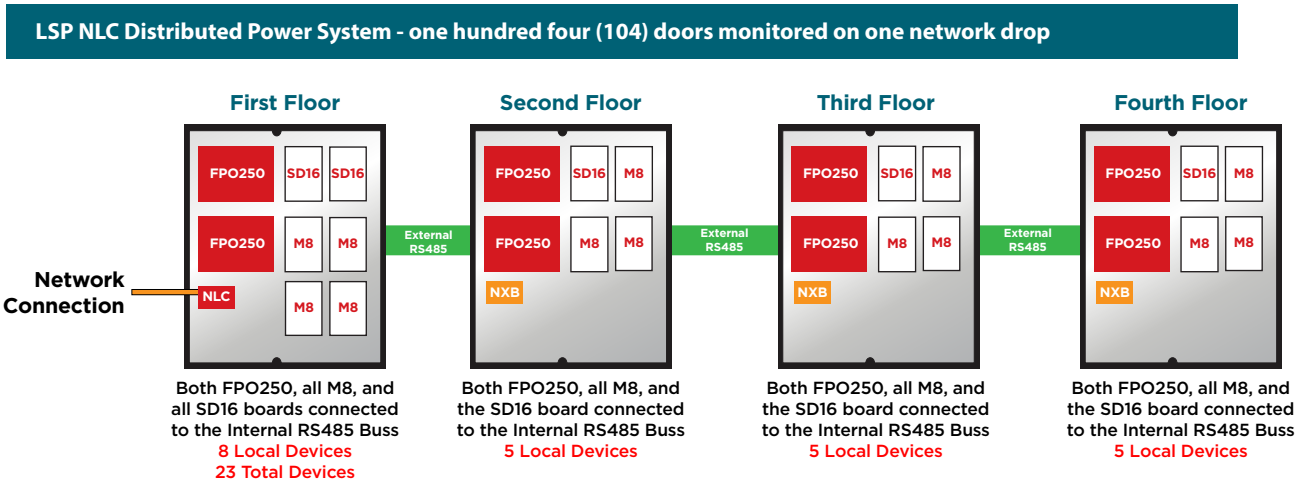
The first floor power system will include two FPO250 boards, four M8, and two SD16 modules. This enclosure will include the NLC for the power system. The model number would be FPO250/250-4M8NLC2SD16E4. The FPO250, M8, and SD16 boards in this enclosure will all connect to the NLC via the NLC's Internal RS485 port.

Second, Third, and Fourth Floors

The power systems for the remaining floors will include two FPO250 boards, three M8, and two SD16 modules. These enclosures will use an NXB for monitoring, so the model number for these floors would be FPO250/250-3M8NXB2SD16E4. The FPO250, M8, and SD16 boards in these enclosures will all connect to the NXB via the NXB's Internal RS485 port.

Interconnecting the Floors

The External RS485 port on the NLC will connect to the External RS485 port of the NXB on floor two using a shielded, two conductor twisted pair cable. The External RS485 buss will continue from the Floor 2 system to the Floor 3 system, then to the fourth floor system. On the fourth floor NXB, a 120-200 ohm end of line resistor will be placed on the extra External RS485 terminals.



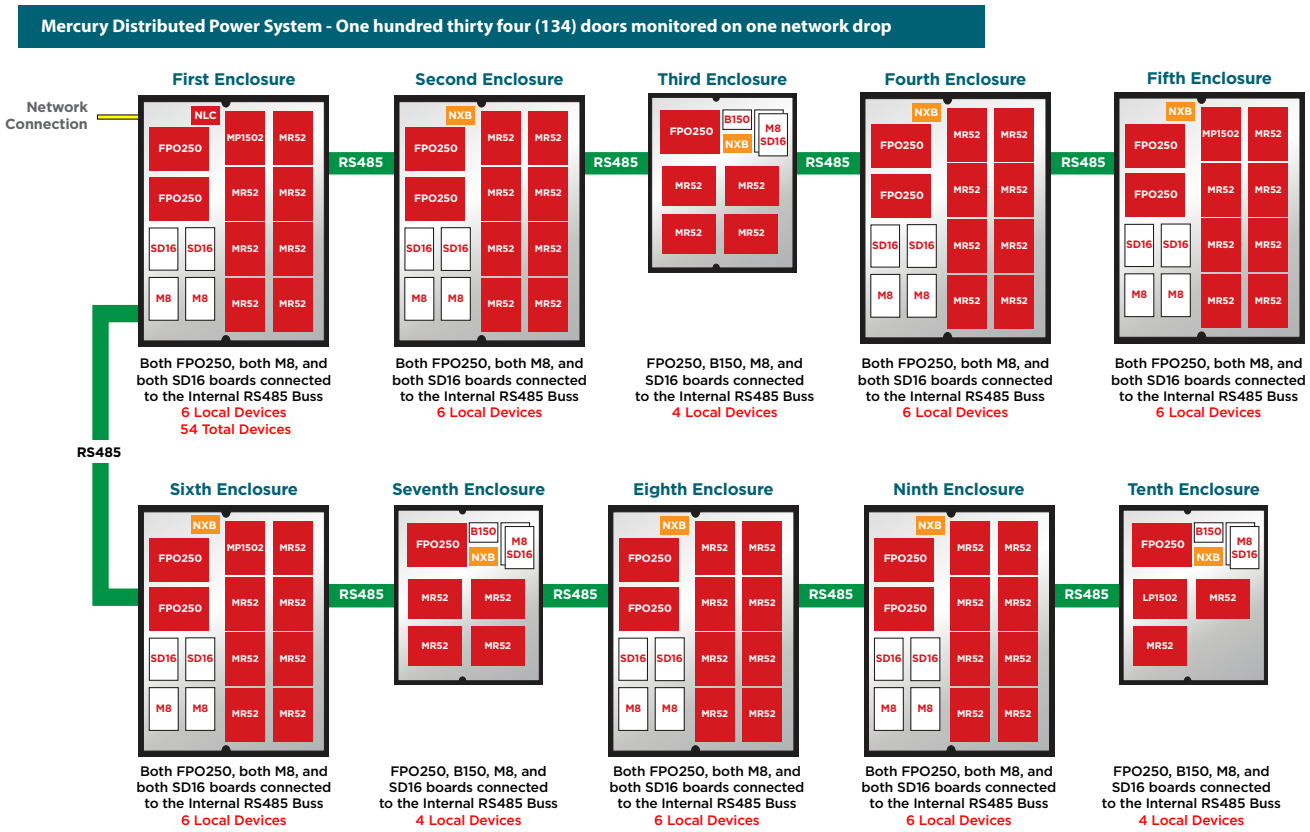
With this configuration, the entire building (a total of 104 doors) is able to be remotely managed from a single network connection.

Example 2 - Unified Power System

This example is for a large manufacturing facility with 134 protected doors, using Mercury-based controllers. Each door is specified at 0.250A. Due to the layout of the building, multiple 8 and 16 door enclosures will be distributed throughout the building from two branches of External RS485 originating from the NLC.

System Construction

As in the first example, the first enclosure will include an NLC module and several other enclosures with NXB modules will connect to it through the External RS485. This example uses one NLC and nine NXB modules monitoring a total of 54 LSP modules.



This configuration monitors a total of 134 doors (with the ability to expand to two more doors) from a single network connection.

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