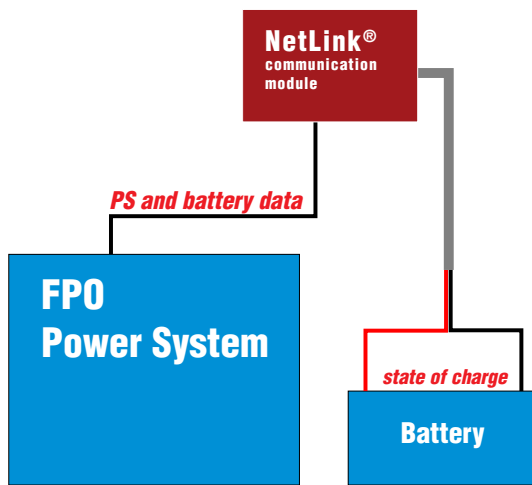


OVERVIEW

NETLINK® is LifeSafety Power's patented power management system for security and life safety applications. Typical data gathered and reported includes operational fault status, power supply output voltage, battery charging voltage, battery charging current, and fire alarm input status. Adding a smart distribution module adds *monitored and controlled power distribution*.

This document will discuss the various levels of network management available with LifeSafety Power products.

MONITORING POWER SYSTEM / BATTERY SET



Pairing an FPO power supply with a NetLink communication module enables remote monitoring and reporting of the power system and battery set.

Power Management

Power System Parameters

- ◆ Power supply voltage
- ◆ AC and system fault count
- ◆ System install date

Power System Status Alerts

- ◆ System fault and AC fault
- ◆ Fire Alarm or tamper switch activation
- ◆ IDF closet temperature out of range

Power System Data Recording

- ◆ 1000 time and date stamped events
- ◆ Exportable CSV file for critical fault data or full historical log

Events alerts via Email or SNMP (Text Notification possible - see App Note AN23)

- ◆ All system fault or status changes
- ◆ Battery runtime status

Battery Management

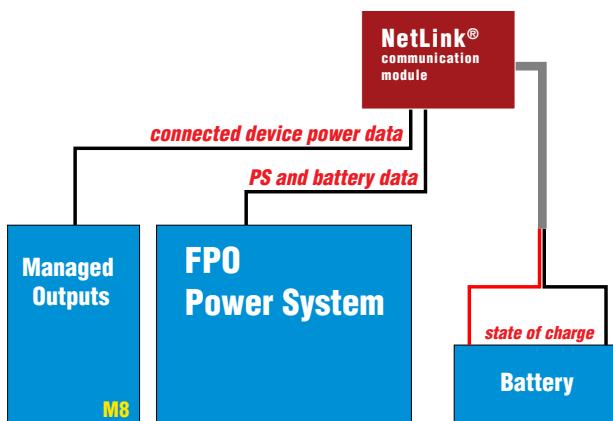
Battery Status Parameters

- ◆ Battery current / voltage
- ◆ Battery charge state: low, medium, full
- ◆ Battery service hours and service due alert

Battery Test Status Alerts

- ◆ Required battery runtime
- ◆ Actual battery runtime

MONITORING POWER SYSTEM / DISTRIBUTED OUTPUTS / BATTERY SET



Pairing an FPO power supply with a NetLink and M8 managed distribution module(s) enables remote monitoring and reporting of the power system, battery set and managed distributed outputs.

Lock Management

Detect Failing Locks

- ◆ Set high and low current and voltage limits to detect impending lock failure or other problems

Lock Output Power Cycling

- ◆ Remotely power cycle outputs to reset frozen devices
- ◆ Manually override lock outputs remotely

FAI and AC Fail Egress

- ◆ Program doors to unlock on fire alarm activation, whether fail safe or fail secure
- ◆ Program doors to unlock on AC voltage loss

Output Management

Output Voltage and Current

- ◆ View output voltages in real time
- ◆ View output currents in real time

Output Programming & Status

- ◆ Output programming through GUI
- ◆ View output fault status
- ◆ View power availability
- ◆ View number of activations for each output

POWER ENTERPRISE MANAGEMENT - NETLINK WITH MSM ENTERPRISE SOFTWARE

MSM-Enterprise software adds additional functionality to an LSP network connected power system:

Enterprise Management

Site Aggregation

- ◆ Overview of all systems within the Enterprise
- ◆ View Fault and FAI Status for each System
- ◆ Access each Netlink within the Enterprise from a single interface

Batch Firmware Updating

- ◆ View NetLink firmware revision
- ◆ Batch Updating of all connected NetLink modules saves hours of manual updating in larger installations



Data Analytics

Critical Events List

- ◆ Allows the user to quickly determine system health
- ◆ Hyperlinked Time & Date Stamps for easy navigation

Data History Dashboard View

- ◆ Allows viewing snapshots of system history across the NetLink's 1000 stored data points
- ◆ Clearly formatted and color coded data

Graphs, Statistics, and Reports

- ◆ Chart data points individually or combine to spot trends and help pinpoint problems
- ◆ System statistics, including minimum, maximum, and average values for various parameters
- ◆ Printable PDF reports

CYBERSECURITY WHEN USING NETLINK

LifeSafety Power's NetLink modules have been data-hardened and run through multiple test regiments by Third Party testing laboratories. In addition LSP is continuously improving cybersecurity to keep up with current threats.

Enhanced CyberSecurity Protection

- ◆ User logins to Netlink modules are logged
- ◆ Multi-level user accounts (Guest, Manager, Admin)
- ◆ Multi-level passwords:
 - Salted hashed password
 - Password supports special characters
 - Repeated wrong password with programmable lockout duration
 - Minimum password length and complexity requirement
- ◆ Cross-Site Request Forgery (CSRF) protection with random token
- ◆ Use TLS 1.2 protocol and new cipher suites
- ◆ Support pkcs12 CA certificate download
- ◆ Certificate logging
- ◆ Upgraded to latest Apache web server
- ◆ User option to put in latest ciphersuite for Apache SSL/TLS configure file
- ◆ Protection against DoS or DDoS attack or brute force attack
- ◆ Rules added to iptables filter input chains to prevent syn-flood, DDoS, CC attack
- ◆ Updated kernel to 3.1.0 and merged the net-firewall/connlimit package to be compatible with iptables "connlimit" function
- ◆ HTTPS ONLY mode disables non-SSL access
- ◆ Closed all unused ports
- ◆ SNMP version 1 & 2 for legacy, and version 3 for security
- ◆ Email encryption option
- ◆ Protection against Clickjacking

LifeSafety Power

10027 S. 51st Street, Suite 102
 Phoenix, AZ 85044 USA
 Tel 888-577-2898
 info1@lifesafetypower.com

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