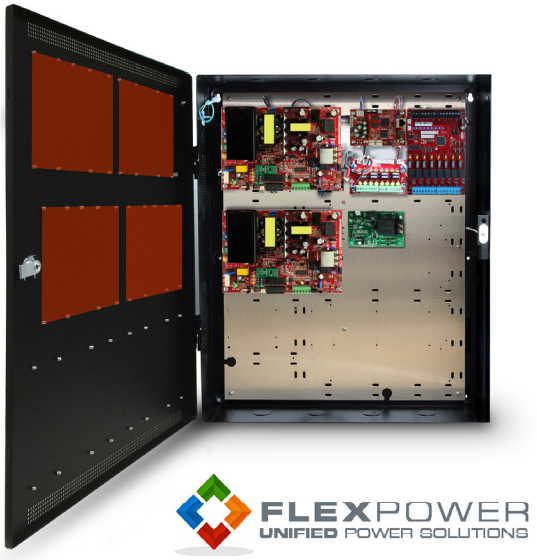
Overview

LifeSafety Power Helix series is a highly integrated redundant DC power system offering maximum protection and uptime for Mercury controllers. Unified Helix systems combine system power, lock power, and Mercury access hardware in one compact and secure UL listed solution. Systems are available in either standard or network managed.

DC Helix technology provides redundant 24VDC power to the secondary 12V supply and other accessory modules. In the event of failure of the primary 24VDC supply, the Helix module automatically transfers the system to the secondary 24VDC supply.

Enclosures are painted steel with removable backplate and include lock, two (2) keys and tamper switch.



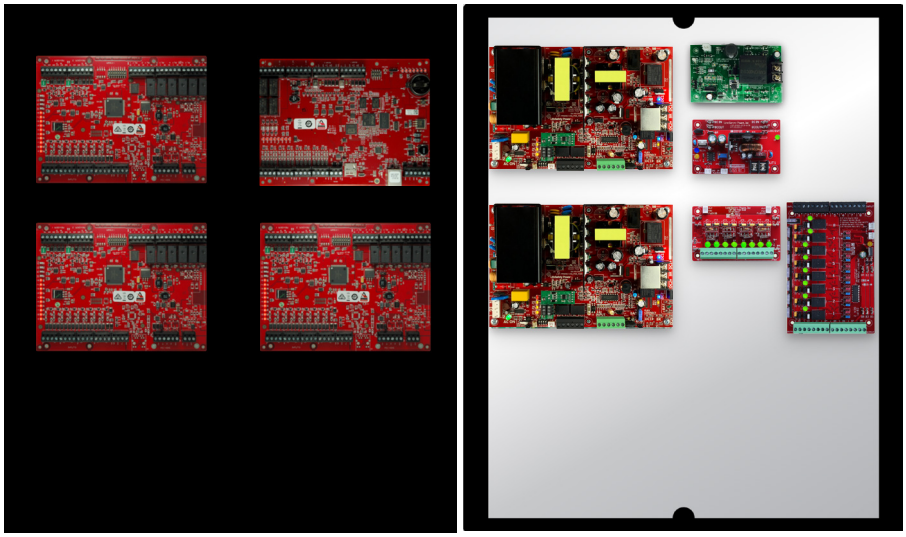
Features | Benefits

- Dual voltage, 4A @12VDC and redundant 8A @ 24VDC
- Automatic transfer to backup 24VDC supply on primary supply failure
- Intelligent battery charger - protects battery
- Low voltage battery cutoff - prevents deep discharge
- Integrated fire alarm disconnect on a per output basis
- Each distributed output selectable for 12 or 24VDC
- Managed model capabilities
  - Monitor power supplies and battery performance
  - Monitor AC line input voltage for anomolies
  - Monitor voltage and current of lock devices, reports pending lock failure
  - Remotely power cycle individual lock outputs
  - Perform remote servicing, auto-schedule battery load tests
- UL | BIS Listing
- Lifetime Warranty

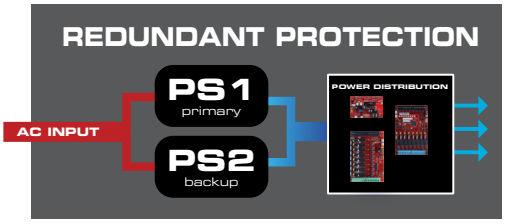
RoHS compliant

Model No.	Type	Outputs
HLX-8DR-E4M1	Standard	8 Aux / 8 control
HLX-8DRN-E4M1	Managed	8 Aux / 8 managed
AH2-E5	AC Helix Redundant AC add-on	

Mercury controller layout



Power Configuration

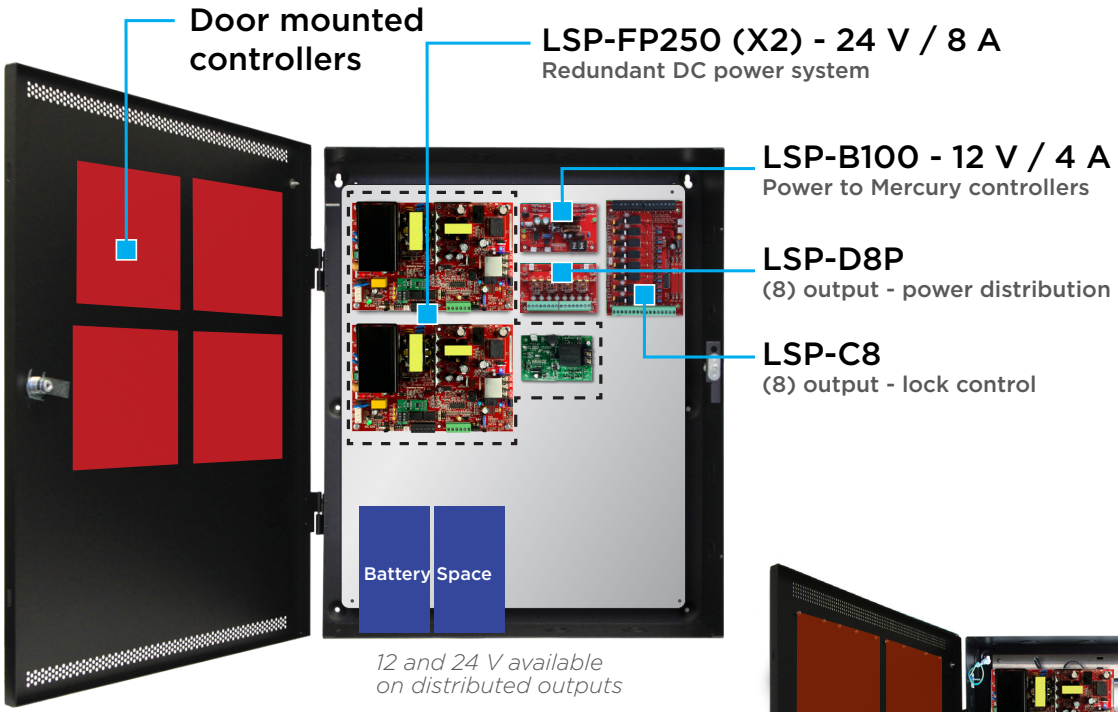


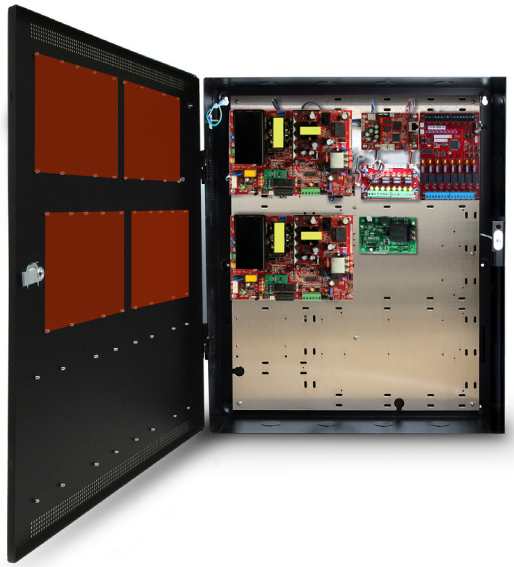
DC Helix technology provides redundancy for the main 24VDC power.

In the event of failure of the primary supply, the Helix module automatically transfers the system to the secondary supply without interruption.

Specifications

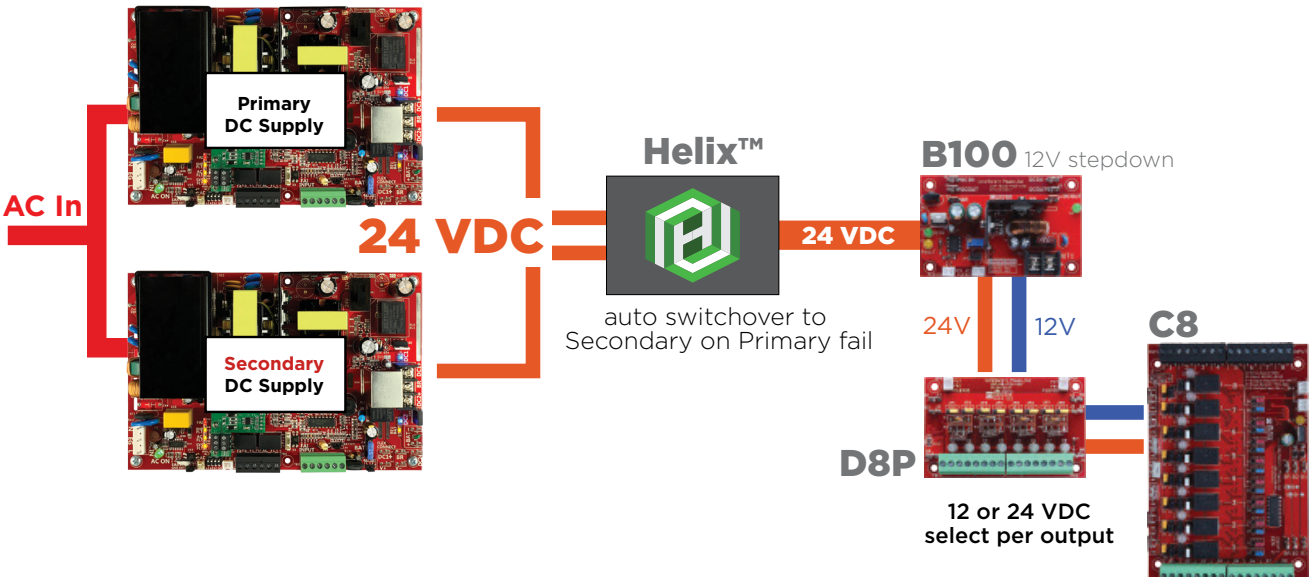
Input Power	Input 120/230 VAC 50/60 Hz | 282 Watts (2.35 Amps) Overload and short circuit protection | Over temperature protection | Polarized AC power supply disconnect
Output Power	4A @ 12V and 8A @ 24V DC 250 W maximum combined power | Helix Redundant 24VDC Power Continuous duty cycle - no derating | 120 mV output voltage ripple | System efficiency 87% | BTU Rating 109
Battery Charging	Microprocessor dual rate charger with integrated low battery cutoff 2A charge rate for sealed lead acid or gel type batteries | Charges up to 80 Ah battery sets within UL limit | SLA or LFP Automatic switchover to standby battery when AC fails | Zero voltage dropout when switched over to battery backup
Power Distribution	Standard systems: (D8P) 8Auxiliary outputs, class II power limited at 2.5 A each (C8) 8 relay lock control outputs, fused at 3 A each Managed systems: (M8) 8 relay managed outputs, fused at 3 A each
Supervision	AC Fail (form "C" contacts) | System fail (form "C" contacts) may be triggered by: low/no battery, power supply failure, blown fuse Helix module provides audible alert on failure of primary supply
LED Visual Indicators	AC input, main DC output, system faults, fire alarm activation D8P / C8 / M8: Bicolor DC output: blue (if 24V) / green (if 12V) DC-HLX: Output, Fault
Enclosure Mechanical	E4M1: 24H x 20W x 6.5D" | Weight: 30 lbs | (4) controllers fit on door | lockset and tamper switch included
Regulatory Compliance	UL, UKCA, BIS, FCC Part 15, Subpart B





Redundant Power Architecture

Helix technology provides redundant 24VDC power to the secondary 12V supply and other accessory modules. In the event of failure of the primary 24VDC supply, the Helix module automatically transfers the system to the secondary 24VDC supply.



Mercury 8 Door redundant systems provide redundant 24VDC power to the B100, which supplies 12VDC.
Both voltages are passed to the D8P and C8 (M8 in managed models).
Add AH2-E5 for redundant AC inputs (separate enclosure)

Notes on HELIX Limitations

Due to the nature of this product and its intended applications, the limitations and conditions of installation of the Helix power supply must be fully understood by the system planner & installer. Please thoroughly read the HELIX installation manual and understand the following sections before using the Helix power supply.

Redundancy

The Helix line of power supplies adds a layer of redundancy over the typical FPO power supply. Only the FPO power supply is redundant - the B100 and any distribution in the system are not redundant. Also, the Helix cannot overcome any problems in the field wiring or load devices - if a short circuit shuts down the main supply, the backup supply will also be shut down by this short circuit.

Primary AC Connection

Both FPO power supplies must be powered from the same AC branch circuit. Powering the two internal FPO power supplies from different branch circuits could lead to possible improper operation and loss of output voltage.

Backup Battery

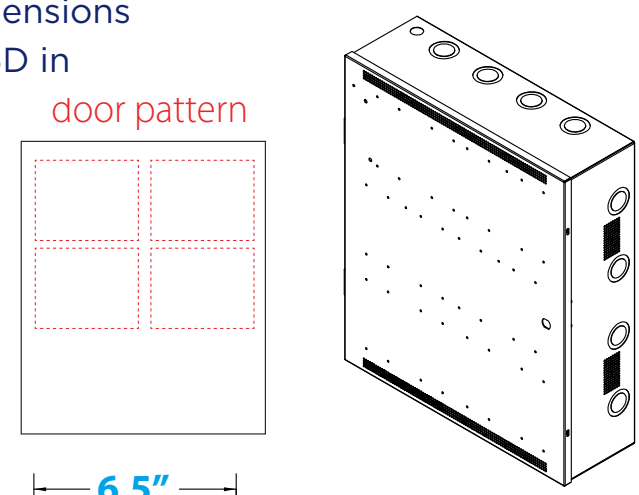
FPO2 must have battery backup connected for proper operation. A battery should not be connected to FPO1 - this is to prevent cycling between FPO1 and FPO2 during battery discharge on loss of AC.

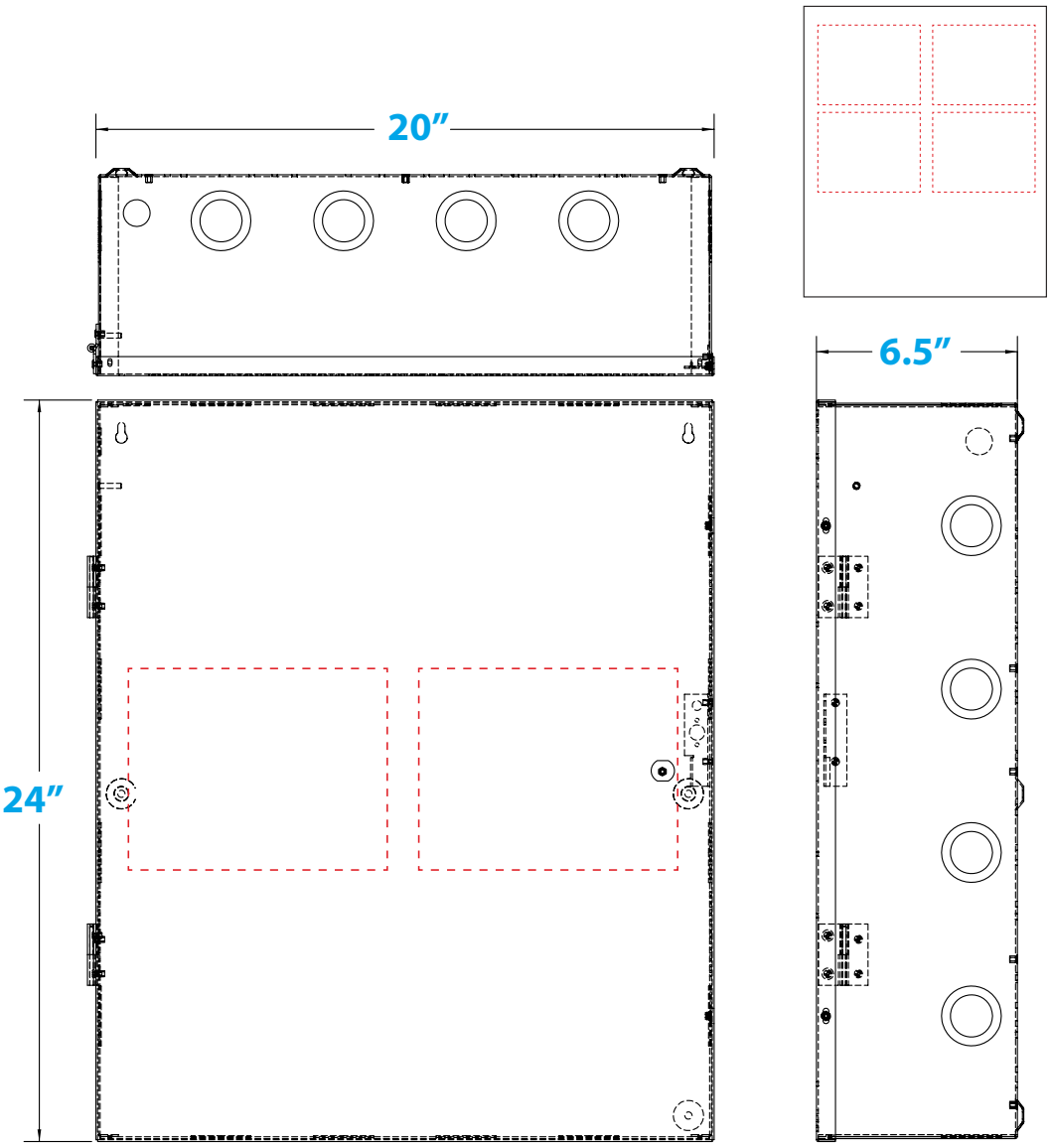
Fault Contacts

The fault contacts of BOTH FPO power supplies must be monitored to annunciate failure of either power supply. The fault contacts may either be monitored separately or series/paralleled as needed for a common fault indication. Use of a Netlink network monitoring module is also highly recommended.

Mechanical Specification

E4M1 Enclosure Dimensions
24H x 20W x 6.5D in





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Specifications subject to change without notice.

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