LifeSafety Power®

FLEXPOWER®
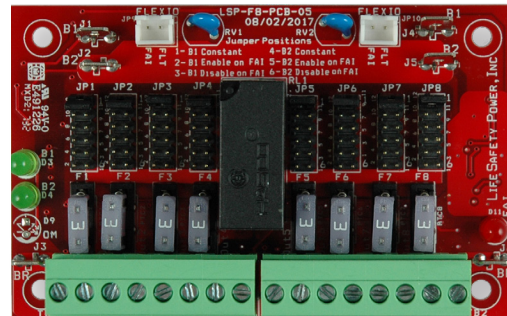
Description

The F8 FAI controlled distribution accessory provides eight zones of fused or PTC-protected power distribution with FAI control. The F8 accepts one or two DC power inputs, either of which are available on any output zone. Each output is also selectable for continuous output, enable on FAI, or disable on FAI. The suffix "P" added to the model number denotes Class 2 Power limited outputs.

Specifications

Input (per Buss)	Voltage	12 or 24VDC nominal
	Current	20A maximum
	Standby Current	75mA maximum
Output (per Zone)	Voltage	Same as input
	Current (F8)	3A
	Current (F8P)	2.5A (Class 2 Power Ltd)
	⚠ Note that the total current draw from any buss must not exceed the capability of the power supply powering that buss.	
Fuse (F8)	3A ATM automotive style	
Size	F8/F8P	4.00" x 2.50" x 1.25" (102mm x 64mm x 32 mm)
Weight	F8/F8P	0.20lb (0.09kg)

Regulatory Information

The equipment discussed within this manual has been tested to the following standards:
- UL294, UL603, UL1076
- ULC S318, ULC S319, CSA C22.2 #205

## Mounting the F8 Power Distribution Module

Mounting of the board to an enclosure is via the four snap-in standoffs supplied.

1. Locate the appropriate mounting holes in the enclosure and snap the standoffs into the holes.

2. Align the board mounting holes with the standoffs (be sure the PC board is properly oriented) and snap the board onto the standoffs.
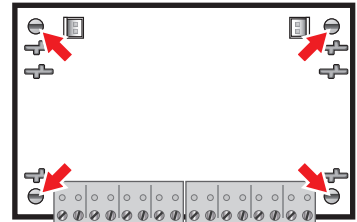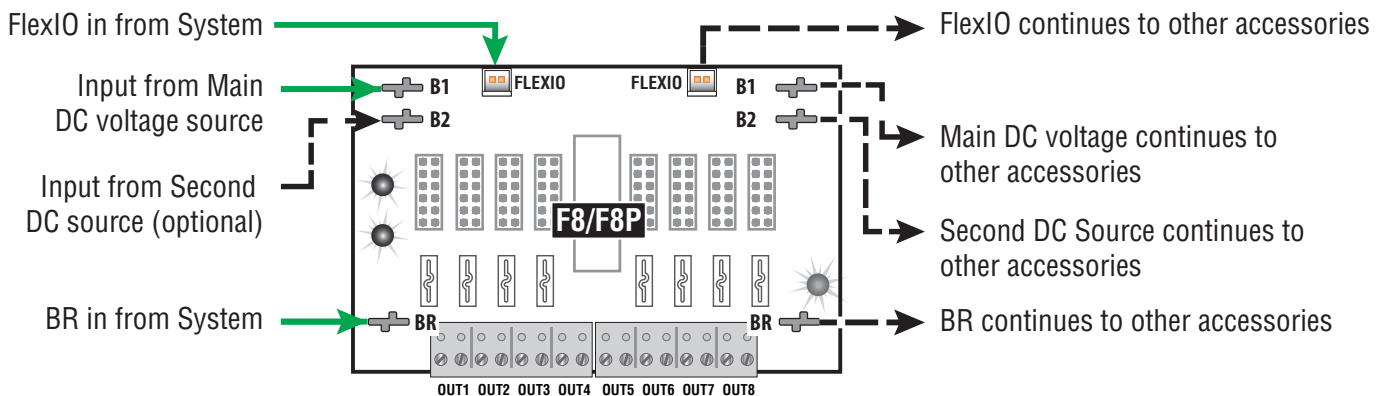
Connecting the Power Distribution Module

⚠ *Remove all AC and battery power from the FPO system before adding or replacing an F8 module.*
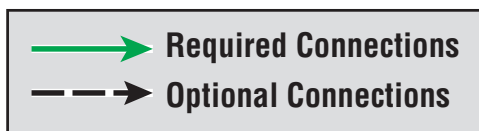
Each of the **B1, B2, BR,** and **FlexIO busses** has *two connectors*. These connectors may be used interchangeably.

For example: **FlexIO** from the power supply may be connected to either of the F8's FlexIO connectors, the Main DC voltage source may connect to either B1 terminal, etc.

→ **Required Connections**
- -→ **Optional Connections**

FlexIO in from System

Input from Main DC voltage source

Input from Second DC source (optional)

BR in from System

FlexIO continues to other accessories

Main DC voltage continues to other accessories

Second DC Source continues to other accessories

BR continues to other accessories

OUT1 OUT2 OUT3 OUT4 OUT5 OUT6 OUT7 OUT8

⚠ **For UL Compliance** Any locking device shall be configured for fail-safe operation upon occurrence of an alarm
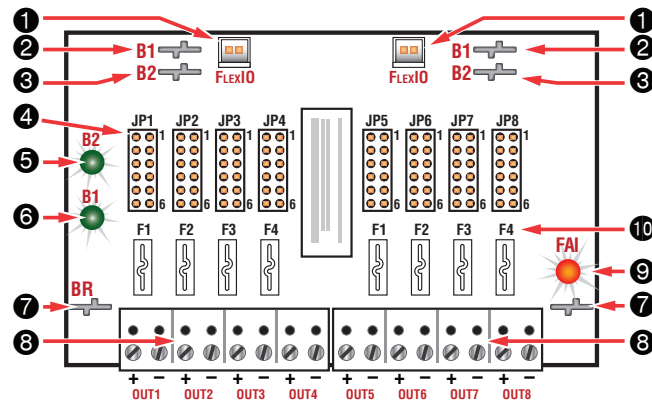
❶ FlexIO Connectors

These connectors pass the FAI and Fault signals to and from the F8 board and pass the FlexIO buss on to other accessory boards in the system.

❷ B1 Connectors (J1 & J4)

These fastons are for connection to the B1 voltage buss in the system. The voltage on the B1 buss comes from the DC1 faston of an FPO power supply. This voltage will be directed to any output whose Output Selection Jumper is set in one of the B1 positions.

❸ B2 Connectors (J3 & J5)

These fastons are for connection to the B2 voltage buss in the system.

The voltage on the B2 buss comes from the DC1 faston of an FPO power supply or the DC OUT faston of a B100 secondary power supply in a dual voltage system. This voltage will be directed to any output whose Output Selection Jumper is set in one of the B2 positions. If the F8 is being used in a single voltage system, these fastons can be left unused.

❹ Output Selection Jumpers (JP1 – JP8)

These jumpers select which voltage buss input is selected for the output and the FAI operation for the zone. Jumper numbers correspond with the zone number (e.g. JP1 is the jumper for OUT1). Possible settings are as follows:

- Pos. 1 (Top)   Constant output of B1 voltage
- Pos. 2   B1 voltage Enables on FAI
- Pos. 3   B1 voltage Disables on FAI
- Pos. 4   Constant output of B2 voltage
- Pos. 5   B2 voltage Enables on FAI
- Pos. 6 (Bot.)   B2 voltage Disables on FAI
- Removed   Disable Output

❺ B2 LED (D4) – Green/Blue

This LED indicates the availability of voltage on the B2 Buss. When voltage is available on the buss, the LED is lit. This LED is bi-color and indicates the input voltage for B2 as follows:

- **Green** – 12V Input
- **Blue** – 24V Input

⚠ NOTE LED colors are range based. Voltage Less than 13V will show Green. Voltage above 20V will show Blue. Voltage between 13 and 20 may show either voltage or a combination Green & Blue. Always verify voltage with a voltmeter.

Note: This LED will not light in a single voltage system - this is normal.

❻ B1 LED (D3) – Green/Blue

This LED indicates the availability of voltage on the B1 Buss. When voltage is available on the buss, the LED is lit. This LED is bi-color and indicates the input voltage for B2 as follows::

- **Green** – 12V Input
- **Blue** – 24V Input

⚠ NOTE LED colors are range based. Voltage Less than 13V will show Green. Voltage above 20V will show Blue. Voltage between 13 and 20 may show either voltage or a combination Green & Blue. Always verify voltage with a voltmeter.

❼ BR Connectors (J3 & J6)

The DC Common buss in the system. All boards in the DC system must have their BR fastons wired together for proper operation.

❽ Zone Outputs (Out1 – Out8)

These are the output terminal strips. These terminal strips are removable and accept wire sizes from AWG14 – AWG22. The terminals are labeled on the PC board underneath the terminal strip.

⚠ CAUTION When powering magnetic loads such as maglocks, door strikes, etc, each load must have a reverse protection diode either built-in or external to the device.

❾ FAI LED (D11) – Red

This LED indicates the receipt of an FAI input signal from the FPO power supply. When FAI is active, the LED is lit.

❿ Output Fuses (F1 – F8) – Optional

When using the fused version of the F8, these are the fuses for each zone output. Fuse numbers correspond with the zone number (e.g. F1 is the fuse for OUT1). When using the PTC version of the F8, the fuse will be replaced with a soldered-in PTC.
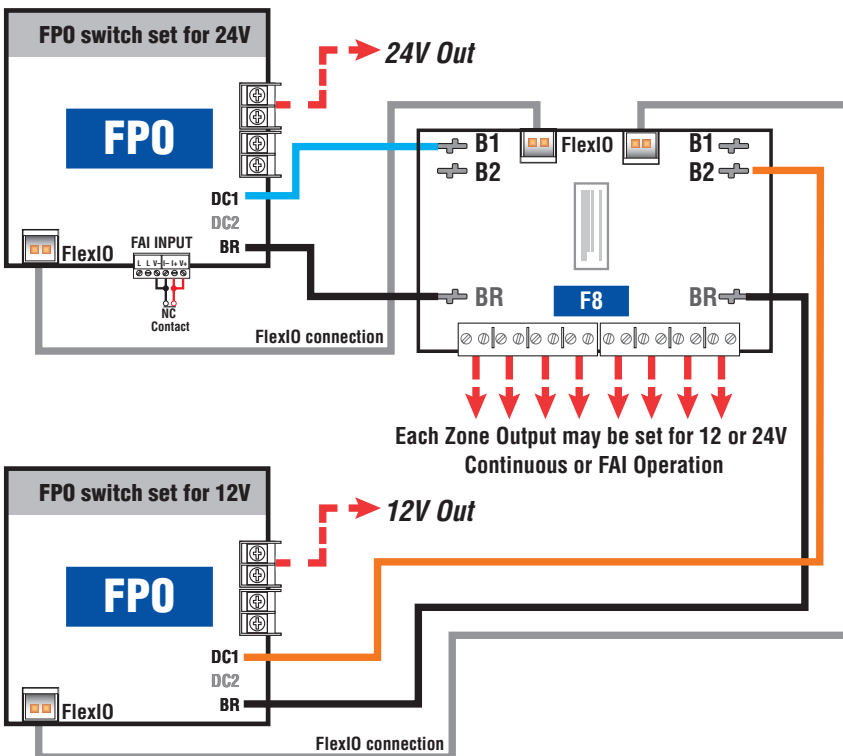
Single Voltage with Eight Zones of FAI Controllable Distribution

In this application, each Zone Output of the F8 may be set for 24V Continuous Output, 24V Enable on FAI, or 24V Disable on FAI. Since this is a single voltage system, only jumper Positions 1-3 are valid. FAI Control on the F8 is achieved by opening the NC Contact on the FPO's FAI Input.
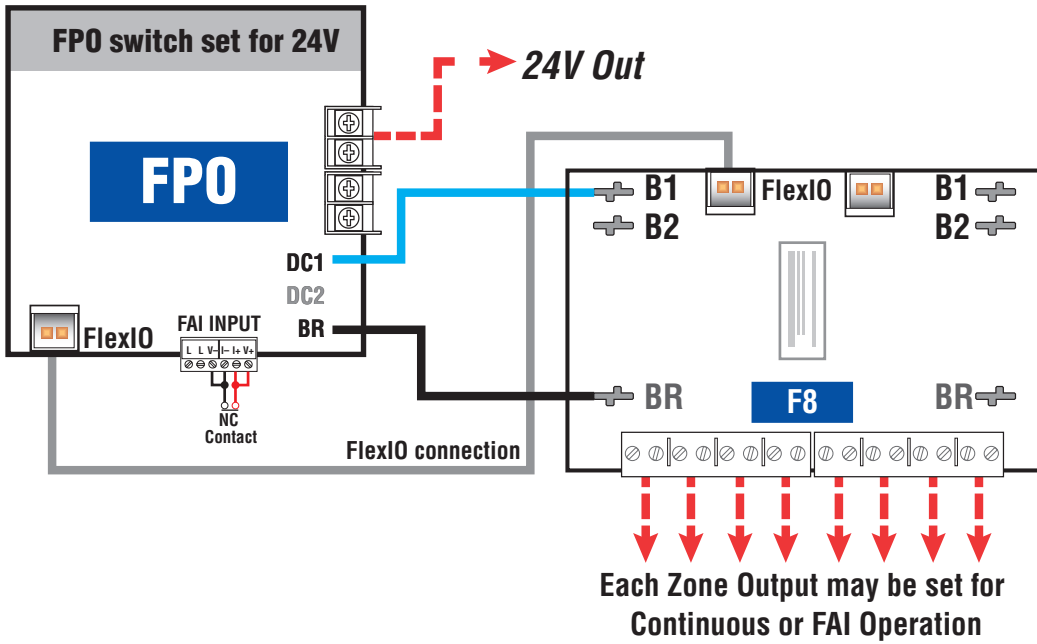
Dual Voltage using Two FPO's with Eight Zones of FAI Controllable Distribution

In this application, each Zone Output of the F8 may be set for 12V or 24V with a Continuous Output, Enable on FAI, or Disable on FAI. FAI Control on the F8 is achieved by opening the NC Contact on the FPO's FAI Input.

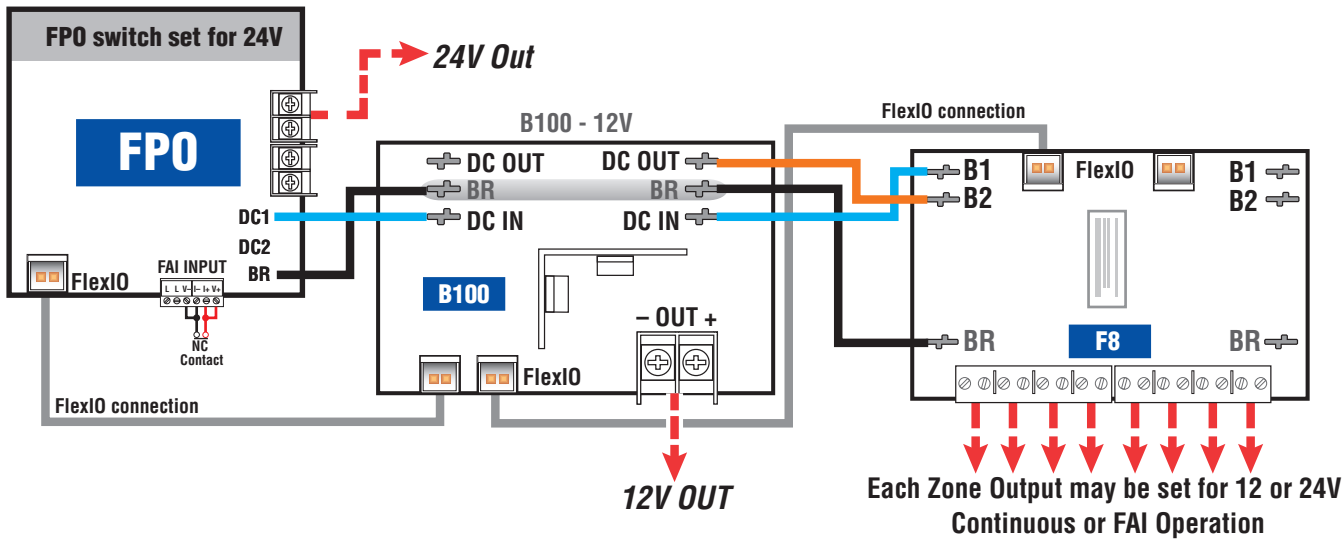## Dual Voltage using B100 with Eight Zones of FAI Controllable Distribution

In this application, each Zone Output of the F8 may be set for 12V or 24V with a Continuous Output, Enable on FAI, or Disable on FAI. FAI Control on the F8 is achieved by opening the NC Contact on the FPO's FAI Input.

FPO switch set for 24V

FPO

24V Out

FlexIO

FAI INPUT

L L V- I- I+ V+

NC
Contact

FlexIO connection

DC1

DC2

BR

B100 - 12V

DC OUT   DC OUT
BR   BR
DC IN   DC IN

B100

FlexIO

– OUT +

12V OUT

FlexIO connection

FlexIO connection

B1   FlexIO   B1
B2   B2

BR   **F8**   BR

**Each Zone Output may be set for 12 or 24V
Continuous or FAI Operation**

FlexPower System Replacement Parts

Board Kits	Order #	Description
FPO250	A01-007	FPO250 replacement board
FPO150	A01-005	FPO150 replacement board
FPO75	A01-003	FPO75 replacement board
B100	A03-009	DC-DC Converter (12VDC or adjustable 5 to 18VDC) replacement board
D8	A02-001	Simple distribution replacement board
D8P	A02-002	Simple distribution (Class 2) replacement board
F8	A02-003	FAI controlled distribution replacement board
F8P	A02-004	FAI controlled distribution (Class 2) replacement board
C4	A02-005	Four zone power control replacement board
C4P	A02-006	Four zone power control (Class 2) replacement board
C8	A02-007	Eight zone power control replacement board
C8P	A02-008	Eight zone power control (Class 2) replacement board
M8	A02-011	Eight zone managed power control replacement board
M8P	A02-012	Eight zone managed power control (Class 2) replacement board
N24	A04-001	Two Input, 4 Output NAC Expander accessory replacement board
NL2	A11-007	Two Port NetLink network communication board (used in FPO systems)
NL4	A11-004	Four Port NetLink network communication board (used in FPO systems)
NLR	A11-002	NetLink network communication kit / remote reset (used in FPA systems)
NS2	A11-003	Reset module board for use with NL2
RB2	A25-001	2A Relay, 12VDC or 24VDC input range, DP/DT
RB5	A25-002	5A Relay, 12VDC or 24VDC input range, DP/DT
RB8	A25-003	8A Relay, 12VDC or 24VDC input range, DP/DT

Hardware	Order #	Description
BDM	A05-006	Battery Disconnect Module cable
AC Cable	A05-005	AC Input Cable for FPO Power Supply
Battery Cable	A05-002	Battery Harness – 24"
Module Cable - 12"	A05-003	Accessory board cable set – 12"
Module Cable - 18"	A05-004	Accessory board cable set – 18"
Fuse - 3A	A05-201	ATM-3A Fuse – Bag of 25
Fuse - 5A	A05-202	ATM-5A Fuse – Bag of 25
Fuse - 7.5A	A05-203	ATM-7.5A Fuse – Bag of 25
Fuse - 10A	A05-204	ATM-10A Fuse – Bag of 25
Fuse - 15A	A05-205	ATM-15A Fuse – Bag of 25
Fuse - 30A	A05-206	ATM-30A Fuse – Bag of 25
Standoffs	A05-301	Nylon Standoffs – Bag of 25
Camlock Set	A05-302	Key and Lock fits LSP "E" enclosure

IMPORTANT
All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their particular application. LifeSafety Power makes no warranties as to the accuracy or completeness of the information, and disclaims any liability regarding its use. LifeSafety Power's only obligations are those in the LifeSafety Power Standard Terms and Conditions of Sale for this product, and in no case will LifeSafety Power or its distributors be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of the product. Specifications are subject to change without notice. In addition, LifeSafety Power reserves the right to make changes—without notification to Buyer—to processing or materials that do not affect compliance with any applicable specification.