



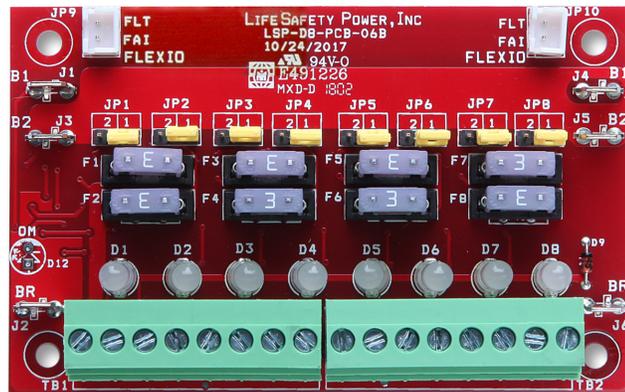
Power is knowledge.™

D8 / D8P Installation Manual

LifeSafety Power®



FLEXPOWER®



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Description

The D8/D8P simple distribution accessory provides eight zones of fused or PTC-protected distribution with no built-in control features. The D8/D8P accepts one or two power inputs, which can be powered either by the DC1 and DC2 outputs of a single FPO power supply or by the DC1 outputs of two separate supplies. Each output zone of the D8/D8P is selectable for either input source. The suffix "P" added to the model number denotes Class 2 power limited outputs.

Specifications

Input	Voltage	5-24VDC nominal
	Current	12A maximum
	Standby Current	65mA
Output	Voltage	Same as input
	Current (D8)	3A Resistive
	Current (D8P)	2.5A Resistive (Class 2 Power Ltd)
Fuse (D8 Only)	3A ATM automotive style	
Size	D8/D8P	4.00" x 2.50" x 1.0" (102mm x 64mm x 25 mm)
Weight	D8/D8P	0.15lb (0.07kg)

Regulatory Information

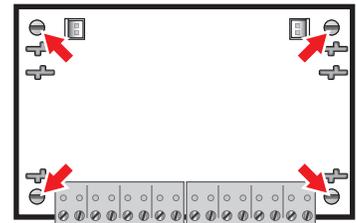
The equipment discussed within this manual has been tested to the following standards:

- UL294, UL603, UL1076
- ULC S318, ULC S319, ULS S533
- CSA C22.2 #205
- CSFM Approved

Mounting the Power Distribution Module

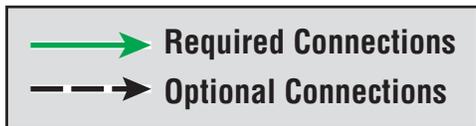
Mounting of the board to an enclosure is via the four snap-in standoffs supplied.

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.



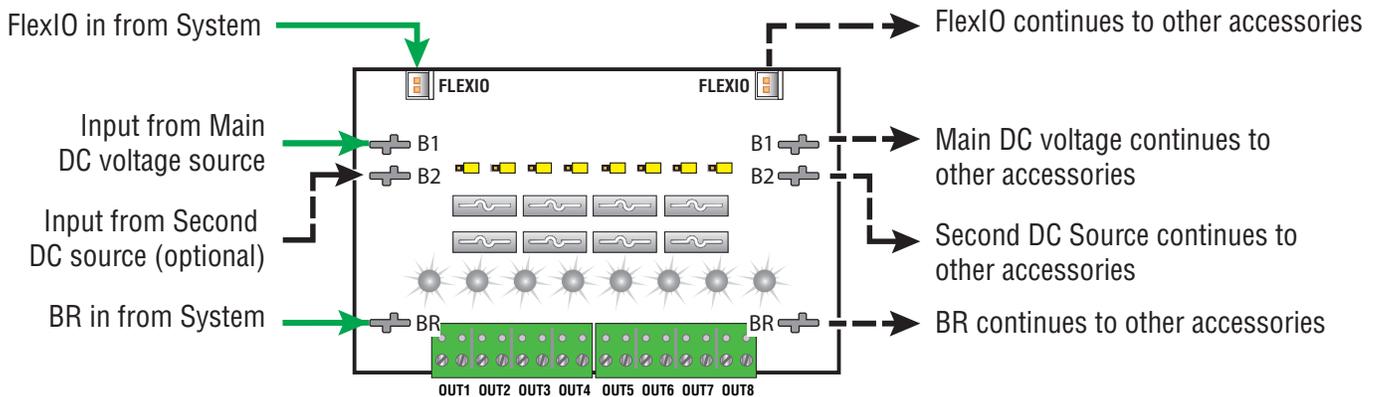
Connecting the Power Distribution Module

⚠ Remove all AC and battery power from the FPO system before adding or replacing a D8/D8P module.

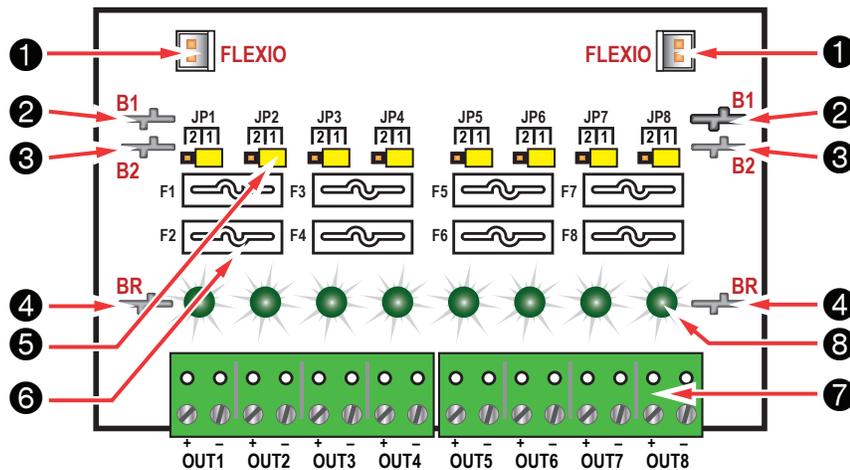


Each of the **B1**, **B2**, **BR**, and **FlexIO** busses has *two connectors*. These connectors may be used interchangeably.

For example: **FlexIO** from the power supply may be connected to either of the D8's FlexIO connectors, the Main DC voltage source may connect to either B1 terminal, etc.



Accessory Overview



1 FlexIO Connectors

These connectors pass the FlexIO buss through the D8 to other accessory boards in the system.

2 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 outputs whose Output Selection Jumper is set in the B1 position.

3 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 in a dual voltage system. This voltage will be directed to any outputs whose Output Selection Jumper is set in the B2 position.

If the D8 is being used in a single voltage system, these fastons can either be left unused or connected to the FPO's DC2 output, to provide FAI control to outputs selected for B2.

4 BR Connectors (J2 & J6)

The DC Common buss in the system. All boards in the system must have their BR fastons wired together for proper operation (except for between the DC and AC sections of an FPX hybrid system).

Hybrid systems must maintain separation of the AC and DC output voltages).

5 Output Selection Jumpers (JP1 – JP8)

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

- **Position 2 (Left)** – B2 Buss
- **Position 1 (Right)** – B1 Buss
- **Removed** – Disable Output

6 Output Fuses (F1 – F8) – Optional

When using the fused version of the D8, 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 D8, the fuse will be replaced with a soldered-in PTC.

7 Zone Outputs (Out1 – Out8)

These are the zone 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, solenoids, etc, each of these loads must have a reverse protection diode either built-in or external to the device.

8 Output LEDs (D1 – D8) – Green/Blue

These LEDs indicate the availability of voltage on a zone's output. When voltage is available on the output terminals, the LED is lit. LED numbers correspond with the zone number (e.g. D1 is the LED for OUT1). These LEDs are bi-color and indicate the output voltage for each output as follows:

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

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.

Use typical wiring material type: UL/CSA recognized insulated wire, insulation rating 300V or higher, 105C or higher, such as UL AWM Style 1581

The maximum length of output wire on OUT1 - OUT8 is limited to the allowable voltage drop on the wire. As a reference, with AWG14 wire (2.525 Ohm/1000ft), connected to an electric strike rated at 24V/0.25A, minimum allowable voltage at the strike terminals is 21.6V (-10% of nominal), the allowable voltage drop on round trip wire is 3.4V. The maximum length of output wire is calculated to be 2693 feet (one way).

Class 2 power limited wiring must be separated from non-power limited wiring by a minimum of 1/4 inch and must use separate knockouts.

The installation and all wiring methods shall be in accordance with ANSI/NFPA70 and all local codes.

For ULC compliance, installation and all wiring methods shall be in accordance with the Canadian Electrical Code, C22.1, Part I, Section 32.

Connections to the module shall be completed within the same room, not exceeding a length of 3m.

For ULC S533 Installations: Wiring Methods shall be in accordance with CAN/ULC-S524 Installation of Fire Alarm Systems.

Utilisez un type de matériau de câblage typique: fil isolé reconnu UL / CSA, isolation de 300 V ou plus, 105C ou plus, tel que UL AWM Style 1581

La longueur maximale du fil de sortie sur OUT1 - OUT8 est limitée à la chute de tension admissible sur le fil. À titre de référence, avec un fil AWG14 (2,525 Ohm / 1000 pieds), connecté à une gâche électrique de 24 V / 0,25 A, la tension minimale admissible aux bornes de la gâche est de 21,6 V (-10% de la valeur nominale), la chute de tension admissible sur le tour le fil de déclenchement est de 3,4 V. La longueur maximale du fil de sortie est calculée à 2693 pieds (un sens).

Le câblage à puissance limitée de classe 2 doit être séparé du câblage sans limitation de puissance d'au moins 1/4 de pouce et doit utiliser des débouchures séparées.

L'installation et toutes les méthodes de câblage doivent être conformes à la norme ANSI / NFPA70 et à tous les codes locaux.

Pour la conformité ULC, l'installation et toutes les méthodes de câblage doivent être conformes au Code canadien de l'électricité, C22.1, partie I, section 32.

Les connexions au module doivent être réalisées dans la même pièce, ne dépassant pas une longueur de 3 m.

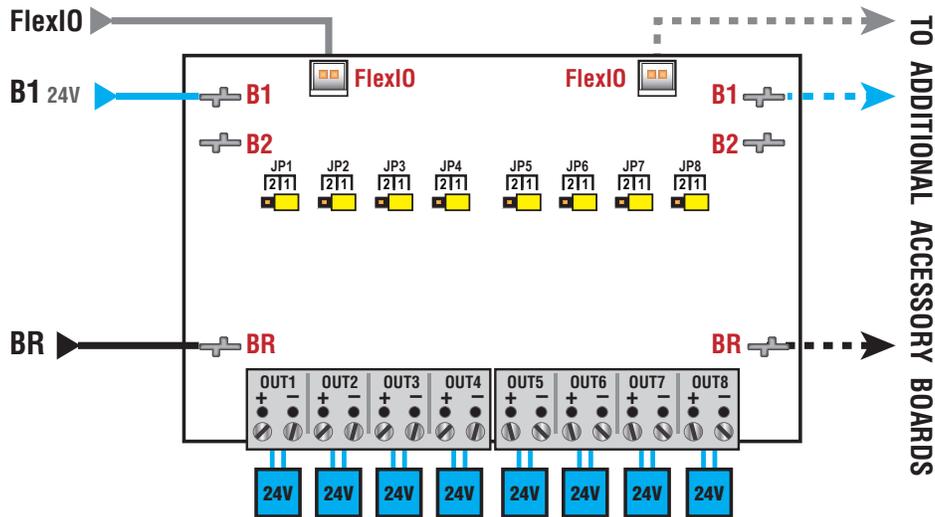
Pour les installations ULC S533: Les méthodes de câblage doivent être conformes à la norme CAN / ULC-S524 Installation des systèmes d'alarme incendie.

Application Examples

Single Voltage - No FAI

This application shows D8/D8P usage in a single-supply system when FAI is not required.

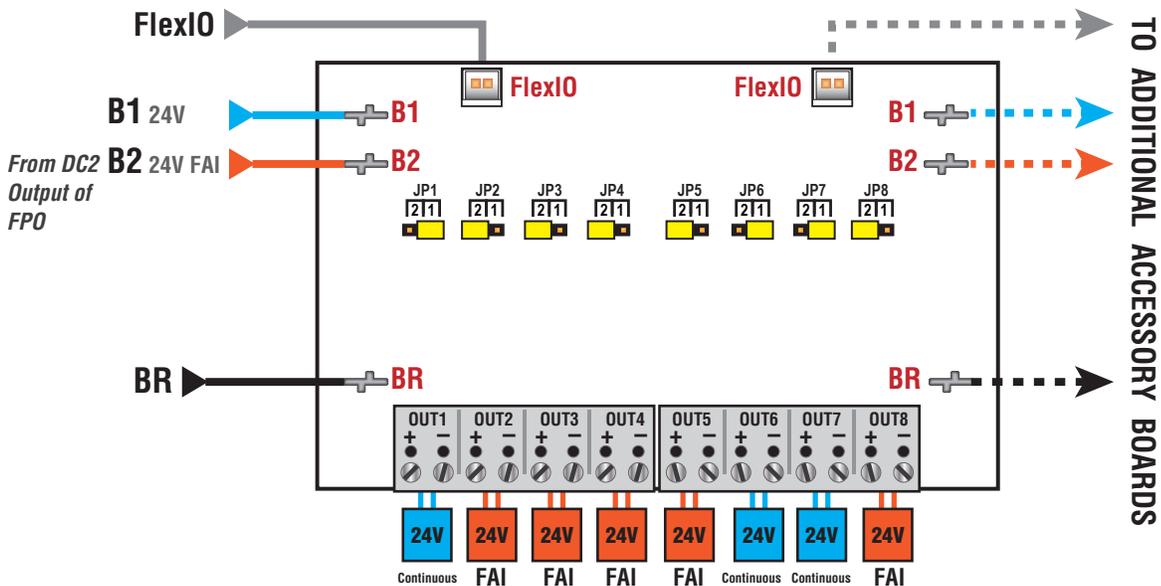
- The B1 input is connected to the DC1 output of an FPO power supply or the DCOUT of a B100 secondary power supply. B2 is left disconnected.
- The jumper for each zone is set for B1 (Position 1) and in this application, all zones output a continuous 24VDC.



Single Voltage - With FAI

This application shows D8/D8P usage in a single-supply system using FAI.

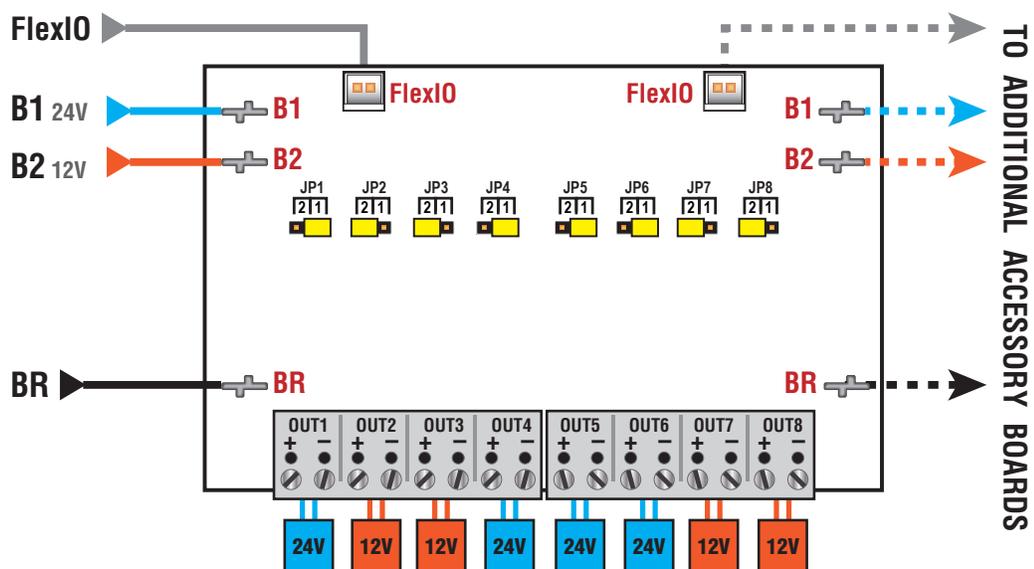
- The B1 input is connected to the DC1 output of an FPO power supply. B2 is connected to the DC2 output of the FPO power supply.
- In this application, any zone output with its jumper set in Position 1 will have a continuous 24VDC output.
- Also, any zone output with its jumper set in Position 2 will change states when the FPO receives a valid FAI input signal. The outputs can be set to enable on FAI or disable on FAI by setting the position of the FPO's DC2 fuse (See FPO manual for more information). The voltage on these outputs (when active) will also be 24VDC.



Dual Voltage - 12V and 24V Zone Programming

This application shows D8/D8P usage in a dual-supply system.

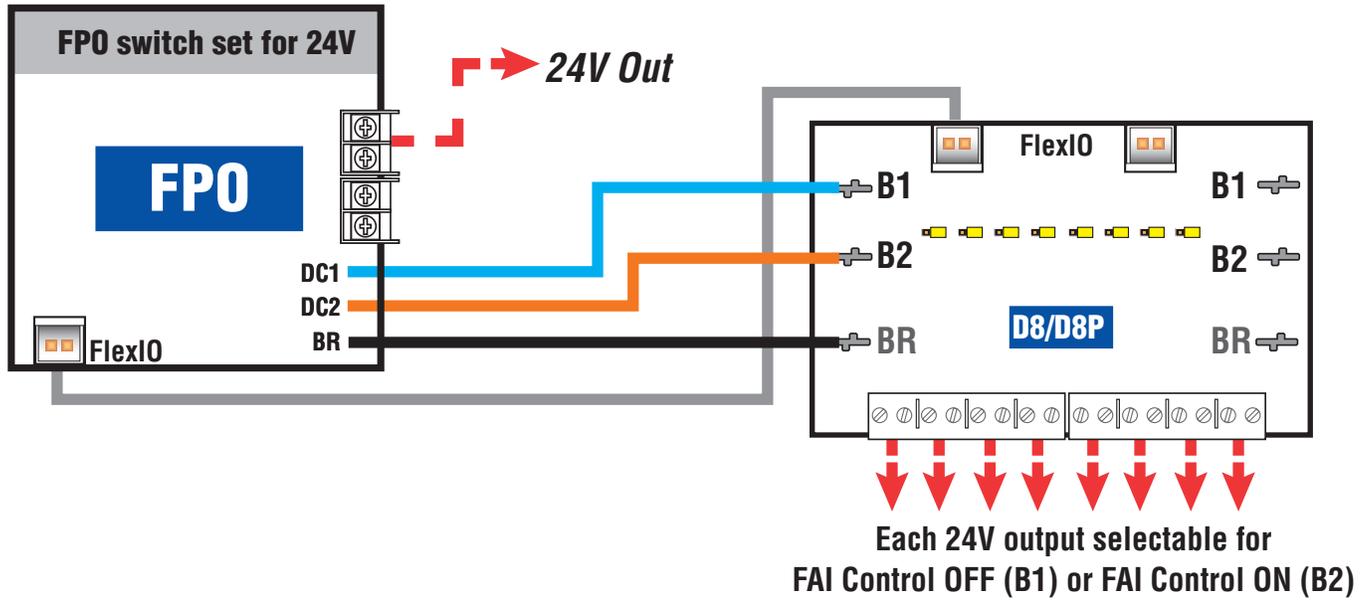
- The B1 input is connected to the DC1 output of an FPO power supply. B2 is connected to the DC1 output of a second FPO power supply or the DCOUT of a B100 secondary power supply.
- In this application, any zone output with its jumper set in Position 1 will have a continuous 24VDC output.
- Also, any zone output with its jumper set in Position 2 will have a continuous 12VDC output.
- The D8/D8P will not support FAI in a dual voltage application. If FAI is required, the D8/D8P boards must be replaced with F8/F8P boards.



Application Examples

Single Voltage with FAI Control

- D8/D8P jumper - output selection position 1 provides constant 24VDC Out (No FAI Control)
- D8/D8P jumper - output selection position 2 provides FAI controlled 24VDC Out
 - See the FPO manual for more details on FAI control

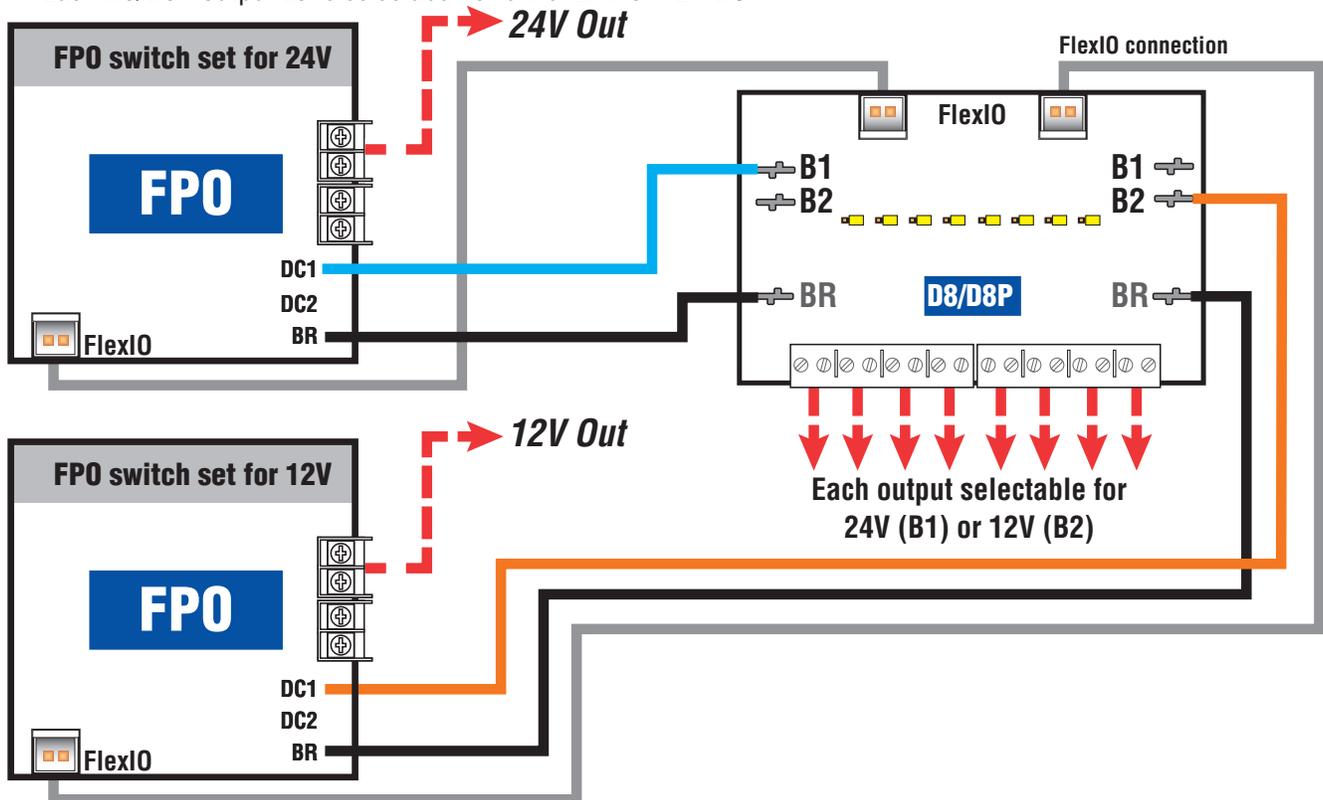




Application Examples

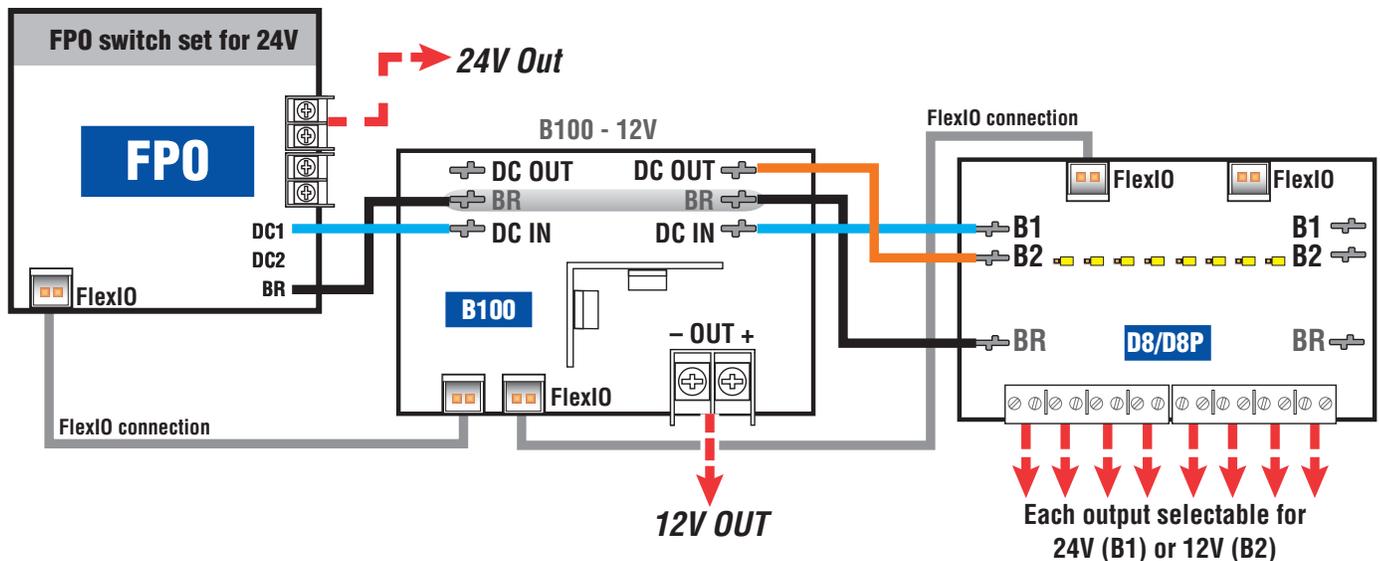
Dual Voltage with Two FPO's

- Buss 1 supplied by FPO1: Buss 2 supplied by FPO2
- Each FPO requires its own back-up battery set
- Each D8/D8P output zone selectable for either 24V or 12V DC



Dual Voltage with FPO and B100

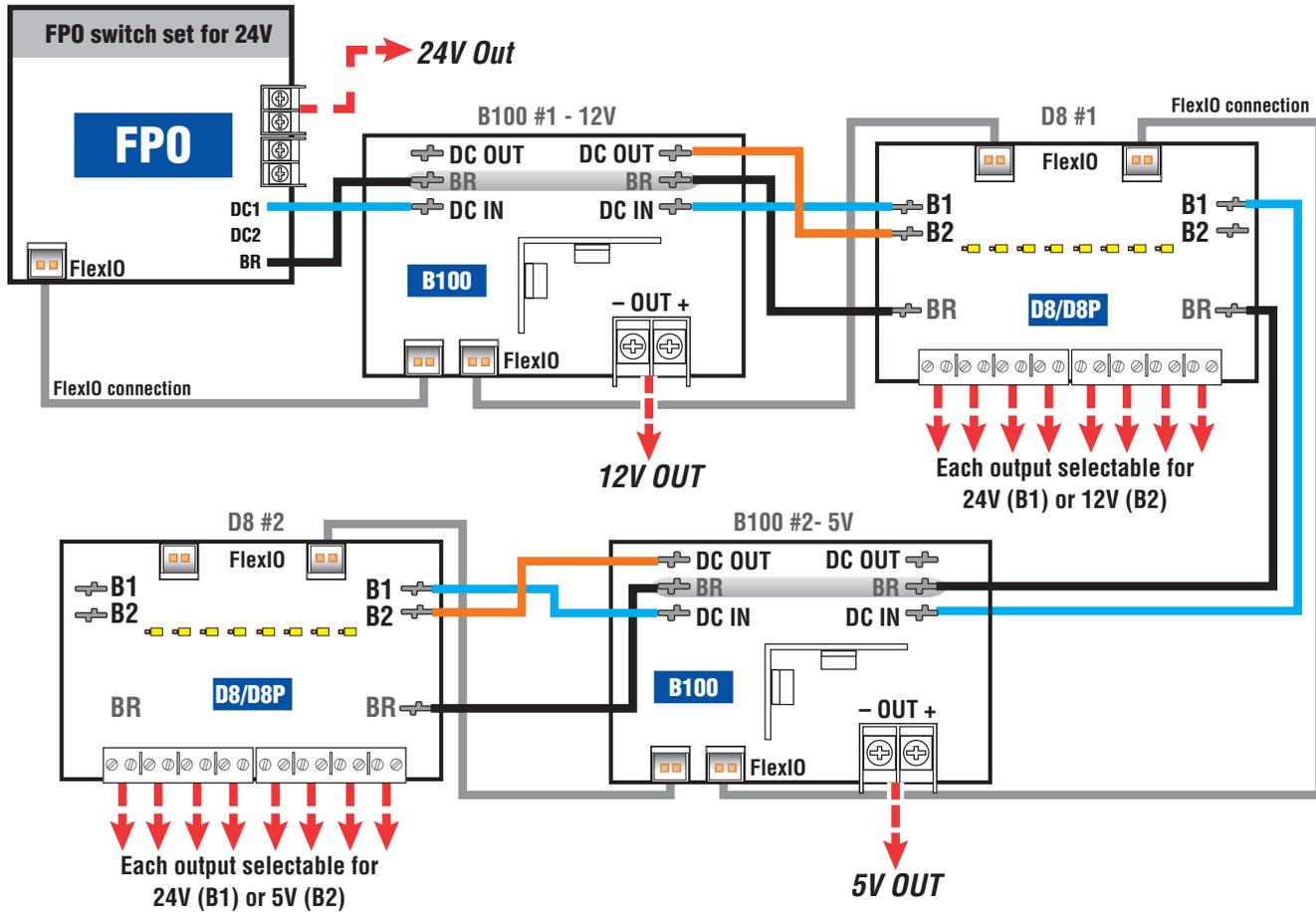
- Buss 1 supplied by FPO: Buss 2 supplied by B100
- B100 backed up with FPO's battery set



Application Examples

Triple Voltage (24V/12V/5V) with FPO and two B100's

- Each output on D8/D8P #1 selectable for 24V or 12V DC
- Each output on D8/D8P #2 selectable for 24V or 5V DC
- All three output voltages backed up with FPO's battery set





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
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)
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

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IMPORTANT

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