Description

The D8 simple distribution accessory provides eight zones of fused or PTC-protected distribution with no built-in control features. The D8 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 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 +/- 15%
	Current	20A maximum
	Standby Current	65mA
Output	Voltage	Same as input
	Current (D8)	3A
	Current (D8P)	2.5A (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, UL864, UL1076, UL1481, UL2044, UL2572
• ULC S318, ULC S319, ULC S527
• CSA C22.2 #107.1
• 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.
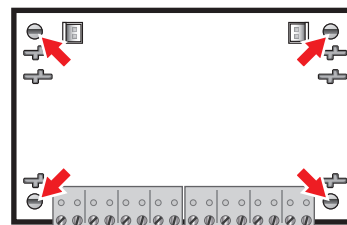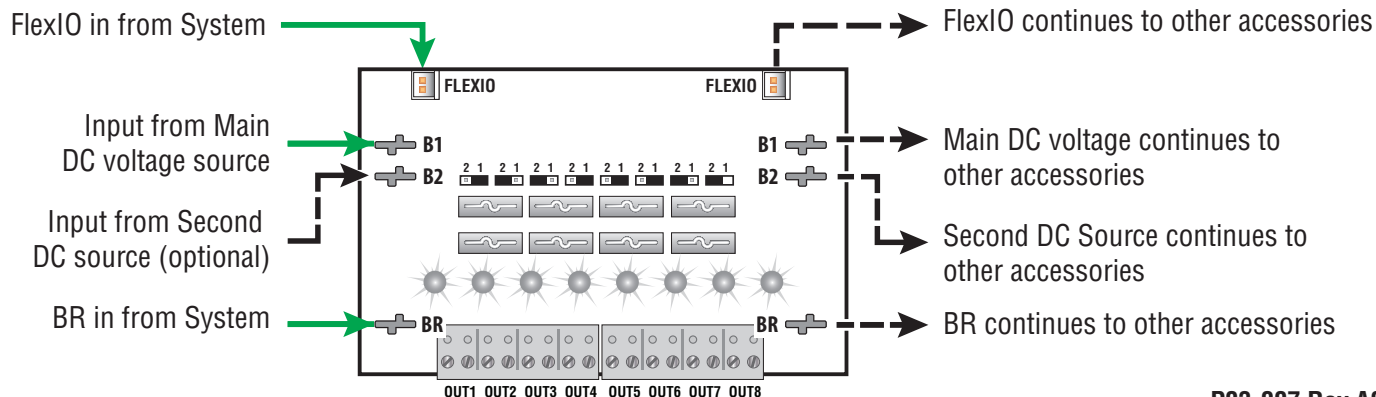
Connecting the Power Distribution Module

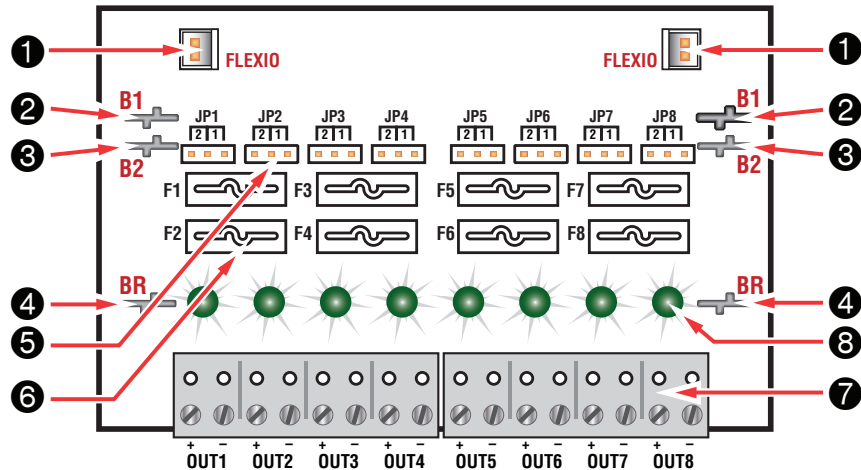⚠️ *Remove all AC and battery power from the FPO system before adding or replacing a D8 module.*

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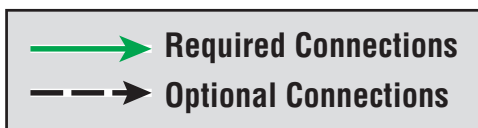
Each of the **B1, B2, BR,** and **FlexIO busses** has *two connectors*. These connectors may be used interchangeably.

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.

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

Accessory Overview

❶ FlexIO Connectors

These connectors pass the FlexIO buss through the D8 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 outputs whose Output Selection Jumper is set in the B1 position.

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 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.

❹ 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).

❺ 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

❻ 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.

❼ 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.

❽ Output LEDs (D1 – D8) – Green

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).

Application Examples

Single Voltage - No FAI

This application shows D8 usage in a single-supply system when FAI is not required.
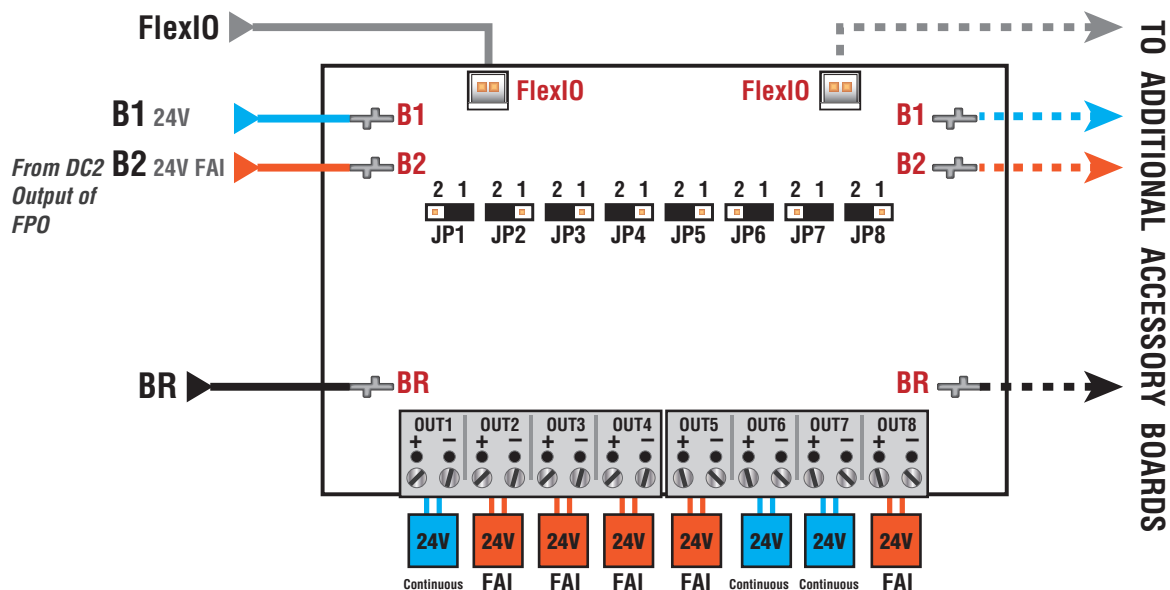
- The B1 input is connected to the DC1 output of an FPO power supply or the DCOUT of a B100 secondary power supply. B2 is left disconnected.
- The jumper for each zone is set for B1 (Position 1) and in this application, all zones output a continuous 24VDC.
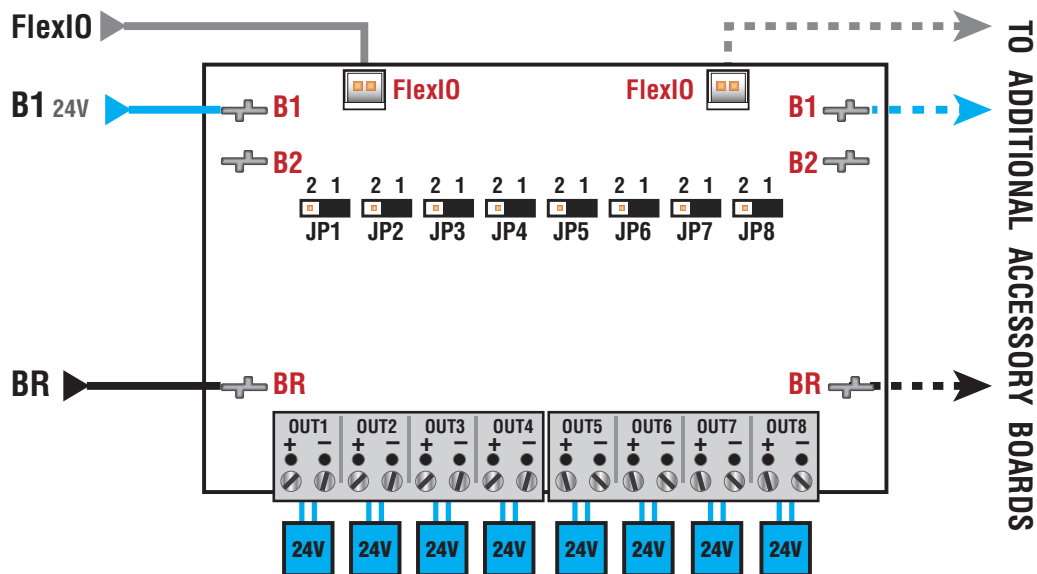
Single Voltage - With FAI

This application shows D8 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.
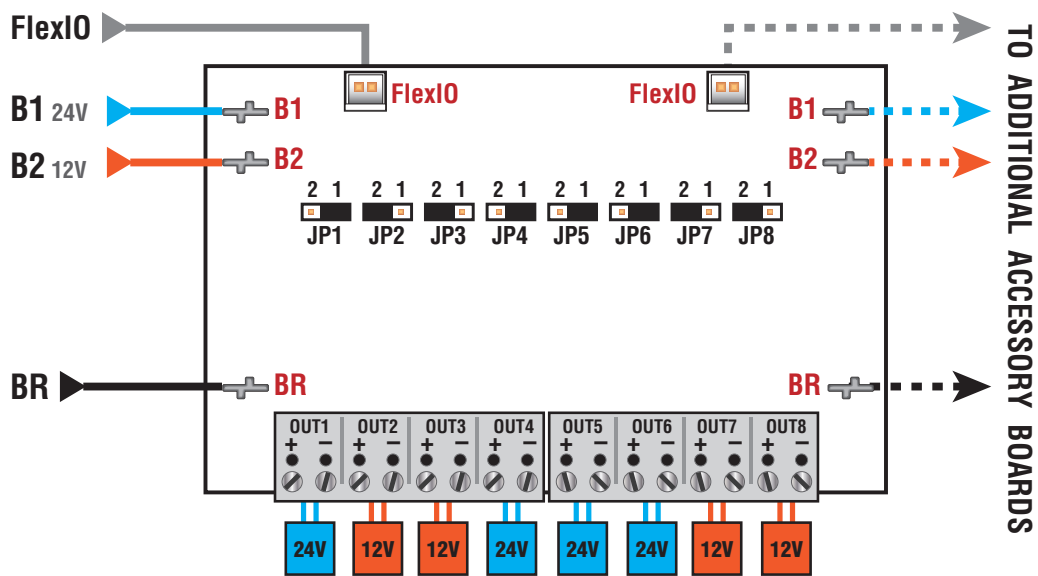
Application Examples

Dual Voltage - 12V and 24V Zone Programming

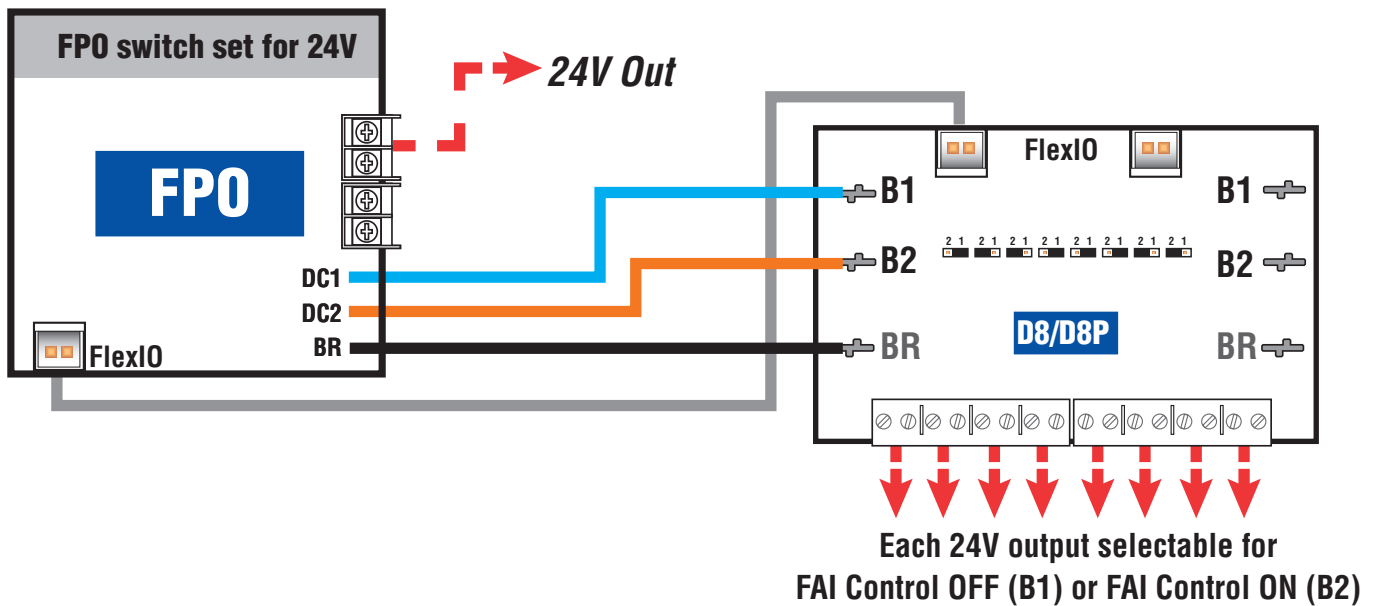This application shows D8 usage in a dual-supply system.

- 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 will not support FAI in a dual voltage application. If FAI is required, the D8 boards must be replaced with F8 boards.

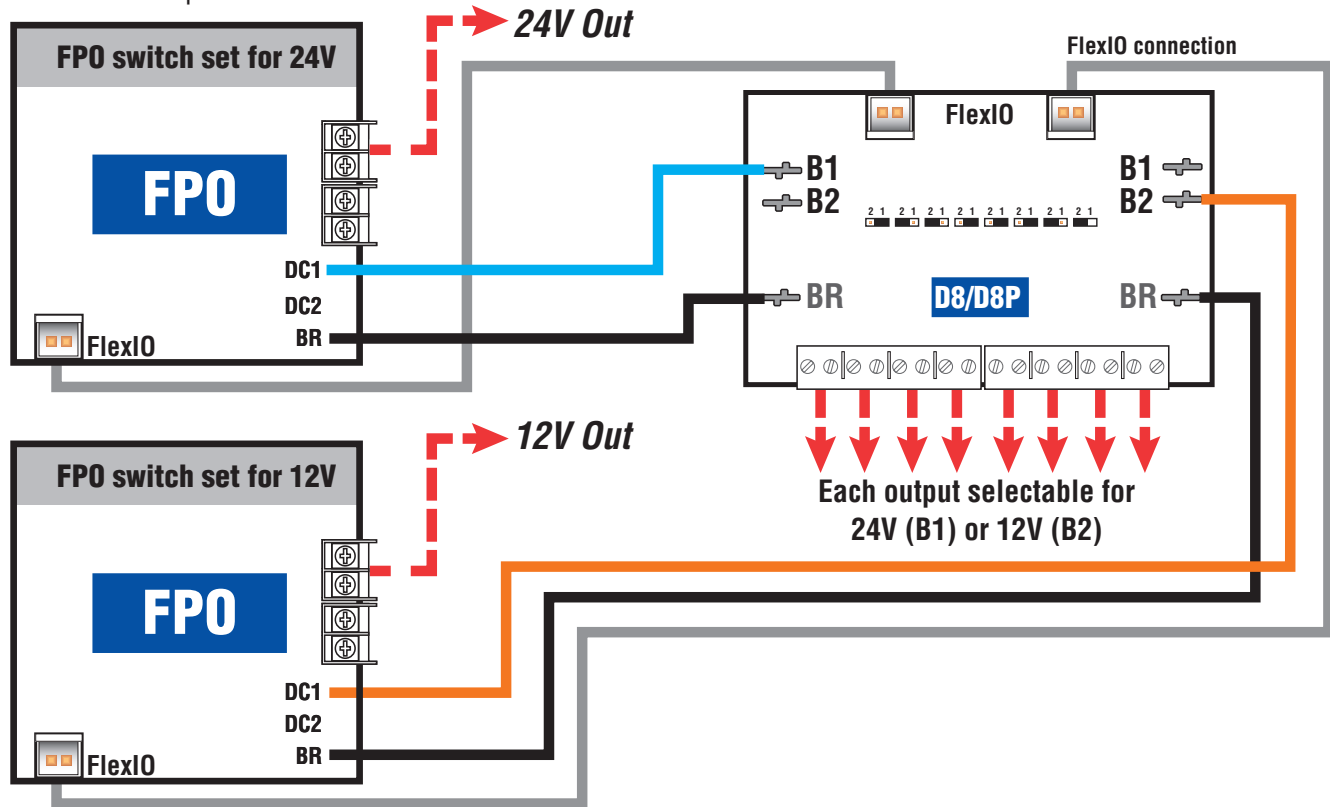## Application Examples

Single Voltage with FAI Control

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

FPO switch set for 24V

FPO

24V Out

FlexIO

DC1
DC2
BR

FlexIO

B1
B2

BR

D8/D8P

B1
B2

BR

**Each 24V output selectable for
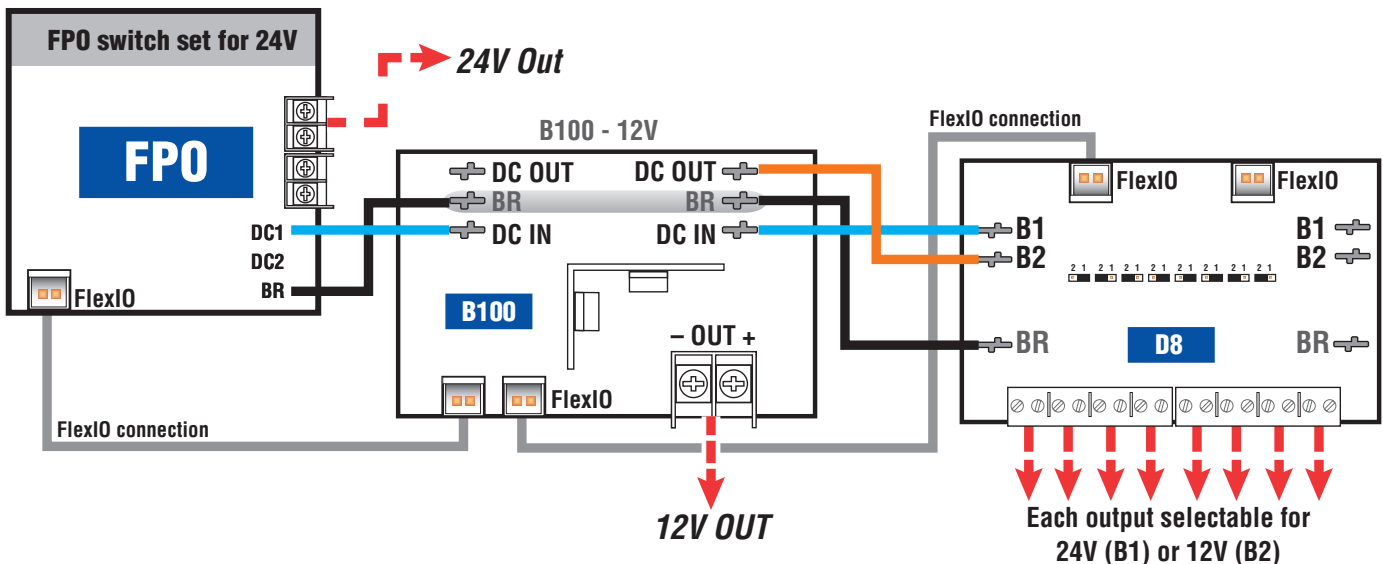FAI Control OFF (B1) or FAI Control ON (B2)**

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 output zone selectabel for either 24V or 12V DC
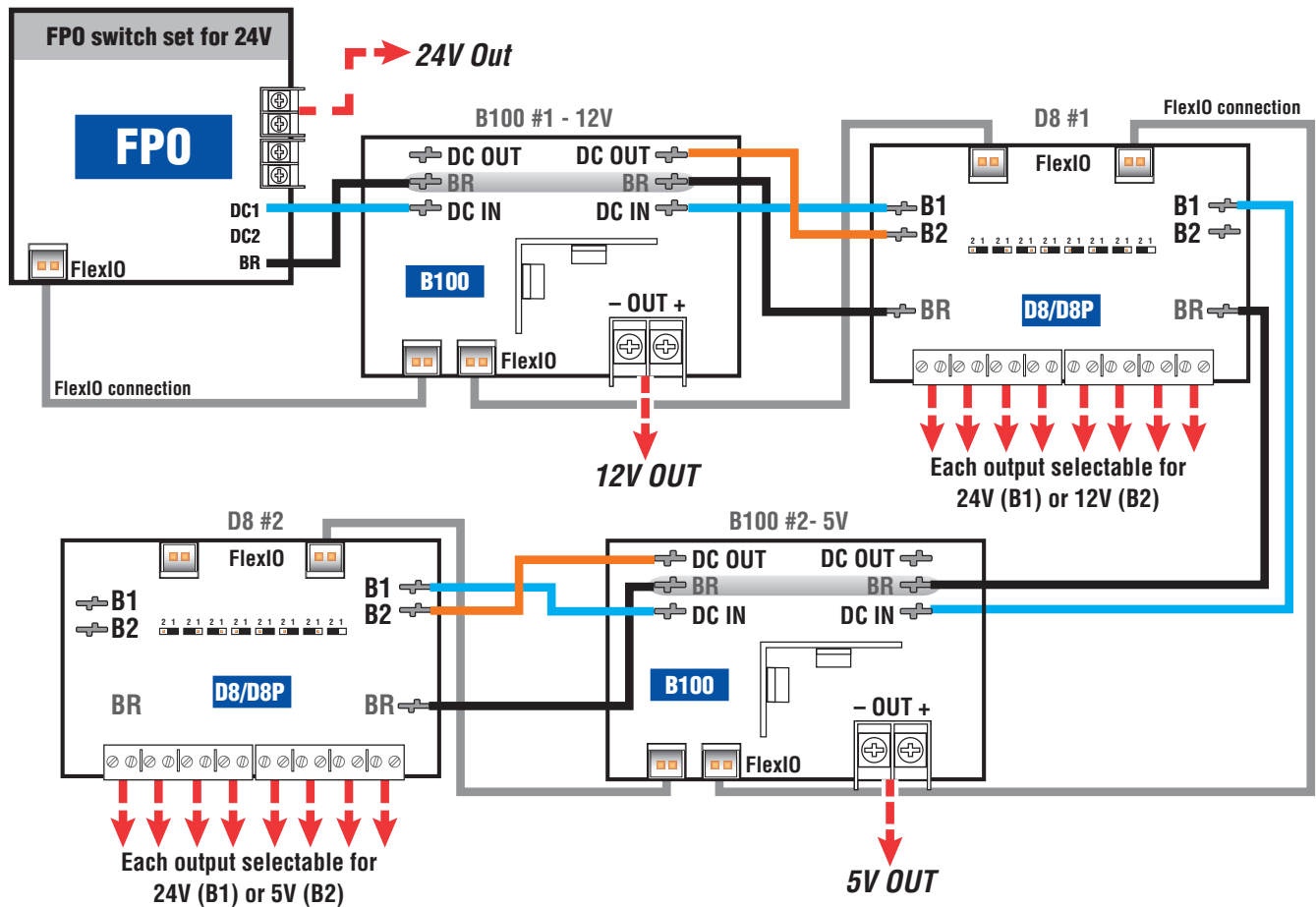

Dual Voltage with FPO and B100

- 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 #1 selectable for 24V or 12V DC
- Each output on D8 #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
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
DL1	A05-001	DataLink USB cable
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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