
JPDD dc Power Distribution

Functional Description

The dc Power Distribution (JPDD) board provides dc power distribution, power isolation, and branch circuit protection for control or I/O functions requiring 125 V dc or 24 V dc power. Typical applications include dc relay and solenoid control power, and contact wetting. Each output includes a fuse, a switch, and a lamp to indicate the presence of output voltage. JPDD is not intended for power distribution to the I/O packs.

Board Versions

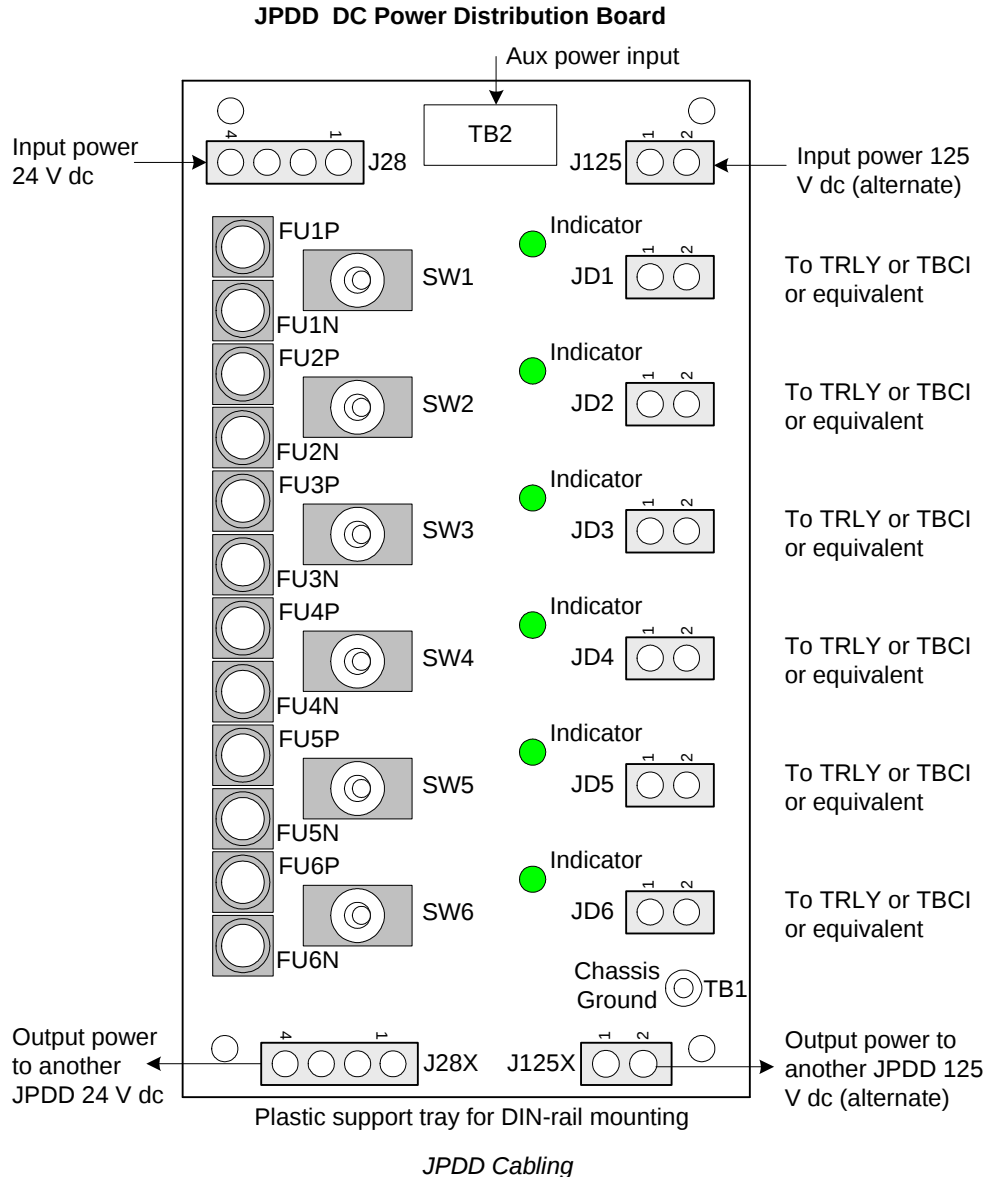
Terminal Board	Fusing
-----------------------	---------------

JPDDG1	Each circuit provided with ¼ in x 1¼ in 15 A 250 V fuse
JPDDG2	Empty fuse holders with black caps accepting 5 x 20 mm fuses
JPDDG3	Empty fuse holders with grey caps accepting ¼ in x 1¼ in fuses

JPDAG1 provides fuses that are coordinated with the rating of the system wiring and connectors. JPDAG2 and G3 are used when fuse ratings coordinated with a specific application are required. Two different fuse sizes are provided to accommodate local fuse preferences.

Installation

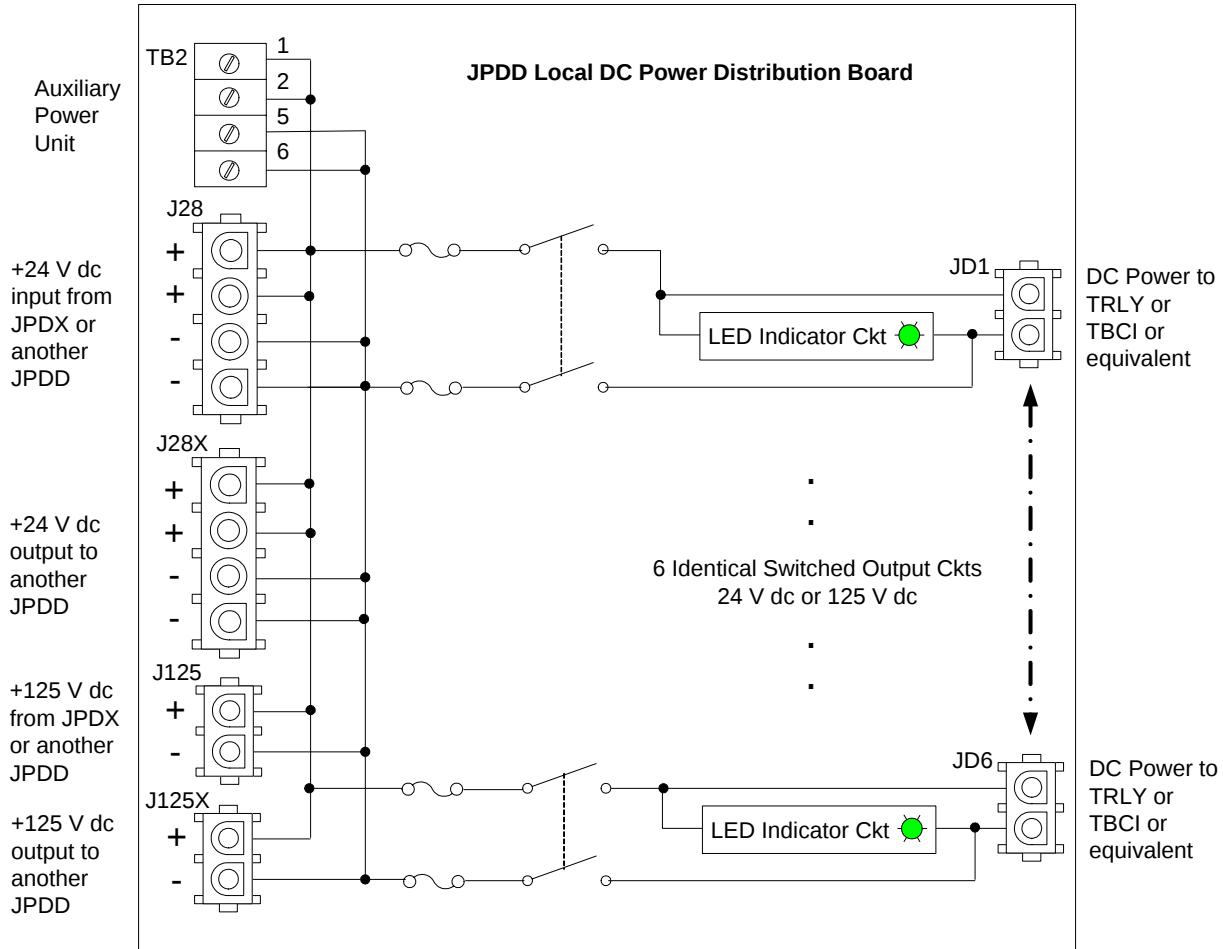
JPDD is held in a plastic holder, which mounts on a vertical DIN-rail. When installing the JPDD, it is important to provide a ground lead from TB1 to the system ground. This creates a ground path for the metal switch bodies.



Power input can be either 24 V dc or 125 V dc, but not both together. For cable destinations, refer to the circuit diagram. TB1 should be connected to system ground.

Operation

The following figure shows how the 125 V dc or 24 V dc power is distributed in JPDD, and how it reaches the TRLY and TBCI boards.



JPDD Simplified Circuit Diagram

Inputs

Multiple JPDD boards can receive power from a single Main Power Distribution Module branch circuit. Power input can be either 125 V dc or 24 V dc nominal.



Caution

Both inputs share a common electrical path, therefore, both the 125 V dc and 24 V dc cannot be applied at the same time.

Two 2-Pin Mate-N-Lok connectors are provided for 125 V dc power. One connector receives input power and the other can be used to distribute 125 V dc power to another JPDD board in daisy chain fashion.

Two 4-pin Mate-N-Lok connectors are provided for 24 V dc power. These perform functions similar to those of the 2-pin connectors above. The 4-pin connector permits parallel connection of two pin-pairs for increased current capacity. It is expected that neither side of the dc power input is grounded.

Outputs

Six identical output circuits are provided. Each output circuit includes two fuses, a switch with a pair of isolation contacts in each side of the output, and a green lamp to indicate the presence of voltage across the output terminals. The provision of a fuse and switch contact in each side of the dc path allows use of this board with floating power sources.

Specifications

Item	Description	
Inputs	One 2-pin connection for input power from JPDx or another JPDD	125 V dc, 15 A
	One 4-pin connection for input power from JPDx or another JPDD	24 V dc, 30 A
	One auxiliary power input through TB2	
Outputs	Six 2-pin connections for power to TRLY or TBCI	24 V dc or 125 V dc, fused
	One 2-pin connection for output power to another JPDD	125 V dc
	One 4-pin connection for output power to another JPDD	24 V dc
Output Fuses	12 fuses, two per output	250 V, 15 A
Temperature	-30 to +65°C (-22 to +149 °F)	
Board Size	23.495 cm high x 10.795 cm wide (9.25 in x 4.25 in)	
Mounting	DIN-rail, card carrier mountingBase mounted steel bracket, 4 holes	Vertical rail

Diagnostics

No diagnostic features are provided on this module.

Configuration

There are no jumpers on JPDD. Check the position of the six output load switches.

It is possible to use other fuse ratings with this board to provide specific branch circuit ratings. A typical series of fuses that work with this board are the Bussmann ABC series of fuses with ratings from ¼ A through 15 A. Fuses above 15 A shall not be used with this board. If alternate fuse ratings are used, configuration of the board requires the insertion of the proper fuse in each branch circuit.