

20.8 JPDD DC Power Distribution

The JPDD dc power distribution board provides dc power distribution, power isolation, and branch circuit protection for control or I/O functions requiring 125 V dc, 48 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.

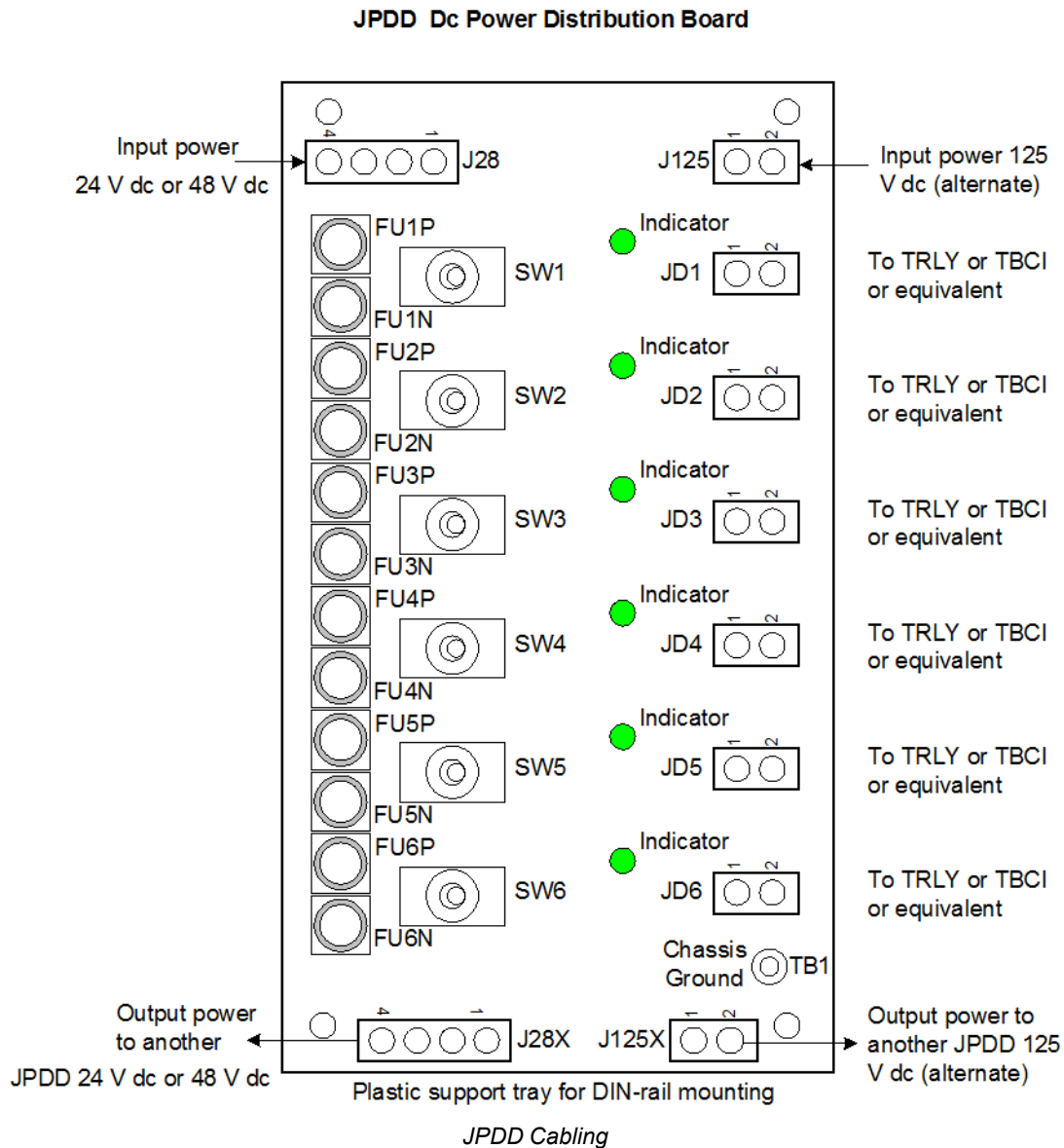
Board version JPDDG1 provides fuses that are coordinated with the rating of the system wiring and connectors. JPDDG2, G3, and G4 have fuse ratings coordinated for specific applications. Two different fuse sizes are provided to accommodate local fuse preferences.

JPDD Board Versions

Terminal Board	Fuses
JPDDG1A	Each circuit provided with 31.75 x 6.35 mm (1.25 x 0.25 in) 15 A 250 V fuse
JPDDG2A	Empty fuse holders with black caps accepting 5 x 20 mm (0.20 x 0.79 in) fuses
JPDDG3A	Empty fuse holders with grey caps accepting 31.75 x 6.35 mm (1.25 x 0.25 in) fuses
JPDDG4A	Each circuit provided with 31.75 x 6.35 mm (1.25 x 0.25 in) 0.5 A fuses for wire protection

20.8.1 Installation

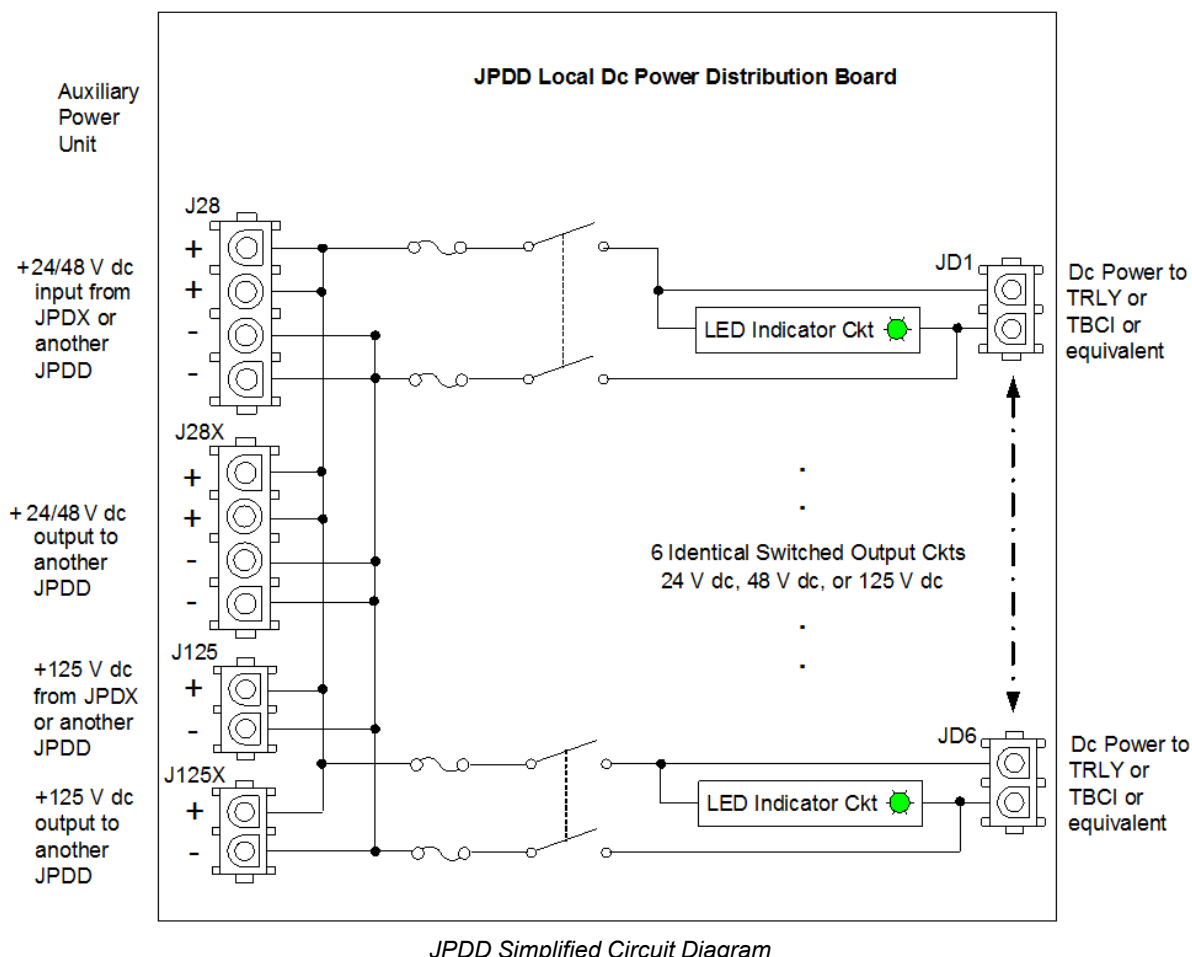
JPDD is held in a plastic holder, which mounts on a vertical DIN-rail. When installing the JPDD, it is important to provide a ground lead from TB1 to the system ground. This creates a ground path for the metal switch bodies.



Power input can be 24 V dc, 48 V dc, or 125 V dc, but only one voltage level at any given time. Do not mix voltages. For cable destinations, refer to the circuit diagram. TB1 should be connected to system ground.

20.8.2 Operation

The following figure explains how the 125 V dc, 48 V dc, or 24 V dc power is distributed in JPDD, and how it reaches the TRLY and TBCI boards.



20.8.2.1 Inputs

Multiple JPDD boards can receive power from a single Main Power Distribution Module branch circuit. Power input can be either 125 V dc, 48 V dc, or 24 V dc nominal.



Caution

Both inputs share a common electrical path. Only a single voltage (24, 48, or 125) can be applied at one time to both inputs.

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 24/48 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.

20.8.2.2 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.

20.8.3 Specifications

Item	JPDD Specification	
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 or 48 V dc, 30 A
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 or 48 V dc
Fuses	Refer to the table, JPDD Board Versions .	
Ambient Rating for Enclosure Design†	-40 to 70°C (-40 to 158 °F)	
Board Dimensions	23.495 cm high x 10.795 cm wide (9.25 in x 4.25 in)	
Mounting	DIN-rail, card carrier mounting Base mounted steel bracket, 4 holes	

Note † For further details, refer to the *Mark VIe and Mark VIeS Control Systems Volume I: System Guide* (GEH-6721_Vol_I), the chapter *Technical Regulations, Standards, and Environments*.

20.8.4 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.