

PD-10A-1 Power Distribution Assembly



PD-10A-1 Power Distribution Assembly

Power Distribution Assembly for low voltage systems. Compact design provides a fused 45 Amp Anderson Powerpole® connector, current sense resistor and voltage/current isolation resistors.

Designed to be panel mounted, up to 0.125" thick, the assembly's recessed mounting protects the connector and fuse from mechanical damage. The assembly is accommodated by a simple rectangular cutout in the panel. A PVC insulator provides electrical protection for the fuse and serves as an attractive cover plate.

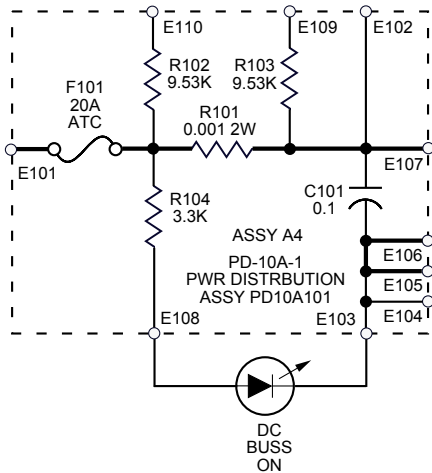
A small printed circuit board provides mounting for all the through hole components and R101, an SMD current sense resistor.

R102 and R103 provide short circuit protection for the meter interconnect wiring. E109 when measured to E104, with a high impedance meter, provides the DC BUSS output voltage. Likewise E110 measured to E109 provides a voltage (1 mV/Amp) corresponding to the DC BUSS output current. R104 provides current limiting for a "DC BUSS ON" LED. C101, an RF bypass capacitor, reduces coupling into the panel from stray RF fields.

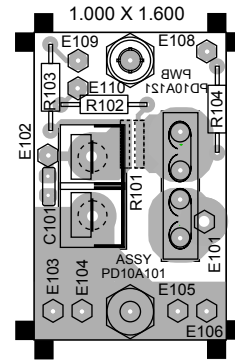
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PD-10A-1 Schematic.



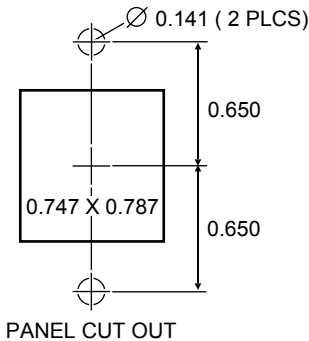
PD-10A-1 Component locator.

PD-10A-1 List of Material

Qty	Designator	Value/Type	Description	Part Number	Supplier ⁽¹⁾
1	C101	0.1 μ F, 50V	MLC ceramic	581-SR205E104MAR	
1	F101	20 Amp Fuse	ATO style Blade	576-0257020.PXPV	
1	R101	0.001 Ω , 2W, 5%	SMD metal foil	588-FCSL64R001JER	
2	R102, R103	9.53K, 1%, 1/4 W	Metal film	271-9.53K-RC	
1	R104	3.3K, 5%, 1/4 W	Carbon film	291-3.3K-RC	
2	XF101	30 Amp ATO Blade Fuse	Solder mount clip	534-3522	
2		45 Amp contact	Powerpole®	261G2-LPBK	2
1		Black housing	Powerpole®	1327	
1		Red housing	Powerpole®	1327G6	
1		PWB	FR-4 thru-hole	PD10A121	3
2		0.375" Hex 0.25" Std-off	6-32 threaded	P521M03F21-632	4
2		0.25" 6-32	Flat head screw	67399485	
2		0.25" 6-32	Pan head screw	87913398	
1		Fuse insulator	PVC, smoke gray	PD10A140	3

Notes:

- Supplier is Mouser Electronics (<http://www.mouser.com>) unless otherwise specified.
- Anderson Power Products (<http://www.andersonpower.com/products/standard-powerpole.html>)
- BWC items shop built - details available at <http://www.bwcelectronics.com>
- MSC Industrial Supply Co. (<http://www.mscdirect.com>)



PD-10A-1 Panel cut-out.



PD-10A-1 Prototype side-view.



PD-10A-1 Prototype rear-view.