

# Selection Table for SCCR Power Distribution Blocks and Terminal Blocks

## Short-Circuit Current Rated Power Distribution Blocks

Cooper Bussmann offers three distinctly different styles of short-circuit current rated power distribution blocks (PDBs) and terminal blocks (TBs) to match different application needs. The differences are whether the power distribution blocks are enclosed or not, and whether they are UL1953 Listed PDBs or UL1059 Recognized TBs, which have different minimum spacing requirements. The table on this page can assist in the selection of the right series for your application requirements.

### Why these are important?

Assembly short-circuit current ratings (SCCRs) are now required in the 2005 NEC® and UL508A Listed Industrial

Control Panels. Marking the SCCR on Industrial Control Panels (NEC® 409.110), Industrial Machinery Electrical Panels (NEC® 670.3(A)), and HVAC equipment (NEC® 440.4(B)) is now required by the National Electrical Code. PDBs or TBs not marked with a SCCR are typically one of the weakest links and may limit an assembly to no more than 10kA SCCR. The PDBFS and PDB Series have increased spacing required where used in feeder circuits in equipment listed to UL508A (UL1059 TBs must be evaluated for proper spacings). Also, for building wiring systems, the PDBFS Series and PDB Series power distribution blocks can be used to meet the new 2005 NEC® requirements in section 376.56(B) for PDBs in wireways.

*More application information on pages 19-23.*

## Selection Table

Product	Catalog Page	UL	Enclosed	High SCCR*	Spacing** 1" Air 2" Surface	Industrial Control Panels UL 508A Branch Circuit	Industrial Control Panels UL 508A Feeder Circuit	HVAC UL 1995	Wireways NEC® 376.56(B) (Requires UL 1953)
Series PDBFS	3	UL 1953 Listed Power Distribution Blocks	Yes†	Yes	Yes	Yes	Yes	Yes	Yes
Series PDB	9	UL 1953 Listed Power Distribution Blocks	No***	Yes	Yes	Yes	Yes	Yes	Yes w/optional cover
Series 16XXX	13	UL 1059 Recognized Terminal Blocks	No***	Yes	No****	Yes	No****	Yes	No
NDN63-WH-UL, NDN111-WH-UL, 14002-3-UL, TB300-03SP-UL	16	UL 1059 Recognized Terminal Blocks	No	Yes	No	Yes	No	Yes	No

† IP-20 finger-safe under specific conditions, see datasheet page 8.

\*When protected by proper fuse class with maximum ampere rating specified or smaller.

\*\* See PDB Spacing Requirements for Equipment table below.

\*\*\*Optional covers are available. Not IP-20, but provide a safety benefit.

\*\*\*\*No, except: Yes, if single pole units installed with proper spacings.

## PDB & TB Minimum Spacing Requirements for Equipment

UL Standard	Spacing between live parts of opposite polarity		Spacing between live parts and grounded parts or enclosure @600V
	Through air @600V	Over surface @600V	
508A Feeder Circuits	1"	2"	1"
508A Branch Circuits	3/8"	1/2"	1/2"
1995 HVAC	3/8"	1/2"	1/2"

Note: Refer to Specific UL standards for complete spacing details.



Series PDBFS



Series PDB



Magnum Terminal Blocks



Series 162 and 163

# Series PDBFS Enclosed Power Distribution Blocks

## Feature/Benefits

- Enclosed for enhanced safety; IP-20 finger-safe under specific conditions, see page 8
- High Short-Circuit Current Ratings up to 200,000A: PDBs do not have to be a weak link in achieving a high SCCR for an industrial control panel
- Suitable for installation in wireways and industrial control panel feeder and branch circuits. Listed to UL1953 which has minimum spacing requirements at 600V of at least 1" through air and 2" over surface
- Small footprint saves panel space. Stack side by side and still meet 1" and 2" spacing requirements
- For 2D and 3D CAD drawings visit [www.cooperbussmann.com](http://www.cooperbussmann.com)



## Electrical

- 600Vac or dc (UL 1953), 690Vac or dc (IEC)
- Short-Circuit Current Ratings up to 200kA, see table below
- Ampacities up to 760 Amps
- 75°C rated connectors
- CU Wire range 14 AWG to 500 kcmil or 2.5 to 240 mm<sup>2</sup>

## Mechanical

- DIN rail or panel mount; PDBFS330 & PDBFS504 panel mount only
- Captive termination screws; screws do not get misplaced
- Wire ready: captive termination screws shipped backed out to save time on conductor installation
- Sliding DIN rail latch for easy mounting
- Single pole, gang mountable for multiple pole applications with interlocking dovetail accessory (optional Part 2A1279) One pin interlocks two units, two pins to interlock three units (see illustration on page 6)
- Flammability, UL 94V0
- Tin-plated AL connectors suitable for CU conductors
- Elongated hole for panel mounting; easier mounting with greater flexibility in matching up with drilled panel holes
- DIN rail end anchors required to prevent damage to block when torquing, anchors not offered by Cooper Bussmann

## Agency/Standards

- UL Listed 1953, Guide QPQS, File E256146
- CSA Certified, Class 6228-01, File 15364
- CE component IEC 60947-7-1
- IEC 60529, IP-20 (Finger Safe) under specific conditions, see page 8

## Series PDBFS

Electrical		Terminal Copper Conductor Capability			Short-Circuit Current Rating Data							
		Line	Load	Configuration	Conductors		Max Fuse Class & Amp**				SCCR	
Catalog Number <small>(All Single Pole)</small>	Amps	Wire Range	Wire Range	Openings per Pole  Line Load		Line <small>AWG or kcmil</small>	Load <small>AWG or kcmil</small>	J <small>LPJ</small>	T <small>JJS JJN</small>	RK1 <small>LPS-RK LPN-RK</small>		RK5 <small>FRS-R FRN-R</small>
PDBFS204	175A	2/0 to 8 AWG 70 to 10 mm <sup>2</sup>	2/0 to 8 AWG 70 to 10 mm <sup>2</sup>	○	○	2/0 to 8	2/0 to 8	200	200	100	60	200kA
PDBFS220	175A	2/0 to 8 AWG 70 to 10 mm <sup>2</sup>	4 to 14 AWG 25 to 2.5 mm <sup>2</sup>	○	⊙⊙	2/0 to 8	4 to 12	200	200	100	60	200kA
							4 to 14	175	175	100	30	100kA
								200	200	100	60	50kA
PDBFS303	310A	350kcmil to 6 AWG 150 to 16 mm <sup>2</sup>	350kcmil to 6 AWG 150 to 16 mm <sup>2</sup>	○	○	350 to 6	350 to 6	400	400	200	100	200kA
PDBFS330	380A	500kcmil to 6 AWG 240 to 16 mm <sup>2</sup>	2 to 14 AWG 35 to 2.5 mm <sup>2</sup>	○	⊙⊙⊙	500 to 6	2 to 6	400	400	200	100	200kA
							2 to 14	200	200	100	60	50kA
								175	175	100	30	100kA
PDBFS377	570A	300kcmil to 4 AWG 150 to 12 mm <sup>2</sup>	4 to 14 AWG 25 to 2.5 mm <sup>2</sup>	○○	⊙⊙⊙⊙	300	4 to 8	600	600	400	200	200kA
							4	400	400	200	100	100kA
						300 to 4	4 to 14	200	200	100	60	50kA
PDBFS500	620A	350kcmil to 4 AWG 185 to 12 mm <sup>2</sup>	350kcmil to 4 AWG 185 to 12 mm <sup>2</sup>	○○	○○	350 to 4	350 to 4	600	600	400	200	200kA
PDBFS504	760A	500kcmil to 6 AWG 240 to 16 mm <sup>2</sup>	500kcmil to 6 AWG 240 to 16 mm <sup>2</sup>	○○	○○	500	500	600	800*	600	200	200kA
						500 to 6	500 to 6	600	600	400	200	100kA

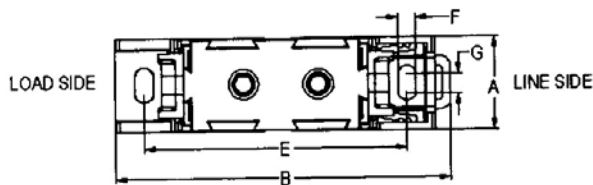
Ampacities 75C per NEC® Table 310.16 and UL508A Table 28.1

\*Class L 800A (KRP-C 800\_SP) or less fuses suitable for this particular SCCR case.

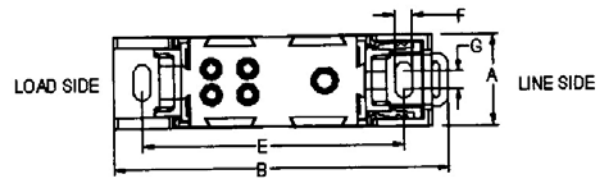
\*\* Class G 60A (SC-60) or less or Class CC 30A (LP-CC-30, FNQ-R-30, KTK-R-30) or less are suitable for all SCCR in this table.

# Series PDBFS Enclosed Power Distribution Blocks

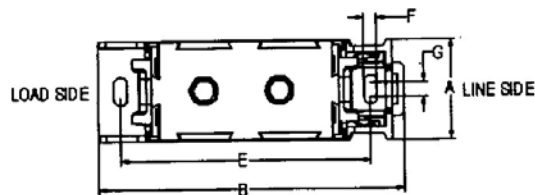
Dimensions in[mm]								
Part No.	Width	Length	Height	D	E	F	G	H
	A	B	C					
PDBFS204	1.030[26.16]	3.372[94.80]	2.146[54.50]	3.550[90.17]	2.905[73.79]	0.197[5.00]	0.197[5.00]	N/A
PDBFS220	1.030[26.16]	3.372[94.80]	2.146[54.50]	3.550[90.17]	2.905[73.79]	0.197[5.00]	0.197[5.00]	N/A
PDBFS303	1.550[39.37]	4.665[118.50]	2.874[73.00]	4.475[113.67]	3.810[96.77]	0.197[5.00]	0.236[6.00]	N/A
PDBFS330	1.550[39.37]	4.665[118.50]	2.950[74.93]	4.475[113.67]	3.810[96.77]	0.197[5.00]	0.236[6.00]	N/A
PDBFS377	1.875[47.62]	4.665[118.50]	2.933[74.50]	4.475[113.67]	3.810[96.77]	0.197[5.00]	0.236[6.00]	N/A
PDBFS520	2.380[60.45]	4.665[118.50]	2.598[66.00]	4.475[113.67]	3.810[96.77]	0.197[5.00]	0.236[6.00]	N/A
PDBFS504	2.560[65.02]	4.665[118.50]	3.150[80.00]	4.475[113.67]	3.810[96.77]	0.197[5.00]	0.236[6.00]	46.00[1.811]



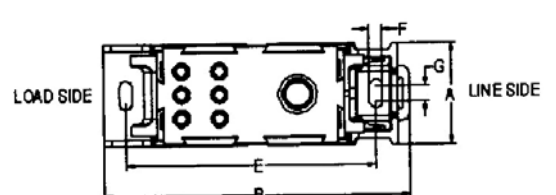
PDBFS204



PDBFS220

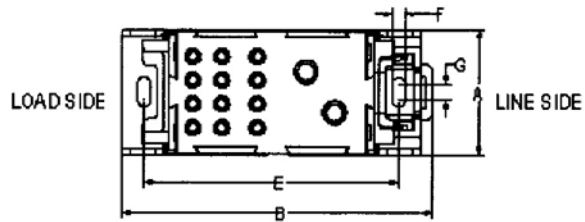


PDBFS303

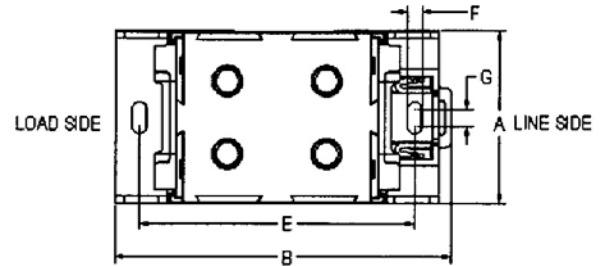


PDBFS330

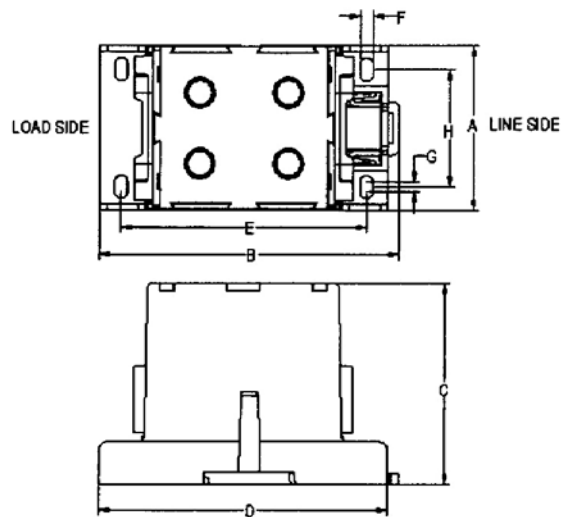
## Series PDBFS Enclosed Power Distribution Blocks



PDBFS377

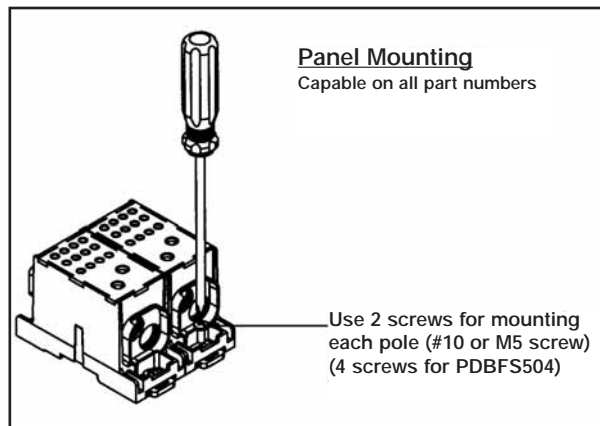


PDBFS500

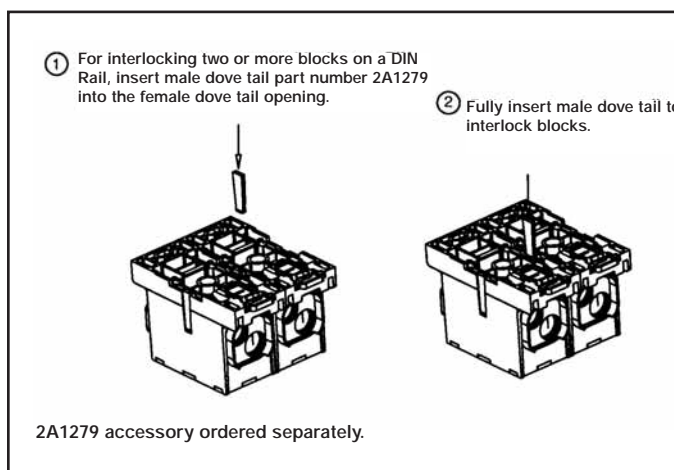
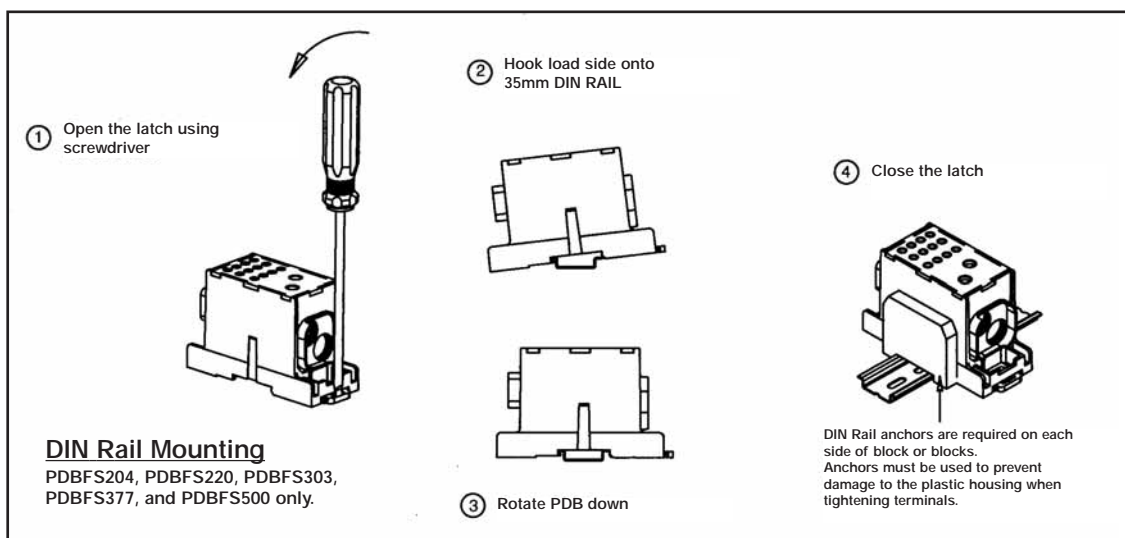


PDBFS504

# Series PDBFS Enclosed Power Distribution Blocks



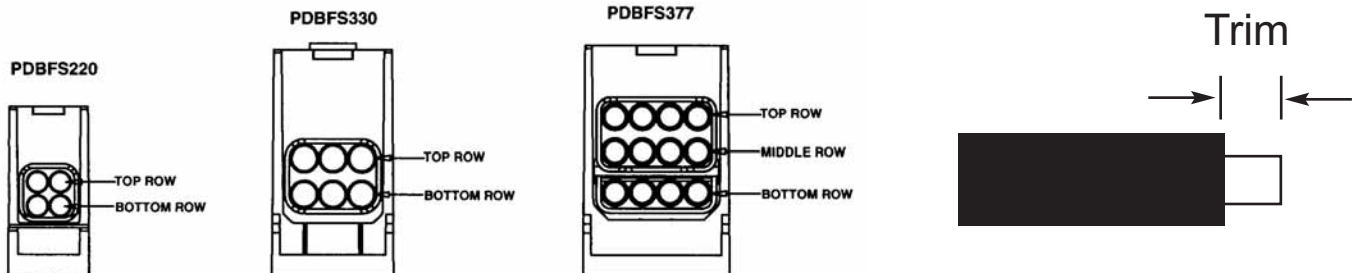
**OR**



# Series PDBFS Enclosed Power Distribution Blocks

## Series PDBFS

Part Number	Line				Load			
	CU Wire Range	Torque Lb-in (Nm)	Trim Length in (mm)	Hex Key	CU Wire Range	Torque Lb-in (Nm)	Trim Length in (mm)	Hex Key
PDBFS204	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	110 (12.4)	0.850 (21.6)	3/16"	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	110 (12.4)	0.970 (24.6)	3/16"
PDBFS220	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	120 (13.6)	0.750 (19.0)	3/16"	4 to 6 AWG 25 to 16mm <sup>2</sup>	35 (4.0)	0.550 (14.0) top row, 0.850 (21.6) bottom row	1/8"
					8 AWG 10mm <sup>2</sup>	25 (2.8)		
					10 to 14 AWG 6 to 2.5mm <sup>2</sup>	20 (2.3)		
PDBFS303	350 Kcmil to 6 AWG 150 to 16mm <sup>2</sup>	275 (31.1)	1.350 (34.3)	5/16"	350 Kcmil to 6 AWG 150 to 16mm <sup>2</sup>	275 (31.1)	1.250 (31.8)	5/16"
PDBFS330	500 Kcmil to 6 AWG 240 to 16mm <sup>2</sup>	500 (56.5)	1.250 (31.8)	3/8"	2 to 3 AWG 35mm <sup>2</sup>	50 (5.7)	0.590 (15.0) top row 1.200 (30.5) bottom row	1/8"
					4 to 6 AWG 25 to 16mm <sup>2</sup>	45 (5.1)		
					8 AWG 10mm <sup>2</sup>	40 (4.5)		
					10 to 14 AWG 6 to 2.5mm <sup>2</sup>	35 (4.0)		
PDBFS377	300 Kcmil to 4 AWG 150 to 25mm <sup>2</sup>	275 (31.1)	1.15 (29.2) top row 1.400 (35.6) bottom row	1/4"	4 to 6 AWG 25 to 16mm <sup>2</sup>	35 (4.0)	0.550 (14.0) top row, 1.00 (25.4) middle row 1.220 (31.0) bottom row	1/8"
					8 AWG 10mm <sup>2</sup>	25 (2.8)		
					10 to 14 AWG 6 to 2.5mm <sup>2</sup>	20 (2.3)		
PDBFS500	350 Kcmil to 4 AWG 185 to 25mm <sup>2</sup>	275 (31.1)	1.250 (31.8)	5/16"	350 Kcmil to 4 AWG 185 to 25mm <sup>2</sup>	275 (31.1)	1.250 (31.8)	5/16"
PDBFS504	500 Kcmil to 6 AWG 240 to 16mm <sup>2</sup>	500 (56.5)	1.250 (31.8)	3/8"	500 Kcmil to 6 AWG 240 to 16mm <sup>2</sup>	500 (56.5)	1.250 (31.8)	3/8"



Wire Connector Hole Diameter		
Part Number	Line	Load
	in (mm)	in (mm)
PDBFS204	0.450 (11.5)	0.450 (11.5)
PDBFS220	0.450 (11.5)	0.246 (6.25)
PDBFS303	0.720 (18.3)	0.720 (18.3)
PDBFS330	0.870 (22.1)	0.314 (8.0)
PDBFS377	0.687 (17.5)	0.265 (6.7)
PDBFS500	0.718 (18.2)	0.718 (18.2)
PDBFS504	0.875 (22.2)	0.875 (22.2)

Part No.	Minimum Enclosure Size
PDBFS204	16" X 16" X 6.75"
PDBFS220	16" X 16" X 6.75"
PDBFS303	36" X 30" X 12.625"
PDBFS330	24" X 20" X 6.75"
PDBFS377	24" X 20" X 6.75"
PDBFS500	36" X 30" X 12.625"
PDBFS504	36" X 30" X 12.625"

# Series PDBFS Enclosed Power Distribution Blocks

Specific Conditions to Achieve IP-20 Finger-Safe Status for Series PDBFS

Part Number	Line				Load			
	Trim Length in (mm)	Installed Wire	IP-20		Trim Length in (mm)	Installed Wire	IP-20	
			Conductor Openings	Screw Opening			Conductor Openings	Screw Opening
PDBFS204	0.850 (21.6)	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	Yes	Yes	0.970 (24.6)	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	Yes	Yes
PDBFS220	0.750 (19.0)	2/0 to 8 AWG 70 to 10mm <sup>2</sup>	Yes	Yes	0.550 (14.0) top row, 0.850 (21.6) bottom row	4 to 14 AWG 25 to 2.5mm <sup>2</sup>	Yes	Yes
						screws fully opened	N/A	Yes
						no wire in hole	No	N/A
PDBFS303	1.350 (34.3)	350 Kcmil to 2/0 AWG 150 to 70mm <sup>2</sup>	Yes	Yes	1.250 (31.8)	350 Kcmil to 2/0 AWG 150 to 70mm <sup>2</sup>	Yes	Yes
		1/0 to 6 AWG 50 to 16mm <sup>2</sup>	No	Yes		1/0 to 6 AWG 50 to 16mm <sup>2</sup>	No	Yes
PDBFS330	1.250 (31.8)	500 to 250 Kcmil 240 to 150mm <sup>2</sup>	Yes	Yes	0.590 (15.0) top row, 1.200 (30.5) bottom row	2 to 14 AWG 35 to 2.5mm <sup>2</sup>	Yes	Yes
		4/0 to 6 AWG 120 to 16mm <sup>2</sup>	No	Yes		screws fully opened	N/A	Yes
						no wire in hole	No	N/A
PDBFS377	1.15 (29.2) top row, 1.400 (35.6) bottom row	300 Kcmil to 4/0 AWG 150 to 120mm <sup>2</sup>	Yes	Yes	0.550 (14.0) top row, 1.00 (25.4) middle row, 1.220 (31.0) bottom row	4 to 14 AWG 25 to 2.5mm <sup>2</sup>	Yes	Yes
		3/0 to 4 AWG 95 to 25mm <sup>2</sup>	No	Yes		screws fully opened	N/A	Yes
		screws fully opened	N/A	No		no wire in hole	Yes	N/A
		no wire in hole	No	N/A				
PDBFS500	1.250 (31.8)	350 Kcmil to 2/0 AWG 185 to 70mm <sup>2</sup>	Yes	Yes	1.250 (31.8)	350 Kcmil to 2/0 AWG 185 to 70mm <sup>2</sup>	Yes	Yes
		1/0 to 4 AWG 50 to 25mm <sup>2</sup>	No	Yes		1/0 to 4 AWG 50 to 25mm <sup>2</sup>	No	Yes
		screws fully opened	N/A	No		screws fully opened	N/A	No
		no wire in hole	No	N/A		no wire in hole	No	N/A
PDBFS504	1.250 (31.8)	500 to 350 Kcmil 240 to 185mm <sup>2</sup>	Yes	Yes	1.250 (31.8)	500 to 350 Kcmil 240 to 185mm <sup>2</sup>	Yes	Yes
		300 Kcmil to 6 AWG 150 to 16mm <sup>2</sup>	No	Yes		300 Kcmil to 6 AWG 150 to 16mm <sup>2</sup>	No	Yes
		screws fully opened	N/A	No		screws fully opened	N/A	No
		no wire in hole	No	N/A		no wire in hole	No	N/A