FSPDB

Finger-Safe Power Distribution Blocks

POWER DISTRIBUTION BLOCKS

SAFETY EVOLVING

Mersen FSPDBs introduce a new level of safety and ease for installing power distribution blocks. An IP20 level of finger-safe protection is achieved using FSPDBs, eliminating the need for special covers or custom Plexiglas sheets to protect your panels. FSPDBs (sizes 1 to 4) simply snap onto 35mm DIN rail to provide the quickest installation. Modular design also allows for multi pole applications by use of assembly pins. FSPDBs provide a safe, convenient way of splicing cables, splitting primary power into a variety of secondary circuits or providing a fixed junction tap-off point.

FEATURES/BENEFITS:

- **Finger-safe protection:** Fully insulated block ensures touch safe isolation of live parts. Recessed termination screws and wire openings provide IP20 grade protection and qualify as “finger-safe” per IEC 529.
- **Compact modularity:** Single or multiple pole configurations in the most compact footprint. Allows users to build smaller or higher density panels.
- **Snap on DIN-rail mounting:** Sizes 1 to 4 feature integral DIN rail adaptors allowing for quick and easy installations on 35mm DIN rail yielding lower installed costs.
- **Captive termination screws:** Unique channel design ensures captive metric wire termination screws. Screws can never be lost.
- **Available accessories:** For multi-pole panel mounting, simply snap in pins for rigid fit. Cap plugs provide the ability to maintain touch safety on unused openings. Circuit identification markers simply snap into blocks to ID circuits. End anchors provide rigid end stops. (Continued on next page.)

RATINGS:

Volts: FSPDB1,2,3—1500VAC/DC; FSPDB4,5—600VAC/DC

Amps: 175 to 840A

SCCR: 600V or less, 100kA with proper fuse; Over 600V, 10kA

Contact Technical Services for instruction sheet.

APPROVALS:

- UL Recognized Component Guide XCFR2, File E73571
- CSA Certified: Class 6228, File 69363
- IEC-947-7-1, 529, 68-2-6, CE Marked

FEATURES/BENEFITS (CONTINUED):

- **Multiple wire ratings:** Provide users more versatility by offering capability of using multiple conductors in #2 and 2/0 openings.
- **AC & DC ratings:** FSPDB1, 2, and 3 have been evaluated for use at 1000V (AC or DC) provided they are installed on DIN-rails only and with barriers between poles of opposite polarity of sufficient size to maintain required spacings.

CATALOG NUMBERS

Catalog Number		Ampere Rating	Line			Load			
			Wire Range			Wire Range			
Aluminum (Connector rated for 90° C Cu/AL wire)	Copper (Connector rated for 75° C Cu wire only)	(Based on NEC Table 310-16 for 75° C Cu wire only)	AWG/	mm²	Openings	AWG/ kcmil	mm²	Openings Per Pole	Short Circuit Current Rating
FSPDB1A	FSPDB1C	175	2/0-#14	70-2.5	1	2/0-#14	70-2.5	1	100kA•
FSPDB2A	FSPDB2C	175	2/0-#14	70-2.5	1	#2-#14	35-2.5	4	100kA•
FSPDB3A	FSPDB3C	310	350-#6	185-16	1	#8-#14	8-2.5	8	100kA•
			2/0-#14	70-2.5					
FSPDB4A	FSPDB4C	335	400-#6	185-16	1	400-#6	185-16	1	100kA•
FSPDB5A	FSPDB5C	840	600-#4	300-25	2	600-#4	300-25	2	100kA•

•Contact Mersen Technical Services at technicalservices.nby@mersen.com for fuse type and maximum ampere required.

Multiple Wire Ratings (Same Size & Type Wires Only)					
2/0 Openings			#2 Openings		
(2) #4 AWG	(2) #8 AWG	(2) #12 AWG	(2) #6 AWG	(2-4) #10 AWG	(2-4) #14 AWG
(2) #6 AWG	(2) #10 AWG	(2) #14 AWG	(2) #8 AWG	(2-4) #12 AWG	

DIMENSIONS

Dimension	FSPDB1A FSPDB1C Figure 1		FSPDB2A FSPDB2C Figure 1		FSPDB3A FSPDB3C Figure 2		FSPDB4A FSPDB4C Figure 1		FSPDB5A FSPDB5C Figure 2	
	mm	in	mm	in	mm	in	mm	in	mm	in
A	25.4	1.00	28.4	1.12	46.9	1.85	39	1.54	72	2.84
B	43.3	1.70	57.8	2.28	64.3	2.53	108	4.25	91	3.58
C	49.5	1.95	56.0	2.21	64.3	2.53	80	3.15	80	3.15
D	45.1	1.78	51.6	2.03	59.8	2.36	75.5	2.97	-	-
E	39.4	1.55	39.4	1.55	51.5	2.03	50.1	1.97	50.1	1.97
F	72.6	2.86	87.7	3.45	100.8	3.97	145.5	5.73	145	5.71
G	59.6	2.35	74.6	2.94	82.4	3.24	120.6	4.75	127.5	5.02
H	5.3	0.21	5.1	0.20	6.5	0.26	7	0.28	3	0.12
I	-	-	-	-	31.5	1.24	-	-	52	2.04
J	5.3	0.21	6.4	0.25	6.5	0.26	6.5	0.26	6.5	0.26
K	10	0.40	11.7	0.46	8.9	0.35	16	0.63	8.5	0.34

ACCESSORIES

Catalog No.	Description
FSPIN1	Accessory pin to form multiple pole block
FSCIM1	Circuit identification marker for 2/0 & #2 max. conductors (80 per card)
FSCIM2	Circuit identification marker for 350, 400 & 600 kcmil max. conductors (56 per card)
FSCAP1	Cap plug for spare 2/0 openings
FSCAP2	Cap plug for spare 350 kcmil openings
FSCAP3	Cap plug for spare 600 kcmil opening
FSEA	Pair of end anchors

Figure 1

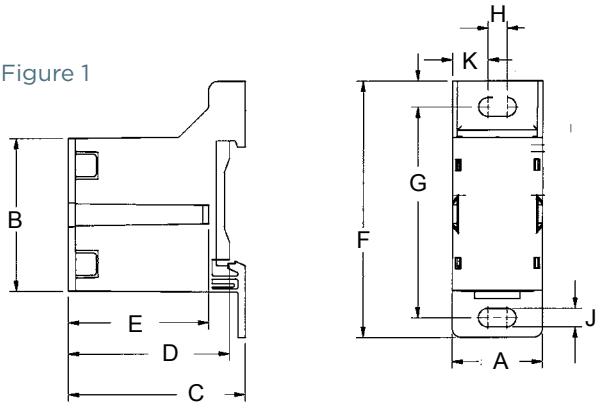
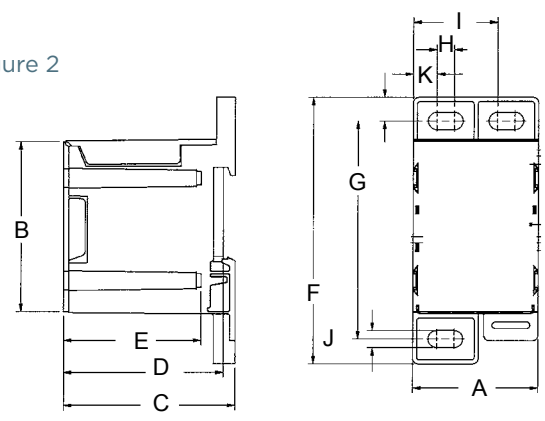


Figure 2



Properties of Materials*

Fuse Blocks, Fuseholders, Power Distribution Blocks, Fuses & Accessories

Property	Units	Astm Test	Phenolic	Glass Filled Polycarbonate	Polyamide	Polyethelene Terphthalate	Polysulfone Copolymer	Polyphtalamide	Nylon
Specific Gravity	-	D792	1.4	1.21	1.36	1.67	1.52	1.71	1.16
IZOD	ft-lb/in	D256	0.29	4-6	3.2	1.7	1.8	1.5	0.63
Flexural Strength	psi	D790	11,000	13,200	38,000	29,000	26,900	37,300	18,500
Flexural Modulus	psi	D790	1.1×10^6	325,000	1.25×10^6	1.5×10^6	1.4×10^6	1.9×10^6	4.3×10^5
Tensile Strength	psi	D638	7,000	9,000	25,000	20,000	17,600	26,000	12,000
Compressive Strength	psi	D695	28,800	12,500	34,000	29,000	-	-	-
Water Absorption	24 hrs %	D570	0.45	0.15	1.3	0.05	0.1	0.18	1.5
Hardness	Rockwell	D785	M-110	M-85	R-105	R-120	-	-	-
Dielectric Strength									
60 hertz, 25°C, s/t	kV/in	-	300	425	435	460	500	460	432
60 hertz, 25°C, s/s	kV/in	-	250	425	-	355	-	-	-
Dielectric Constant									
60 hertz–dry	-	D150	5.96	3.01	-	3.8	-	-	-
1 Mhertz–dry	-	D150	4.9	2.96	3.6	3.7	3.8	4.9	3.6
Volume Resistivity	ohm-cm	D257	50×10^6	$>10^{16}$	10^{16}	$>10^{15}$	$>10^{16}$	3×10^{16}	$>10^{16}$
Heat Deflection	°F	D648	320	270	410	435	330	523	167
(°F @ 264 psi)									
Flammability (UL 94)	-	-	94 V-0	94 V-0	94 V-0	94 V-0	94 V-0	94 V-0	94 V-0
Relative Thermal Index (RTI)									
(UL746B)									
Electrical	°C	-	150	125	150	155	150	140	140
Mechanical without impact	°C	-	150	125	140	155	150	130	110

*Note: Above data represents approximate values and are for reference only.

Product Types & Families						
64XXXX	MPDB	USM	GPM	SHR	AOS	FSPDB
22XXXX	DRM	USCC	FEB		EI	
24XXXX	DFC	USGM	FEX			
26XX	603XXX	USGCC	IL			
P266	203XXX	US3J	TPMOV			
P243	206XXX	US6J	Surge Trap			
1MSC	303XXX	US14	1SC			
PS2OX127	306XXX	US22				
FHXXX	P243X	CC				
	703XX	MSC				
	U705XX	NH				
	U710XX					
	21XXXX					
	61XXXSJ					
	61XXXX					
	62XXXX					

Mersen Product Selector Tools

Select-A-Fuse®

The industry's first point-and-click, Windows®-based fuse selection software, Select-A-Fuse is fast, easy and accurate. With Select-A-Fuse, you can quickly and accurately choose the right overcurrent protection for low- and medium-voltage motors, power and control transformers, and general loads.

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- Data and selection routines for our low- and medium-voltage capacitor fuses, High-Speed J fuses and FSPDB finger-safe power distribution blocks
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Quickly find a power distribution block for your application by entering your desired attributes from pre-populated drop-down menus.

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Wind Power Circuit Protection

Mersen brings its knowledge, innovation and technical expertise to the wind power industry, with a complete line of problem-solving products.

A wide range of circuit protection solutions are available for the Nacelle, Utility and Tower Base, including Finger-safe Power Distribution Blocks (FSPDB) Time-delay Class J Fuses (AJT), E-Rated Medium Voltage Current-limiting Power Fuses and more.

Download Mersen's wind power solutions brochure at ep-us.mersen.com > Resources > Literature.

To learn more about how Mersen products can protect people and equipment:

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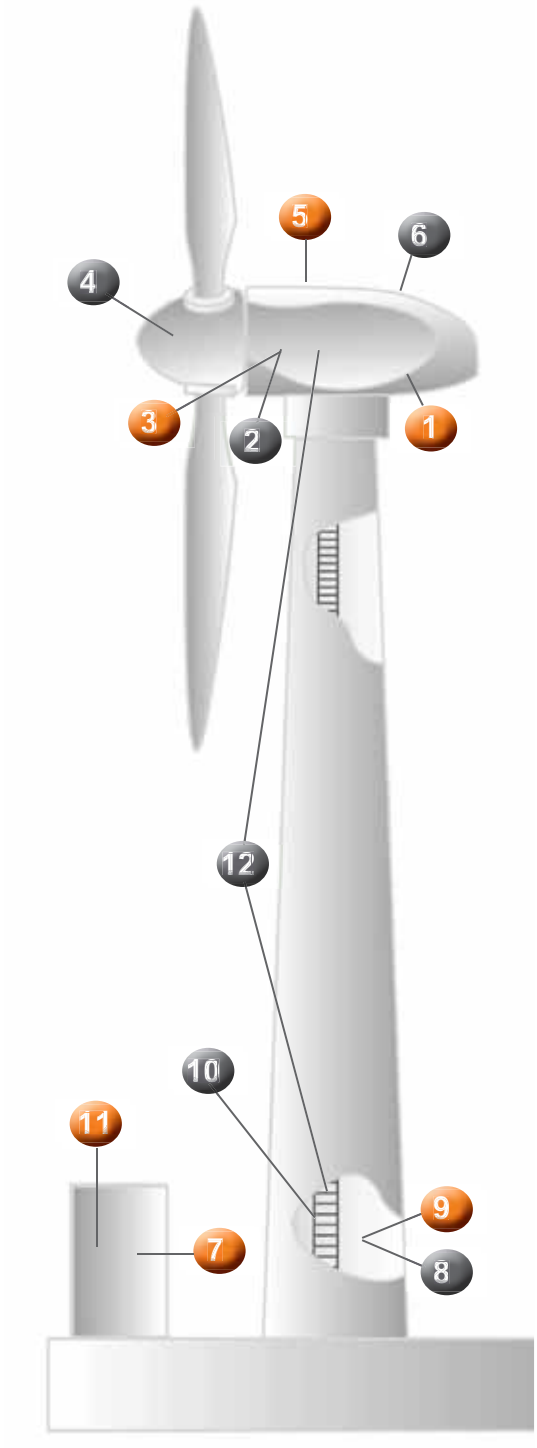

Turbine Component			Mersen Electrical Protection			
			Fuses	Holders	Surge Protection	Other
Nacelle	1	Control Cabinet	AJT Class CC	UltraSafe™ Disconnect Switch	Surge-Trap® SPD	FSPDB
	2	Rotor	Medium Voltage NH - G Class L	Associated Holders	Surge-Trap® SPD	
	3	Stator	Medium Voltage NH - G Class L	Associated Holders	Surge-Trap® SPD	
	4	HUB	AJT Class CC	UltraSafe™	Surge-Trap® SPD	
	5	Obstruction Lighting	AJT Class CC	UltraSafe™	Surge-Trap® SPD	
	6	Anemometer	Class CC Midget	UltraSafe™	Surge-Trap® SPD	
Base	7	Heading	NH Class L	NH Holders or NH Switch	Surge-Trap® SPD	
	8	Control Cabinet (230V)	AJT Class CC	UltraSafe™ Disconnect Switch	Surge-Trap® SPD	FSPDB
	9	Control Cabinet (24V/ 48V)	Midget	UltraSafe™		
	10	Inverter for Rotor Power Supply	PSC Form101 NH - g	NH Holder	Surge-Trap® SPD	Cable Protector
	11	Transformer & Utility Lines	Medium Voltage			High Voltage Switch
Both	12	Inverter & Generators	Medium Voltage	Disconnect Switch		High Voltage Switch Heatsinks