

DWB - UL489 Listed

Introducing the New WEG DWB Series Molded Case Circuit Breakers. With its compact frame the DWB provides an economical circuit protection solution for Commercial & Industrial machinery applications. The DWB160 Series ranges from 20 to 100Amps and is available in 80% Standard and 100% Premium ratings. The unmistakable WEG blue transparent cover makes identifying internal accessories safe and easy.

Standard Features

- Compact Size
- Accessory for DIN mounting
- Fixed Thermal- Fixed Magnetic trip unit
- Transparent cover for easy accessory recognition
- Complete line of field installable accessories
- Suitable for reverse feed applications



DWB Catalog Number Sequence

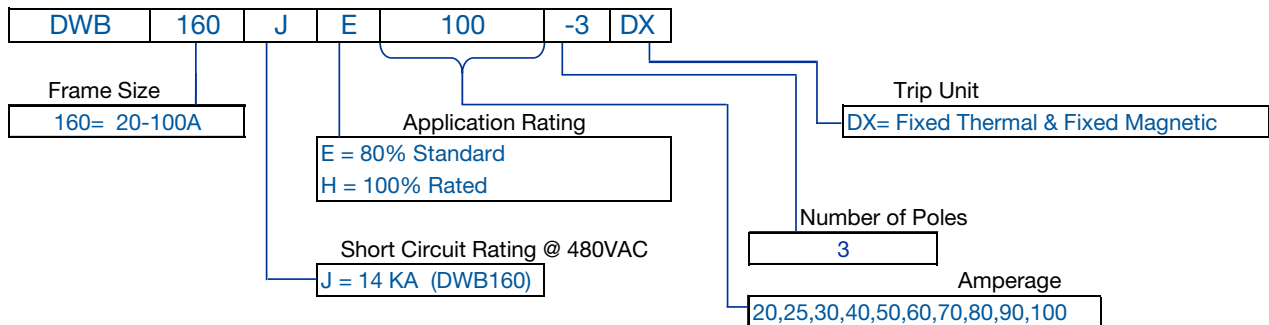


Chart intended as reference only and not to create part numbers.

General Information

Circuit Protection

Disconnect Switches

Motor Protectors

Contactors

Overloads

Enclosed Starters

Relays

Pushbuttons and Pilot Lights

Terminal Blocks

Power Factor Correction

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Circuit Protection

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DWB160- Standard 80% Rated - Fixed Thermal & Fixed Magnetic Trip Unit

Rated Current (A)	Magnetic Trip Point	Short-Circuit Interrupting Ratings		Catalog Number	List Price	Multiplier
		240VAC	277/480Y VAC			
20	300	50	14	DWB160JE20-3DX	\$558	Z10
25	300			DWB160JE25-3DX	\$558	
30	300			DWB160JE30-3DX	\$558	
40	400			DWB160JE40-3DX	\$558	
50	500			DWB160JE50-3DX	\$558	
60	600			DWB160JE60-3DX	\$558	
70	700			DWB160JE70-3DX	\$558	
80	800			DWB160JE80-3DX	\$579	
90	900			DWB160JE90-3DX	\$579	
100	1000			DWB160JE100-3DX	\$579	

DWB160- Standard 100% Rated - Fixed Thermal & Fixed Magnetic Trip Unit

Rated Current (A)	Magnetic Trip Point	Short-Circuit Interrupting Ratings		Catalog Number	List Price	Multiplier
		240VAC	277/480Y VAC			
20	300	50	14	DWB160JH20-3DX	\$640	Z10
25	300			DWB160JH25-3DX	\$640	
30	300			DWB160JH30-3DX	\$640	
40	400			DWB160JH40-3DX	\$640	
50	500			DWB160JH50-3DX	\$640	
60	600			DWB160JH60-3DX	\$640	
70	700			DWB160JH70-3DX	\$640	
80	800			DWB160JH80-3DX	\$697	
90	900			DWB160JH90-3DX	\$697	
100	1000			DWB160JH100-3DX	\$697	

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DWB160- Internal Accessories

Auxiliary and Alarm Switches

Internal Accessory	Number of Contacts	Catalog Number	List Price	Multiplier
Aux Switch BC	1	BC-1 DWB	\$98	Z10
	2	BC-2 DWB	\$160	
Alarm Switch AL	1	AL-1 DWB	\$98	
Aux Switch & Alarm Switch BCAL	1BC + 1AL	BCAL-2 DWB	\$160	

Electrical Characteristics

Rated Voltage	Type of Load	Switching Capacity (Amp)
125 VAC	Resistive	6
250 VAC	Resistive	6

BC Auxiliary Switch

- Indicates remote circuit breaker status “open” (OFF) or “closed” (ON) through SPDT form C contacts.

AL Alarm Switch

- Indicates circuit breaker has tripped due to overload, short-circuit, shunt trip or undervoltage-trip release conditions through SPDT form C contact.
- Contact opens when circuit breaker is reset
- Offers provision for audio and visual indication of tripped breaker due to conditions described above

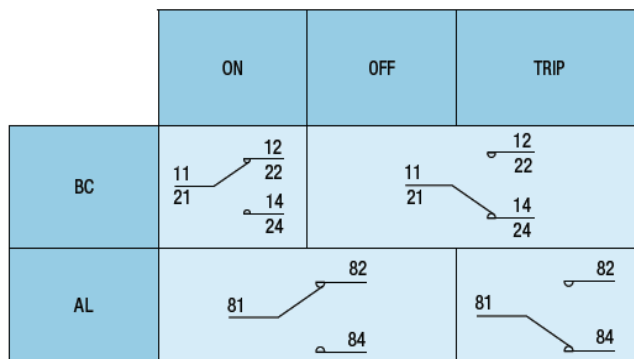
BCAL Auxiliary and Alarm Switch

- Auxiliary and alarm switch incorporated into one unit

BC, AL & BCAL

- All come with built-in terminal blocks. These terminal blocks will accept 20 to 16 AWG (0.5 to 1.5MM²) Tightening torque of 6.9 lb.in. (0.8 N. m.).

Wiring Diagrams



Circuit Protection

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DWB160- Internal Accessories

Shunt and Undervoltage Release

Internal Accessory	Rated Voltage Ue	Power Consumption	Catalog Number	List Price	Multiplier
Undervoltage Release BS	24/48/60/110-130/220-250V ac/dc	1.5VA	BS DWB160*	\$220	Z10
Shunt Release BD		150VA	BD DWB160*	\$198	

*Complete Catalog Number, Replace * with Appropriate Voltage Code

Voltage Codes

E26	E27	E28	E10	E15
24V ac/dc	48V ac/dc	60V ac/dc	110-130V ac/dc	220-250V ac/dc

BD Shunt Release

- When energized by a pulse or maintained signal of voltage, the shunt release trips breaker (trip position). Shunt release works from 70 to 110% of rated voltage ($0.70 \times U_n < U_e < 1.1 \times U_n$).
- Features a device to keep unenergized after tripping pulse.

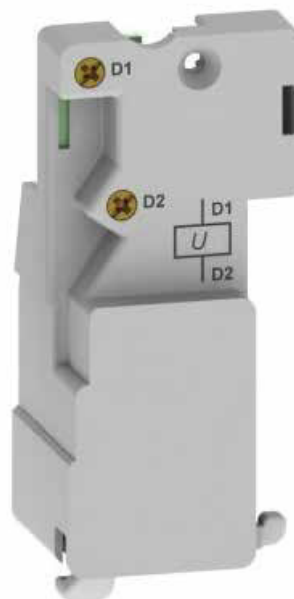
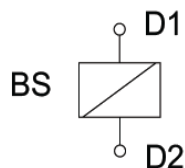
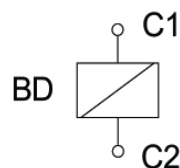
BS Undervoltage Release

- Trips breaker when the voltage drops below 35% of the rated voltage ($U_e < 0.35 \times U_n$)
- When voltage is between 35 to 70% of rated voltage, it may open the circuit breaker ($0.35 \times U_n < U_e < 0.7 \times U_n$)
- After the operation of BS release, circuit breaker can only be closed if supply voltage is above 85% of the rated voltage ($U_e > 0.85 \times U_n$)
- The BS undervoltage release along with an emergency stop push button makes possible for fail-safe operation of the circuit breaker

BD & BS Release

- All come with built-in terminal blocks. These terminal blocks will accept 20 to 16 AWG (0.5 to 1.5MM²) Tightening torque of 6.9 lb.in. (0.8 N. m.). After BD or BS operation the circuit breaker has to be reset before being closed again.

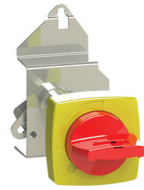
Wiring Diagrams



DWB160- External Accessories

MRX Rotary Handle

Rotary Handle + Mechanism + Shaft	Environmental Rating	Shaft Length (in/mm)	Handle/back-ground Color	Catalog Number	List Price	Multiplier
MRX	UL TYPE 4X	5.12/130	Black/Gray	MRX DWB160 130	\$250	Z10
		16.93/430		MRX DWB160 430	\$306	
		5.12/130	Red/Yellow	MRX DWB160 130E	\$256	
		16.93/430		MRX DWB160 430E	\$306	



MRX Handle Features:

- UL TYPE 4X (IP66)
- When in ON position, panel door cannot be opened without tool used to bypass the panel door locking system
- Handle design allows padlocking in OFF position using up to 3 padlocks - Handle shaft length can be adjusted up to 16.93 in. (430mm)
- Available in 2 colors: black handle/gray background and red handle/yellow background

Mechanical Interlock	MCCB	Catalog Number	List Price	Multiplier
BLIM	DWB160	BLIM DWB160	\$338	Z10



BLIM Features:

- Provides safe operation in a manual operated changeover system
- Interlocks two circuit breakers, same frame size, preventing both breakers to be in the ON position at the same time
- Mounts directly to front cover of breakers
- Allows padlock in follow positions: MCCB 1 ON and MCCB 2 OFF, MCCB 2 ON and MCCB 1 OFF
- Possible to interlock three MCCBs side by side using two BLIMs
- Allows padlocks with diameters 0.16...0.31 in. (4...8mm)

DIN Rail Base	MCCB	Catalog Number	List Price	Multiplier
BFR	DWB160	BFR DWB 160 3P UL	\$338	Z10



DIN Rail Base Features:

- Allows DWB160 to be mounted to 35mm DIN Rail
- Quick mount assembly and replacement

Escutcheon Plate	MCCB	Catalog Number	List Price	Multiplier
MP	DWB160	MP DWB160	\$12	Z10



MP Escutcheon Features:

- Escutcheon plates are frames for cutouts in panels doors providing a degree of protection

Pad Lock Device	MCCB	Catalog Number	List Price	Multiplier
PL	DWB160	PL DWB 160 3P	\$65	Z10



PL Features:

- The PL is a fixed type device that is installed on the front of the DWB160 enabling the breaker to be locked in the OFF position
- Will allow up to three padlocks with diameter of 0.16...0.31 in. (4...8mm)

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DWB

Technical Data



Model		DWB160	
Frame size		160	
Electrical characteristics according to UL 489 - UL file E310239			
Rated operational voltage - Ue	V ac (60 Hz)	480Y/277	
Maximum rated continuous current - In (40 °C)	A	100	
MCCB rating design		80%, 100%2)	
Rated current - In (40 °C)	A	20, 25, 30, 40, 50, 60, 70, 80, 90, 100	
Number of poles		3	
Short-circuit breaking capacity levels		J	
UL interrupting rating - max RMS symmetrical1)	kA rms		
	240 V ac	50	
	480Y/277 V ac	14	
Mechanical lifespan (C-0)	Number of operations	10000	
	Operations per hour	360	
Electrical lifespan (C-0) @ 480Y/277 V ac	Number of operations	6000	
	Operations per hour	360	
Protection			
Against short-circuit & overload (fixed thermomagnetic)		Yes	
Against short-circuit & overload (adjustable thermal and fixed magnetic)		No	
Accessories			
Internal	Auxiliary switch BC	Yes	
	Alarm switch AL	Yes	
	Auxiliary and alarm switches BCAL	Yes	
	Shunt trip release BD	Yes	
	Undervoltage-trip release BS	Yes	
External	Mechanical interlock BLIM	Yes	
	Lock-OFF device PLW	Yes	
	Escutcheon MP	Yes	
	Wiring terminal (lug) PC	Built-in	
Handles	Panel door rotary operating handle MRX	Yes	
	Panel door rotary operating handle MR	Yes	
	Rotary handle EH	Yes	
	Flange handle FH/FHX	Yes	
Installation and connections			
Suitable for reverse connection		Yes	
Cables - Cu3)	Maximum cross-section		3 AWG
	Minimum cross-section		10 AWG
	Tightening torque	lb.in (N.m)	57.2 (6.5)
Busbar	Tightening torque	lb.in (N.m)	-
Dimensions (W x D x H)		Inches (mm)	3.07 x 2.87 x 6.30 (78 x 73 x 160)
Weight	3 poles	Pounds (kg)	2.09 (0.95)

Notes: 1) Suitable for 3-phase wye connection only.

2) For DWB160: suitable for continuous operation at 100 percent of rating only if used in a circuit breaker enclosure in a cubicle space 23.6 by 15.7 by 7.9 inches (600 by 400 by 200 mm) or equivalent.

Installation and Connections

Minimum Mounting Distances: DWB160

		<i>in/mm</i>
<p>Recommended mounting distances (inch / mm)</p>	A	1.97 / 50
	B	0.79 / 20
	C	0.79 / 20
<p>Recommended distances between circuit breakers for side by side assembly (inch / mm)</p>	D	0.394 / 10
<p>Recommended distances between circuit breakers for vertical assembly (inch / mm)</p>	E	3.54 / 90
<p>Mounting position</p>		
<p>Drilling for fixing the circuit breakers (inch / mm)</p> <p>DWB160</p>		See section dimensions
<p>Dimensions of fixing screw to the plate (inch / mm)</p>		M4 x 2.99 / 76 (2 pieces)
<p>Surpass of the fixing screw in relation to the circuit breaker (inch / mm)</p>	H	0.315 / 8
<p>Tightening torque - fixing screw (lb.in / N.m)</p>		35.2 / 4

DWB

Installation and Connections

Thermal Dissipation

Distribution MCCB

Rated current - In	A	20	25	30	40	50	60	70	80	90	100
Power loss	Watts/pole										
	DWB160	1	2	4	4	5	8	4	5	6	7

Deratings

Temperature derating	50 °F 10 °C	59 °F 15 °C	68 °F 20 °C	77 °F 25 °C	86 °F 30 °C	95 °F 35 °C	104 °F 40 °C	113 °F 45 °C	122 °F 50 °C	131 °F 55 °C	140 °F 60 °C
DWB160 (x In)	1.16	1.12	1.09	1.07	1.02	1.02	1	0.97	0.95	0.91	0.88

Altitude derating		6500 ft / 2000 m	9800 ft / 3000 m	13100 ft / 4000 m	16400 ft / 5000 m
Rated current - In	%	100	98	93	90
Rated operational voltage - Ue	V ac	480Y/277	480Y/277	480Y/277	400Y/230

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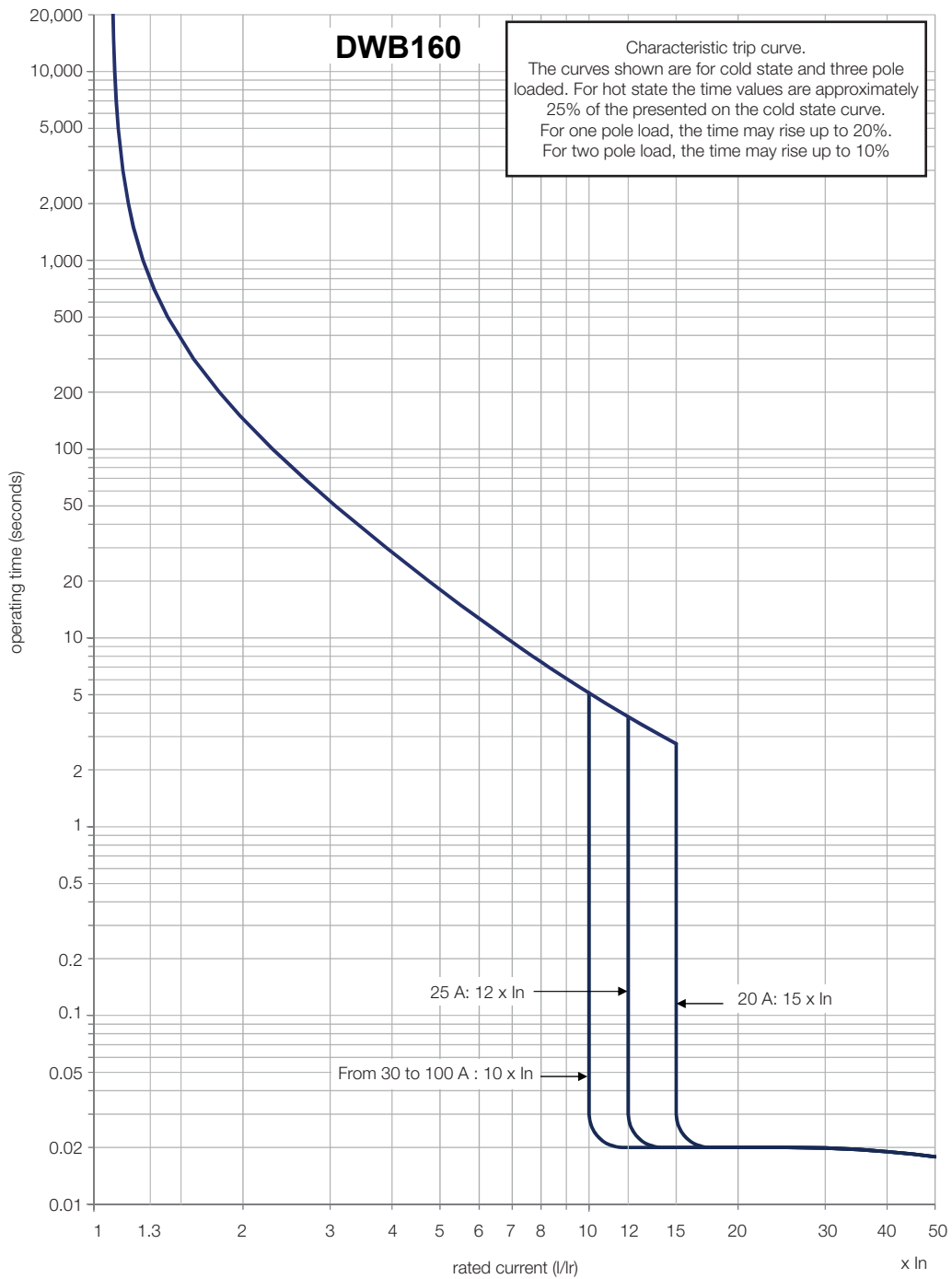
Power Factor Correction

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Trip Curves

DWB160 - Fixed Thermal and Fixed Magnetic (20...100 A)



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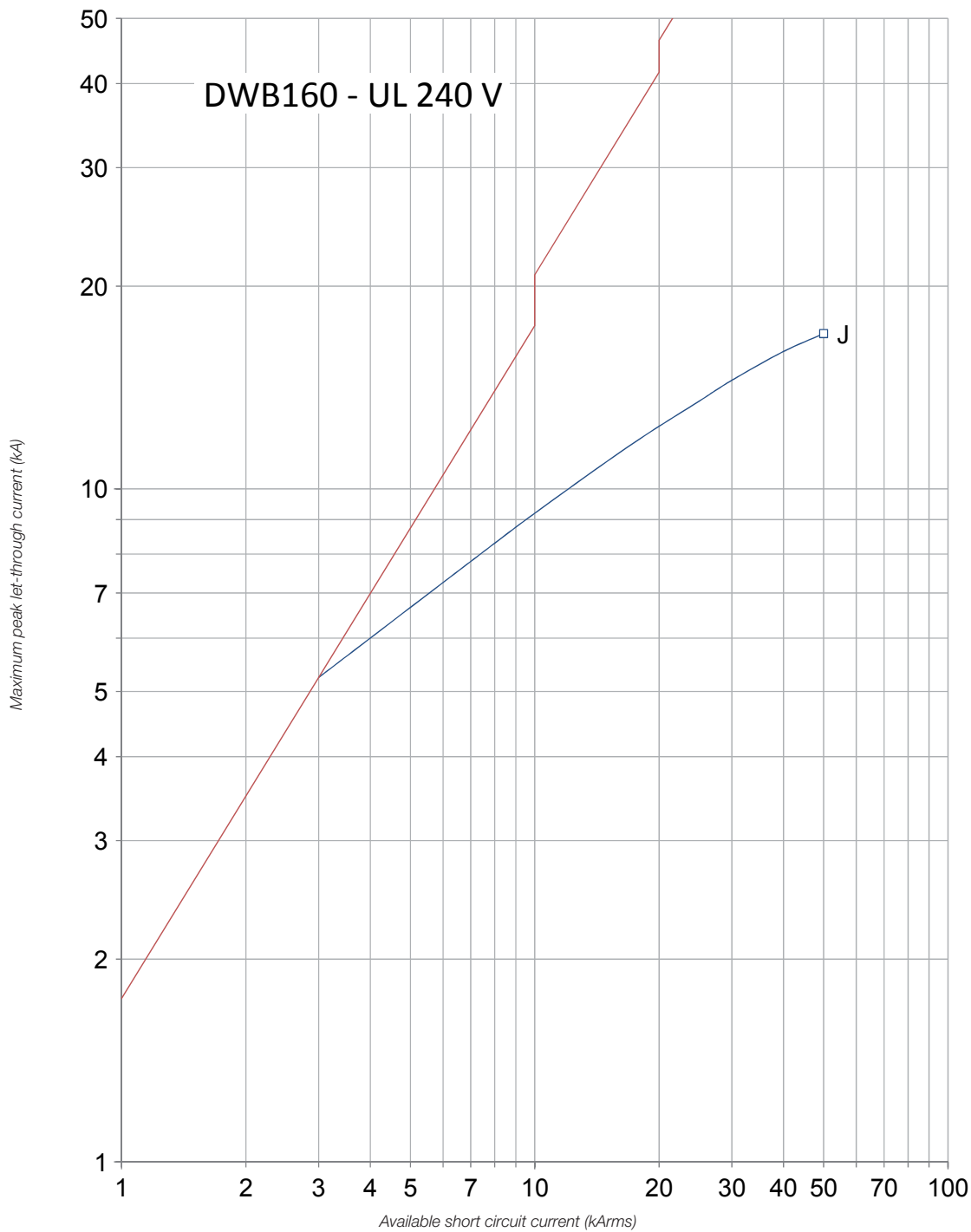
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Trip Curves

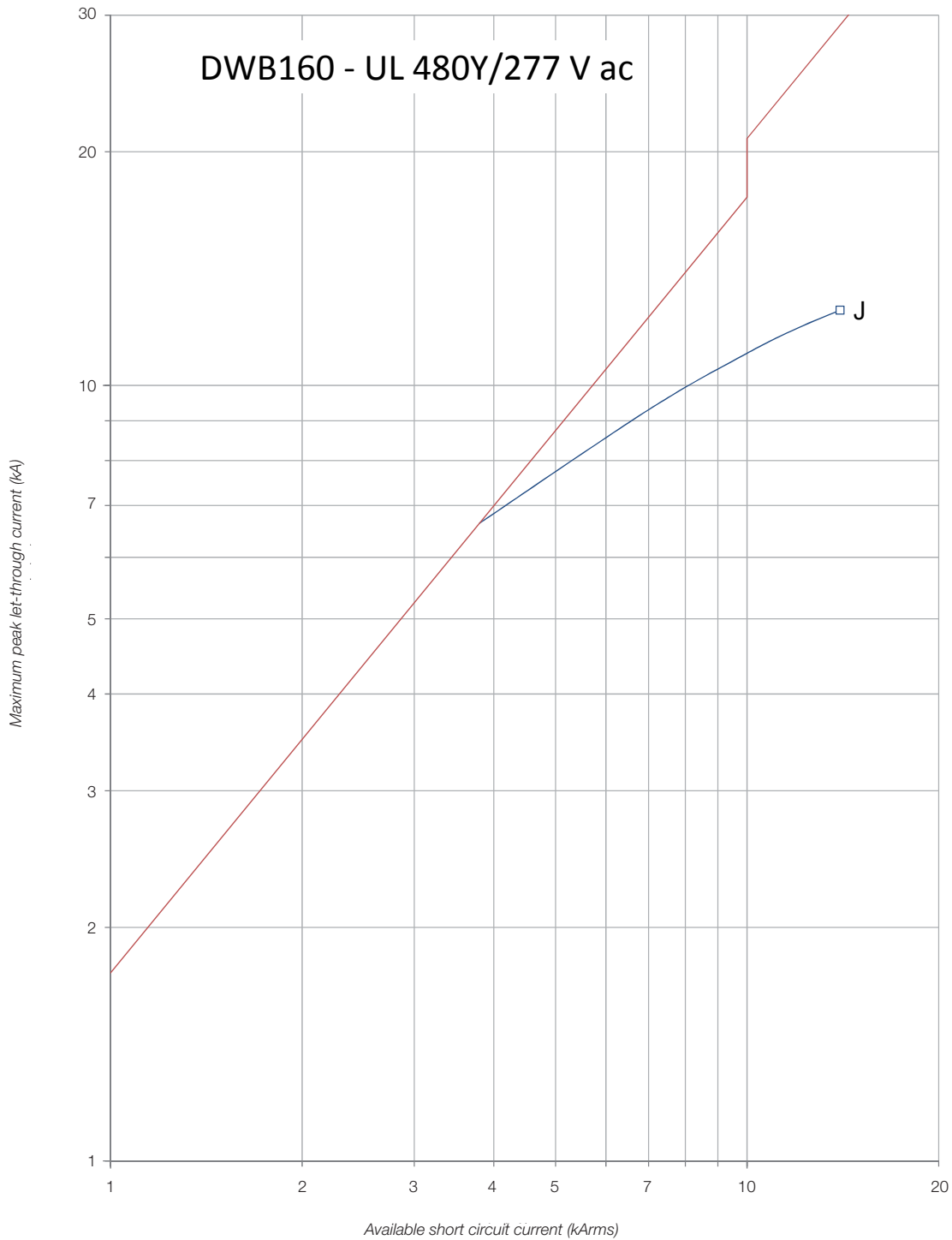
DWB160 - Short-Circuit Limiting Curves @ 240 V ac



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Trip Curves

DWB160 - Short-Circuit Limiting Curves @ 480Y/277 V ac



Circuit Protection

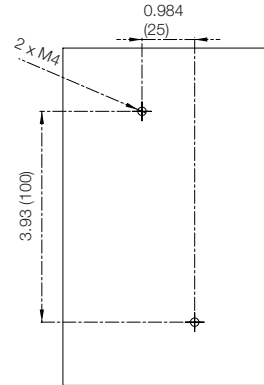
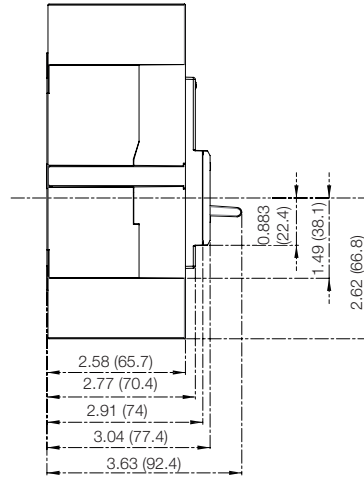
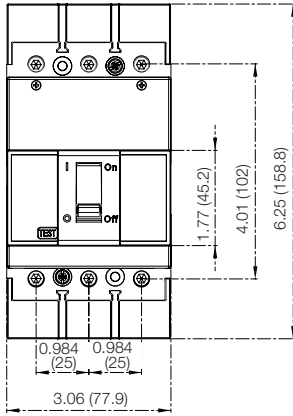
DWB

Dimensions - Inch (mm)

Circuit Breakers

DWB160

Drilling Template



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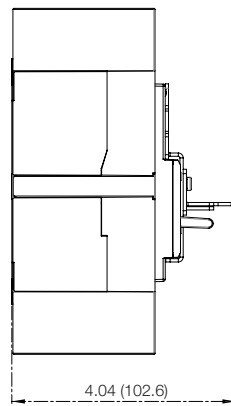
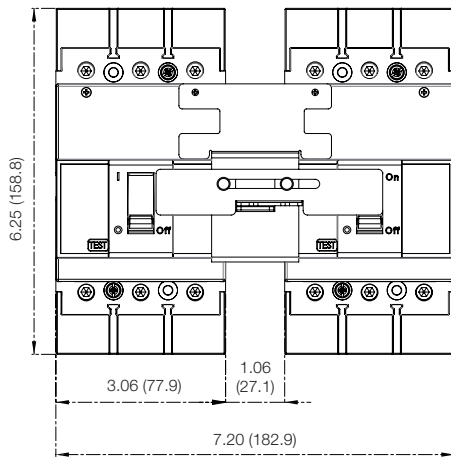
Appendix B

Dimensions - Inch (mm)

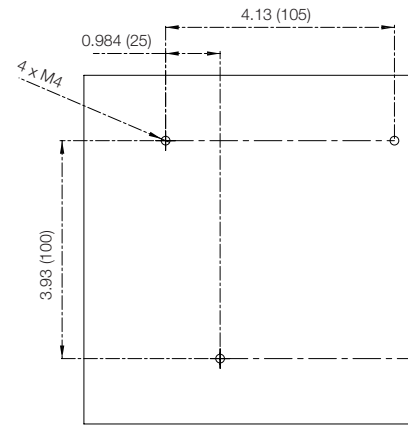
Accessories

BLIM - Mechanical Interlock

2 x Frame 160 + BLIM DWB160 3P

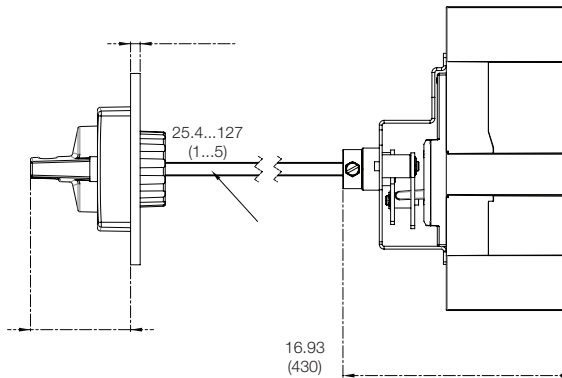
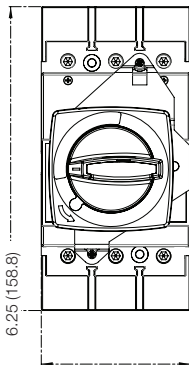


Drilling Template

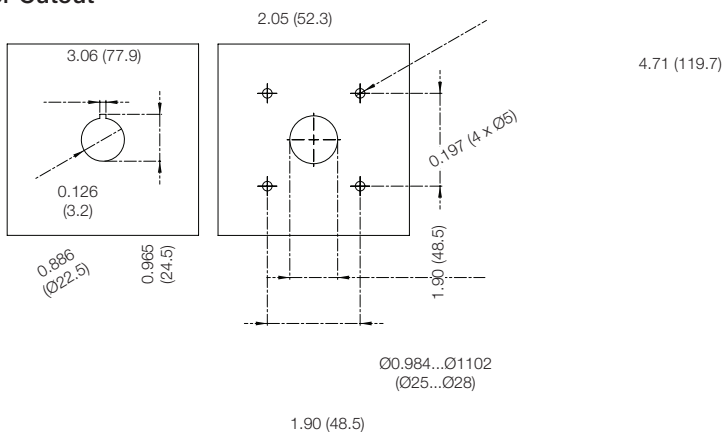


MR - Panel Door Rotary Operating Handles

Frame 160 + MRX DWB160



Panel Door Cutout



Circuit Protection

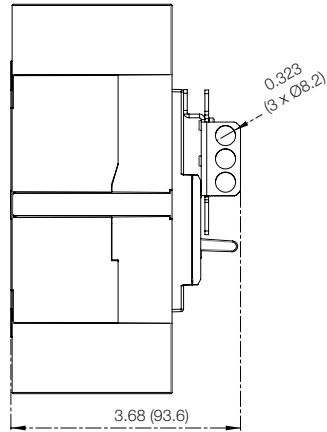
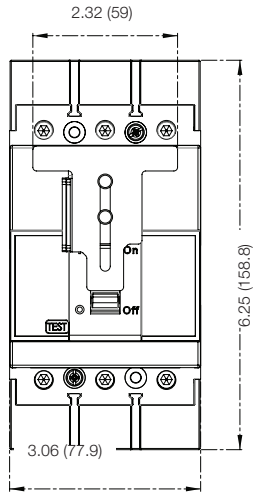
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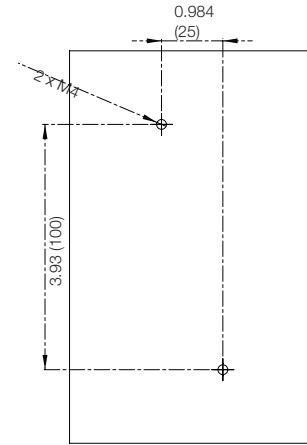
Accessories

PLW - Lock-OFF Devices

Frame 160 + PLW DWB160 3P

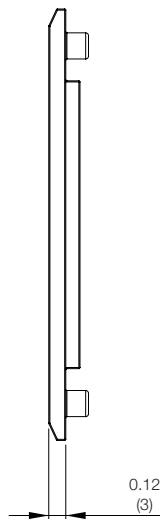
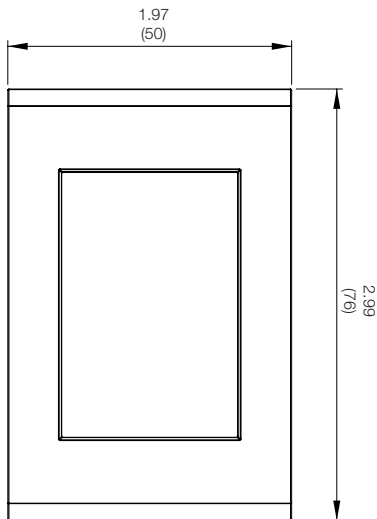


Drilling Template

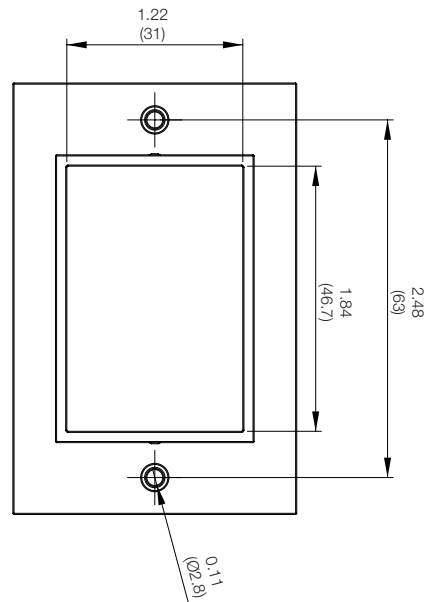


MP - Escutcheon

MP DWB160



Panel Door Cutout

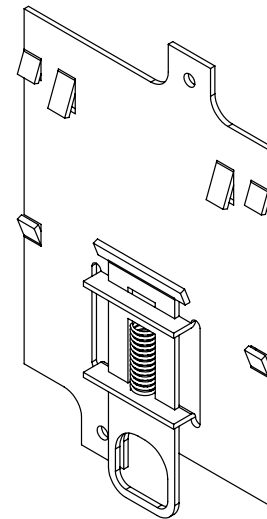
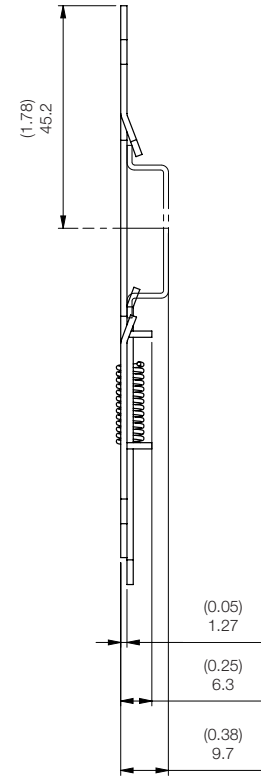
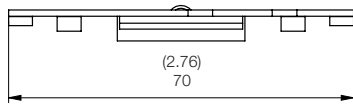
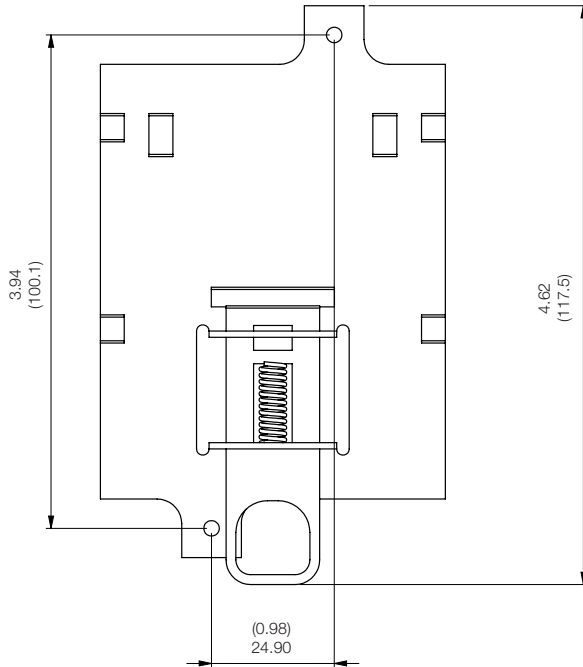


Dimensions - Inch (mm)

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BFR - DIN Rail Base

BFR DWB160 3P UL



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