

Eaton WMZS Supplementary Protectors



Overview

The Eaton WMZS Supplementary Protectors are used to provide overcurrent protection where branch protection (for example, UL 489 MCCB) is already provided or not required. The units can be installed as a component within, or as a part of an appliance or a piece of electrical equipment. Supplementary Protectors are ideal replacements for fuses that are applied as a supplementary protector, i.e. in addition to branch protection (if required). They are 35 mm DIN-rail mountable, utilizing spring clips. These are standard protectors, recognized by UL and CSA under UL 1077 and CSA 22.2. They are CE marked in accordance with Low Voltage Directive (LVD) (73/23/EEC).

Product Specification

The WMZS Supplementary Protector is a dual-rated product for both AC and DC supplies, in accordance with UL 1077 and CSA 22.2 standards and is marked with CE in accordance with the Low Voltage Directive. With this dual standard product, you can include it in your design, knowing that in most cases wherever your equipment is used, the product will conform to the local UL, CSA or IEC (European) requirements.

The Supplementary Protector is designed to be applied in conjunction with a branch circuit protector (if branch protection is required) and can be a replacement for similarly applied fuses. Its advantage over fuses is that it is resettable and the device's status is easily and clearly identified by the position of the handle and the flag indicator.

In addition, you can select a device that provides maximum reliability and accuracy to fit various applications due to the availability of a wide range of current ratings from 0.5 to 63 amperes in three overcurrent characteristic curves, B, C and D.

Features and Benefits

- Box Terminals accept #18 to #4 wire (1 to 25mm²) for one wire connection or #18 to #8 for two wire connection.
- Thermal magnetic overcurrent protection: three levels, categorized by B, C and D curves in direct relation to continuous rating of the device
- **B curve magnetic trip point:** 3 to 5 times the rated current, typically used for computers and electronic equipment with very low inrush loads (PLC wiring).
- **C curve magnetic trip point:** 5 to 10 times the rated current, typically used for small transformers, pilot devices, etc.
- **D curve magnetic trip point:** 10 to 20 times the rated current, typically used for transformers or loads with very high inductive loads.
- Trip Free Design: Breaker cannot be defeated by holding the handle in the "ON" position.
- Color coded status indicator window – Red = ON or Green = OFF
- IP20 finger protection
- 35 mm DIN-rail mountable, utilizing spring clip
- Reverse Feedable

Listings

- UL recognized under UL 1077 Category QVNU2 File E162396
- CSA 22.2, No. 235 File 245545
- CE File LVD 2006/95/EC
- IEC/EN 60898
- IEC/EN 60947-2

Applications

WMZS Supplementary protectors are recognized per UL 1077 and certified per CSA C22.2 No. 235 as a Supplementary Protector and can be fully utilized per the NEC and CEC Codes in that capacity. For international purposes, the entire WMZS family is CE marked and in full conformity with the applicable IEC standards for miniature circuit breakers, EN/IEC 60898 and IEC/EN 60947-2.

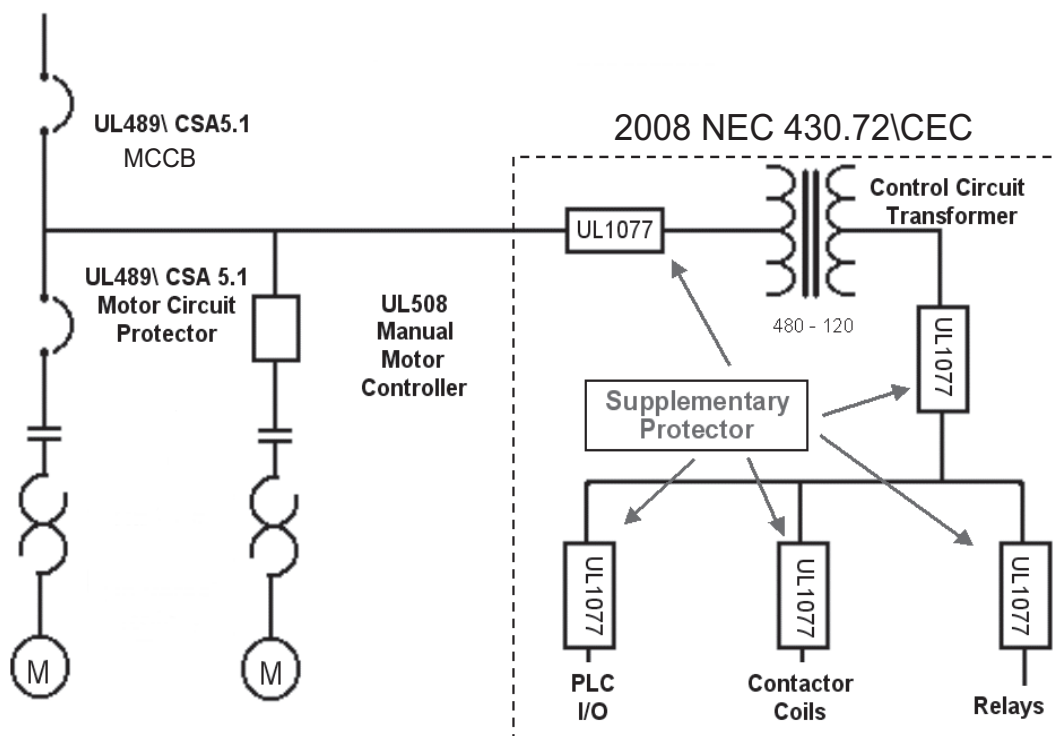
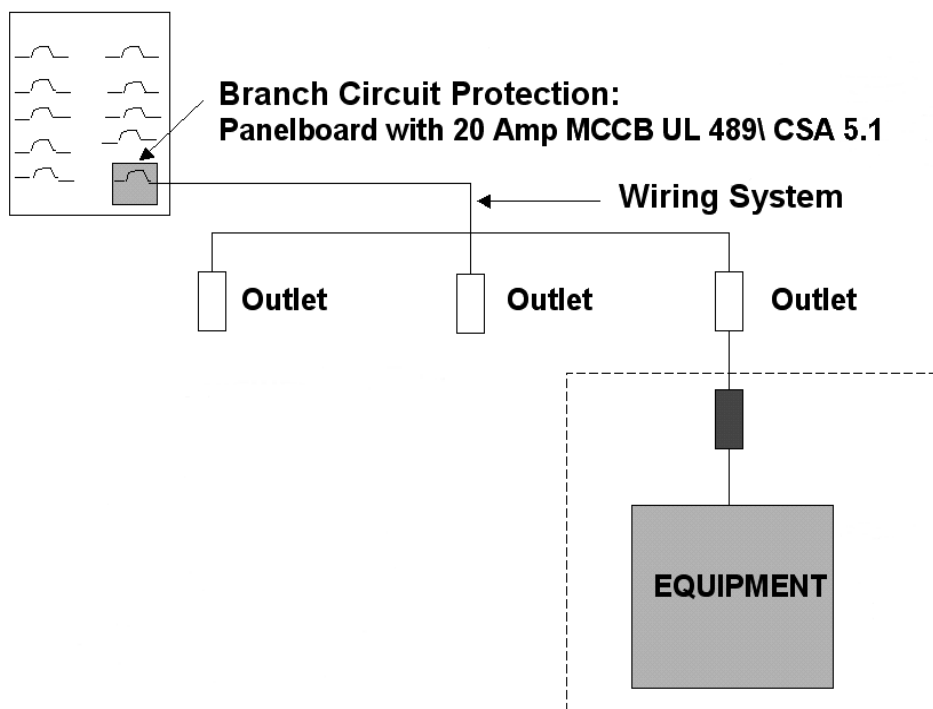
Outside North America, they can be used in both residential and industrial applications as feeder and branch circuit protective devices. In North America, most European Miniature Circuit Breakers are only UL recognized and CSA certified as "Supplementary Protectors", meaning they cannot be utilized as feeder or branch circuit protective devices per the local electrical codes (NEC 240.10 and CEC Part 1 C22.1). This commonly restricts their use to applications where "closer" protection is desired than that offered by a branch circuit protection device.

Eaton WMZS Supplementary Protectors are ideal for providing protection in many applications, including:

- Control power transformers
- Relays
- Contactor coils
- PLC I/O points
- Lighting circuits
- Power supplies
- Computers
- Electronic equipment

EAT•N WMZS Supplementary Protectors

What is a Supplementary Protector?



Supplementary protectors are not to be used in feeder circuits or motor circuits. Use them only in applications where branch protection is already provided or is not required.

EATON WMZS Series Selection Guide



Single-Pole

WMZS - Single-Pole Selection Guide						
Ampere Rating	B Curve Part Number	Price	C Curve Part Number	Price	D Curve Part Number	Price
0.5	N/A	N/A	WMZS1C00		WMZS1D00	
1			WMZS1C01		WMZS1D01	
2			WMZS1C02		WMZS1D02	
3			WMZS1C03		WMZS1D03	
4			WMZS1C04		WMZS1D04	
5	WMZS1B06	\$9.00	WMZS1C05	\$9.00	WMZS1D05	\$9.00
6			WMZS1C06		WMZS1D06	
7			WMZS1C07		WMZS1D07	
8			WMZS1C08		WMZS1D08	
10			WMZS1C10		WMZS1D10	
13			WMZS1C13		WMZS1D13	
15			WMZS1C15		WMZS1D15	
16			WMZS1C16		WMZS1D16	
20			WMZS1C20		WMZS1D20	
25			WMZS1C25		WMZS1D25	
30			WMZS1C30		WMZS1D30	
32			WMZS1C32		WMZS1D32	
40			WMZS1C40		WMZS1D40	
50			WMZS1C50		N/A	N/A
63			WMZS1C63		N/A	N/A



Two-Pole

WMZS - Two-Pole Selection Guide						
Ampere Rating	B Curve Part Number	Price	C Curve Part Number	Price	D Curve Part Number	Price
0.5	N/A	N/A	WMZS2C00		WMZS2D00	
1			WMZS2C01		WMZS2D01	
2			WMZS2C02		WMZS2D02	
3			WMZS2C03		WMZS2D03	
4			WMZS2C04		WMZS2D04	
5	WMZS2B06	\$18.00	WMZS2C05	\$18.00	WMZS2D05	\$18.00
6			WMZS2C06		WMZS2D06	
7			WMZS2C07		WMZS2D07	
8			WMZS2C08		WMZS2D08	
10			WMZS2C10		WMZS2D10	
13			WMZS2C13		WMZS2D13	
15			WMZS2C15		WMZS2D15	
16			WMZS2C16		WMZS2D16	
20			WMZS2C20		WMZS2D20	
25			WMZS2C25		WMZS2D25	
30			WMZS2C30		WMZS2D30	
32			WMZS2C32		WMZS2D32	
40			WMZS2C40		WMZS2D40	
50			WMZS2C50		N/A	N/A
63			WMZS2C63			

Note: Eaton parts available for sale to North America locations only.

EAT-N WMZS Series Selection Guide

WMZS - Three-Pole Selection Guide						
Ampere Rating	B Curve Part Number	Price	C Curve Part Number	Price	D Curve Part Number	Price
0.5	N/A	N/A	WMZS3C00		WMZS3D00	
1	N/A	N/A	WMZS3C01		WMZS3D01	
2	N/A	N/A	WMZS3C02		WMZS3D02	
3	N/A	N/A	WMZS3C03		WMZS3D03	
4	N/A	N/A	WMZS3C04		WMZS3D04	
5	N/A	N/A	WMZS3C05		WMZS3D05	
6	WMZS3B06		WMZS3C06		WMZS3D06	
7	WMZS3B07		WMZS3C07		WMZS3D07	
8	WMZS3B08		WMZS3C08		WMZS3D08	
10	WMZS3B10		WMZS3C10		WMZS3D10	
13	WMZS3B13		WMZS3C13		WMZS3D13	
15	WMZS3B15		WMZS3C15		WMZS3D15	
16	WMZS3B16		WMZS3C16		WMZS3D16	
20	WMZS3B20		WMZS3C20		WMZS3D20	
25	WMZS3B25		WMZS3C25		WMZS3D25	
30	WMZS3B30		WMZS3C30		WMZS3D30	
32	WMZS3B32		WMZS3C32		WMZS3D32	
40	WMZS3B40		WMZS3C40		WMZS3D40	
50	WMZS3B50		WMZS3C50		N/A	N/A
63	WMZS3B63		WMZS3C63		N/A	N/A



Three-Pole

Supplementary Protectors - UL / CSA			
	B Curve	C Curve	D Curve
Short Circuit Trip Response	3 - 5 x I_n	5 - 10 x I_n	10 - 20 x I_n
Current Range	6 - 63A	0.5 - 63A	0.5 - 40A
Maximum Voltage Ratings - UL / CSA	1 pole	277 VAC 48 VDC	
	2 pole	480Y / 277 VAC 125 VDC	
	3 pole	480Y / 277 VAC	
Thermal Tripping Characteristics	Single pole	1.35 x I_n @ 40 °C	
	Multi-pole	1.45 x I_n @ 40 °C	
Short Circuit Ratings (At Max. Voltage)	1 pole	10 kA (5kA for 40 - 63A)	5kA
	2 pole		
	3 pole		
	2 poles in series	10 kA @ 125 VDC	5kA @ 125 VDC

Miniature Circuit Breaker - IEC				
		B Curve	C Curve	D Curve
Short Circuit Trip Response		3 - 5 x I_n	5 - 10 x I_n	10 - 20 x I_n
Current Range		6 - 40A	0.5 - 40A	6 - 25A
Maximum Voltage Ratings - IEC/EN 60947-2	1 pole	240 VAC 48 VDC		
	2 pole	240 / 415 VAC		
	3 pole			
Thermal Tripping Characteristics	Single pole	> 1 hour @ 1.05 x I_n		
	Multi-pole	< 1 hour @ 1.3 x I_n		
Interrupt Ratings (At Max Voltage)		15 kA		
Operational Switching Capacity		7.5 kA		
Max. Back-up Fuse		125A gL/gG		
Rated impulse withstand - U_{imp}		4000 VAC		
Rated insulation voltage - U_i		440 VAC		

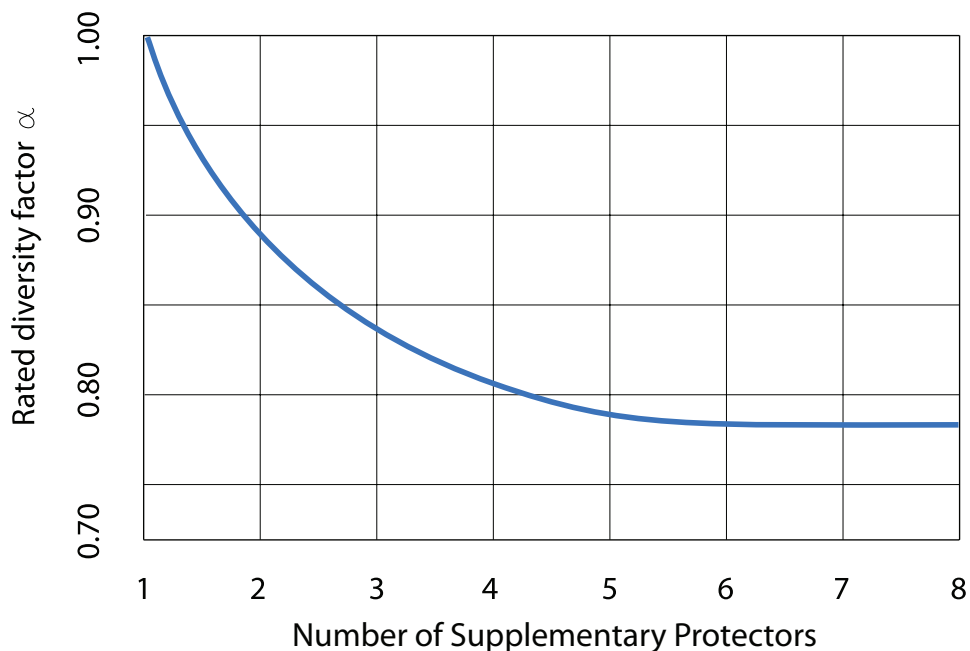
Wire Size and Torque Setting - WMZS					
Ampere Rating	Cable Size			Tightening Torque	
0.5 - 63	One wire	0.75 to 25 mm ²	18 to 4 AWG	2.4 Nm	21.2 lb-in
	Two wires	0.75 to 10 mm ²	18 to 8 AWG		

General Specifications - WMZS		
Selectivity Class		3
Lifespan		>10,000 (1 operation = ON/OFF)
Operating Temperature		+23 to +104 °F (–5 to +40 °C)
Storage Temperature		–40 to +185 °F (–40 to +85 °C)
Shock (IEC68-2-22)		10 g - 120 ms
Housing Material		Nylon
Mounting Position		Vertical
Weight	One-Pole	0.28 lbs. (127 g)
	Two-Pole	0.54 lbs (245 g)
	Three-Pole	0.84 lbs (381 g)

EAT•N WMZS Series Selection Guide

Influence of the Ambient Temperature on the Thermal Tripping Behavior													
Rated Current (Amps)	Ambient Temperature °C												
	-25	-20	-10	0	10	20	30	35	40	45	50	55	60
0.5	0.61	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.48	0.47	0.46	0.45	0.44
1	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.99	0.97	0.95	0.93	0.90	0.89
2	2.4	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
3	3.7	3.6	3.5	3.4	3.3	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7
4	4.9	4.8	4.7	4.5	4.3	4.2	4.0	3.9	3.9	3.8	3.7	3.6	3.5
5	6.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.7	4.6	4.5	4.4
6	7.3	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8	5.7	5.6	5.4	5.3
7	8.6	8.4	8.1	7.9	7.6	7.4	7	6.9	6.8	6.7	6.6	6.4	6.3
8	9.8	9.6	9.3	9.0	8.7	8.4	8.0	7.9	7.7	7.6	7.4	7.2	7.1
10	12	12	12	11	11	10	10	9.9	9.7	9.5	9.3	9.0	8.9
13	16	16	15	15	14	14	13	13	13	12	12	12	12
15	18	18	17	17	16	16	15	15	15	14	14	14	13
16	20	19	19	18	17	17	16	16	15	15	15	14	14
20	24	24	23	22	22	21	20	20	19	19	19	18	18
25	31	30	29	28	27	26	25	25	24	24	23	23	22
32	39	38	37	36	35	33	32	32	31	30	30	29	28
40	49	48	47	45	43	42	40	39	39	38	37	36	35
50	61	60	58	56	54	52	50	49	48	47	46	45	44
63	77	76	73	71	68	66	63	62	61	60	58	57	56

Load Carrying Capacity of Adjoining Supplementary Protectors

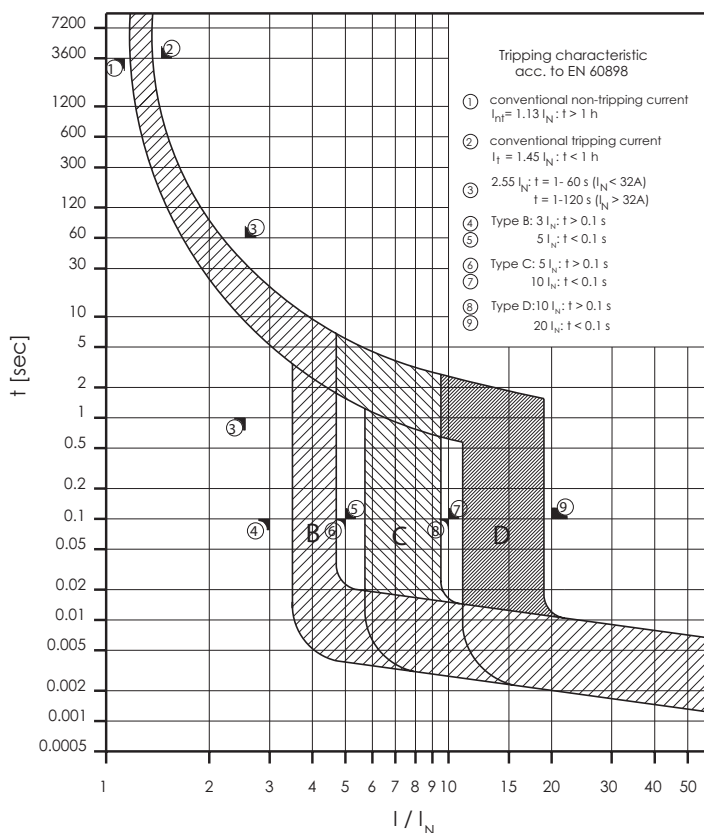




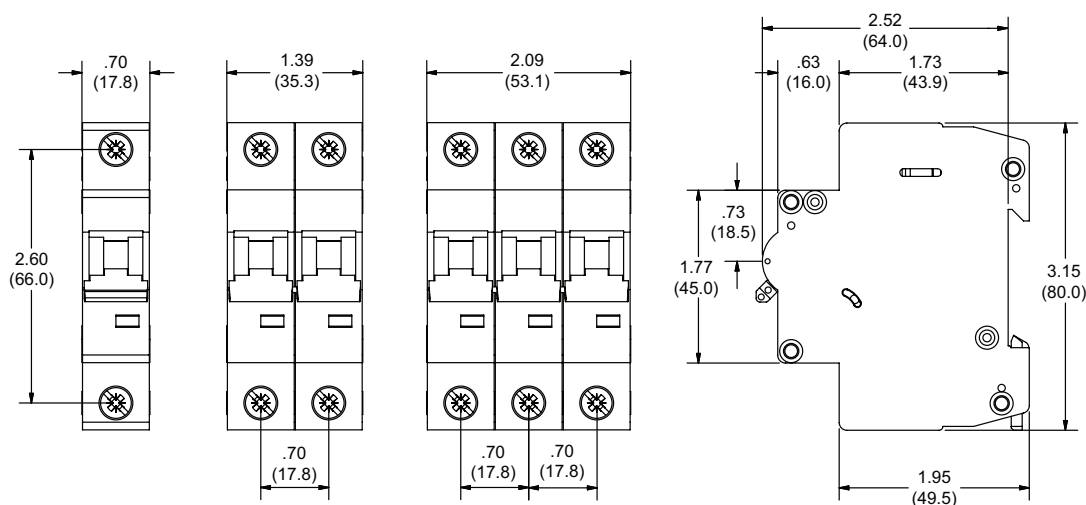
WMZS Series Technical Data

Time-current characteristic

Type B, C and D



WMZS Supplementary Protector Dimensions



Dimensions are approximate, inches (mm) -
Not for construction purposes

EAT•N WMZS Series Accessories

Field Mountable Accessories

- Auxiliary switch
- Alarm switch
- Shunt trip
- No tools required for mounting



WMZSAUXTRIP
Alarm/Aux Contact



WMZSAUX
Auxiliary Contact

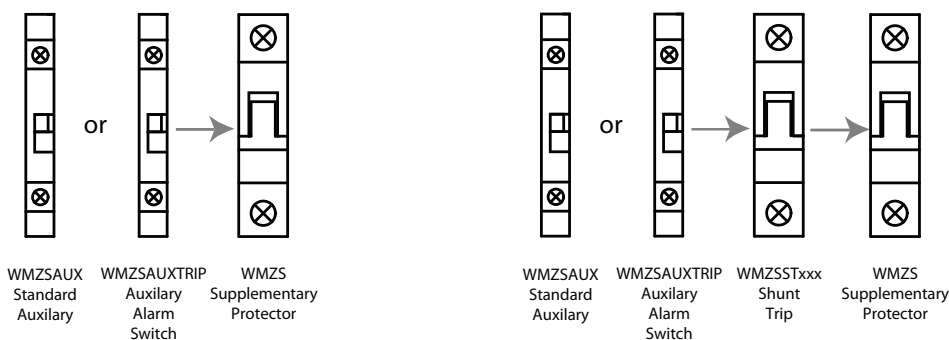


WMZSSTxxx
Shunt Trip

WMZS Accessories Selection Guide					
Part Number	Description	Contacts	Module Width	Module Weight	Price
WMZSAUX	• 1 NO / 1 NC • Installs on left side of WMZS or Shunt Trip • Maximum one per WMZS (1077) Device • Switches when WMZS is tripped electrically or manually	1 SPDT	0.35" (8.9mm)	0.15 lbs (68 g)	\$20.00
WMZSAUXTRIP	• Small selector screw changes mode • Two Form C (One set Changeover) contacts • Installs on left side of WMZS or shunt trip • Auxiliary contacts switch when WMZS is tripped electrically or manually. • Trip indicating contact switches only when WMZS is tripped electrically.	(2) Form C Contacts			
Part Number	Description	Trip Voltage	Module Width	Module Weight	Price
WMZSST415	• Allows remote trip of WMZS • Installs on left side of WMZS	110 - 415 VAC 110 - 230 VDC	0.69" (17.5mm)	0.28 lbs (127 g)	\$34.00
WMZSST110		12 - 110 VAC 12 - 60 VDC			

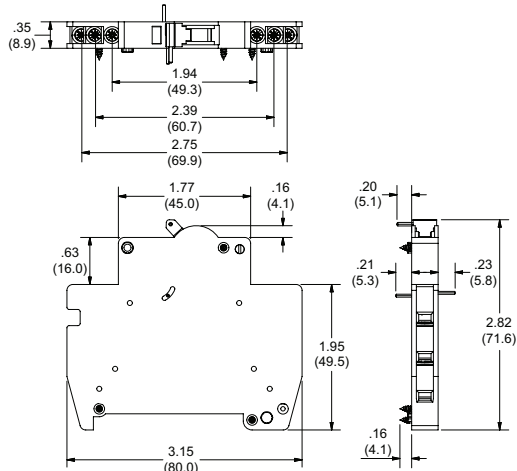
WMS Accessory Data						
Part Number	Circuit Diagram	Electrical Characteristics	WireSize (Solid and Stranded)		Tightening Torque	
			mm ²	AWG	Nm	lb-in
WMZSAUX		Rated for general use, 2A at 230 VAC / 0.5A at 24/110 VDC	(1) 0.5 to 2.5 (2) 0.5 to 1.5	(1) 18 to 14 (2) 18 to 16	0.8 - 1.0	7.1 - 8.9
WMZSAUXTRIP	See WMZSAUXTRIP diagrams on next page	1 SPDT auxiliary contact and 1 SPDT alarm contact that can be configured and used as an auxiliary contact, rated for general use, 2 amps at 200 VAC / 0.5 amp at 24/110 VDC				
WMZSST415		110 - 415 VAC, 110 - 230 VDC operating range Max inrush current 2.1A (AC) / 1A (DC)	1 to 2.5	18 to 12	2.4	21.2
WMZSST110		12 - 110 VAC, 12 - 60 VDC operating range Maximum inrush current 15A (AC) / 21A (DC)				

Allowable Combinations of Accessories

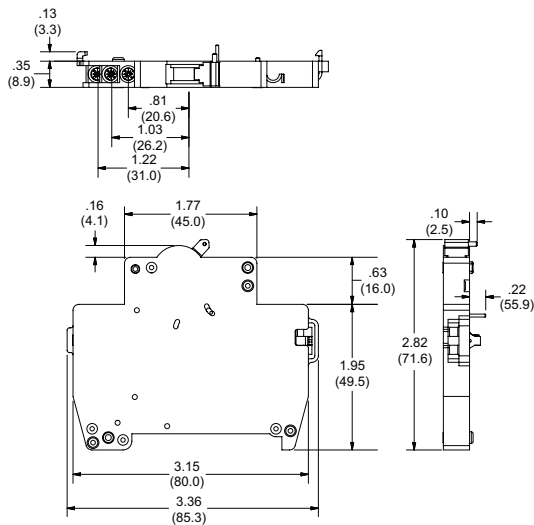


EAT•N WMZS Series Accessories

Accessories Dimensions

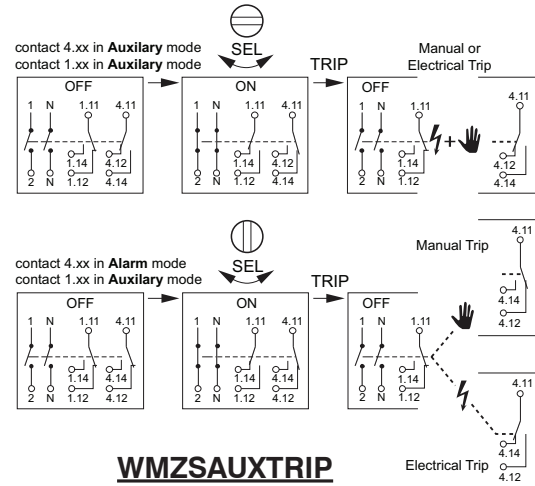


WMZSAUXTRIP

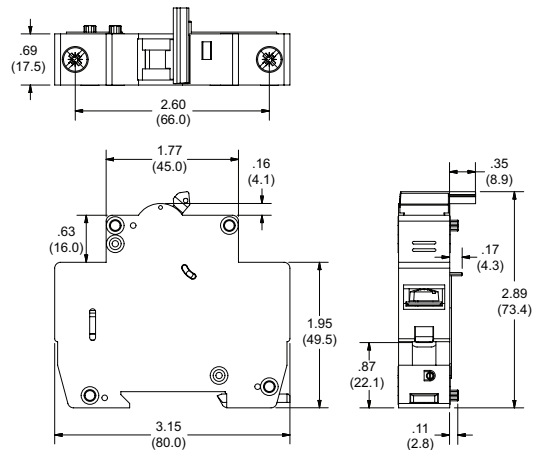


WMZSAUX

Dimensions are approximate, inches (mm) -
Not for construction purposes



**WMZSAUXTRIP
Diagrams**



WMZSSTxxx

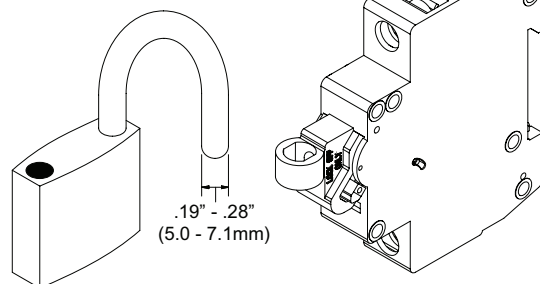
Lockout Attachment



WMZPLK

Lockout Attachment

Lock not sold by
AutomationDirect



WMZPLK Installation

Additional WMZS Accessories Selection Guide			
Part Number	Description	Weight	Price
WMZPLK	Lockout attachment for Eaton WMZS series supplementary protectors, suitable to prevent unauthorized activation of a de-energized circuit, accepts lock shackles up to 9/32 in. (7.1 mm) in diameter Qty: 5 pieces	0.10 lb (45 g)	\$30.50