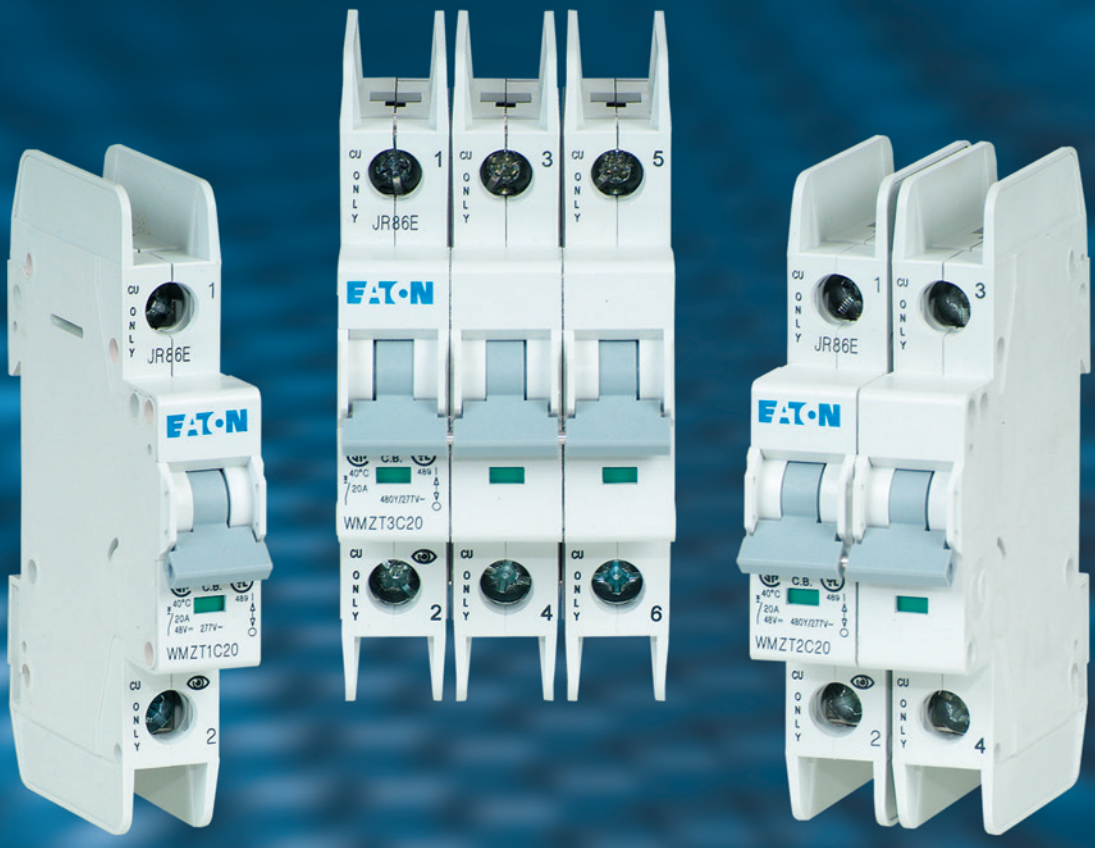
Product Guide

UL 489 DIN rail miniature circuit breakers



Powering Business Worldwide

UL 489 DIN rail miniature circuit breakers

UL 489 DIN Rail Miniature Circuit Breakers

WMZ Circuit Breakers

PRODUCT OVERVIEW

Optimum and Efficient Protection for Every Application

Optimum product quality, tested reliability and safety stand for best protection of personnel, installations and plant. Eaton's WMZ DIN rail mountable circuit breaker is designed for use in branch service applications.

Powerful Offering for Machine and System Builders

The WMZ is available with C and D characteristics in accordance with UL® 489, CSA® C22.2 No.5; UL 1077, CSA C22.2 No.235 and IEC 60947-2.

Typical Applications

Feeder and Branch Circuit Protection

- Convenience receptacle circuits (internal / external)
- Motor control circuits
- Load circuits leaving the equipment (external)
- HACR equipment (heating, air conditioning, refrigeration) (internal / external)
- PLC I/O points
- Computers
- Power supplies
- Control instrumentation
- Relays
- UPS
- Power conditioners

Features

- Complete range of UL 489 listed DIN rail mounted miniature circuit breakers up to 40 ampere current rating
- Standard ratings of 10 kAIC at 277/480 Vac
- Select amperages available at 14 kAIC at 277/480 Vac and 10 kAIC at125 Vdc
- Current limiting design provides fast short-circuit interruption that reduces the let-through energy, which can damage the circuit
- Suitable for branch circuit device protection
- Thermal-magnetic overcurrent protection
  - Two levels of short-circuit protection, categorized by C and D curves
- Trip-free design — breaker can not be defeated by holding the handle in the ON position
- Captive screws cannot be lost
- SWD (switching duty) — suitable for switching fluorescent lighting loads ($I_n \leq 20A$)
- Fulfill UL 489, CSA C22.2 No.5 and also IEC 60947-2 Standard
- For use in applications for which UL 1077 or CSA C22.2 No.235 are also allowed
- Field installable shunt trip and auxiliary switch subsequent mounting
- Separate version for ring-tongue connection (Type WMZT….T), terminal screws can be removed (on both sides)
- Module width of only 17.7 mm (per pole)
- Contact Position Indicator (red / green)
- Easy installation on DIN rail
- Possibility for sealing the toggle in ON or OFF position

WMZ Complies with the Latest National and International Standards

Standards — Feeder and Branch Circuit Protection

UL 489

Standard for molded case circuit breakers (MCCB) for feeder and branch circuit protection.	UL®
Products meet the requirements of the National Electrical Code® (NEC®).	

CSA C22.2 No.5

Standard for molded case circuit breakers (MCCB) for feeder and branch circuit protection (corresponds closely to UL 489 Standard).	CSA®
Products meet the requirements of the Canadian Electrical Code (CEC).	

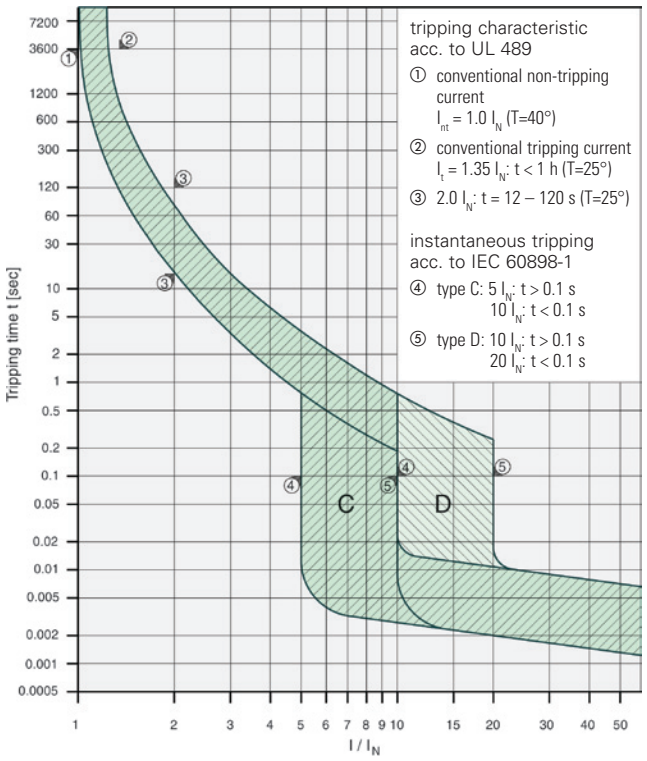
Tripping Characteristics

Eaton WMZ branch circuit breakers are available with "C" and "D" tripping characteristics.

C-curve devices are suitable for application where medium levels of inrush current are expected. Applications include small transformers, lighting, pilot devices, control circuits and coils. C-curve devices provide a medium magnetic trip point.

D-curve devices are suitable for applications where high levels of inrush current are expected. The high magnetic trip point prevents nuisance tripping in high inductive applications such as motors, transformers and power supplies.

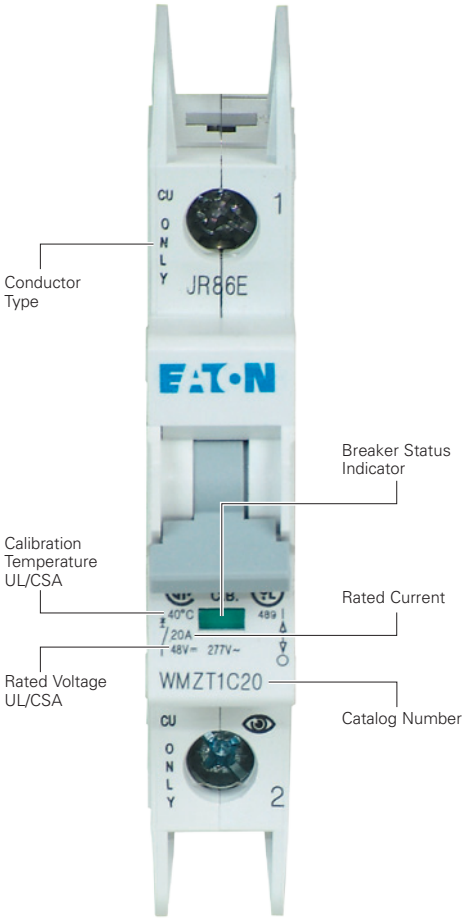
Eaton WMZ devices are current limiting, which means they interrupt fault currents within one half cycle of the fault. Current limiting devices offer superior protection by reducing peak let-through current and energy.



Device Printing on Front and Side

Installation options

These branch circuit breakers are available in two terminal configurations: standard box terminals that accept multiple conductors and ring-tongue terminals, ideally suited to demanding requirements of the semi-conductor industry. All breakers mount on standard 35 mm DIN rail. Bus connectors and feeder terminal facilitate mounting and wiring of multiple miniature circuit breaker arrays in control panel assemblies. These circuit breakers can also be reverse feed.



Catalog Numbering System

WMZ T 1 C 16 T

Breaker Family
WMZ = WMZ UL Circuit Breaker

Breaker Type
T = 10 kAIC
H = 14 kAIC ①
D = 10 kAIC/DC ①②

Number of Poles
1 = 1-Pole
2 = 2-Pole
3 = 3-Pole ③

Protective Curve
C = C Curve (5–10X I_n)
D = D Curve (10–20X I_n) ③

Ampere Rating

X0 = 0.5 Amps	**10** = 10 Amps
01 = 1 Amps	**13** = 13 Amps
X1 = 1.5 Amps	**15** = 15 Amps
02 = 2 Amps	**16** = 16 Amps
03 = 3 Amps	**20** = 20 Amps
04 = 4 Amps	**25** = 25 Amps
05 = 5 Amps	**30** = 30 Amps
06 = 6 Amps	**32** = 32 Amps
07 = 7 Amps	**40** = 40 Amps
08 = 8 Amps	

Terminal
T = Ring Terminals
[blank] = Standard Box Terminals

① Limited curve and ampere offerings.

② 125 Vdc for 1-Pole, 250 Vdc for 2-pole in series.

③ Not offered for Type WMZD.

UL 489 DIN Rail Miniature Circuit Breakers

WMZ Circuit Breakers

PRODUCT SELECTION

WMZT Product Selection

- UL approved (UL 489) and CSA Certified (CSA C22.2 No.5-02) as Branch Circuit Breakers
- Interrupting capacity: 10 kA UL/CSA; 15 kA IEC 60947
- Current limiting device
- Optional connections for ring-tongue terminals

WMZT UL 489 Circuit Breakers — 10 kAIC



Amperes	1-Pole Catalog Number	2-Pole Catalog Number	3-Pole Catalog Number
C Curve (5 – 10X I_n Current Rating)			
0.5	WMZT1CX0	WMZT2CX0	WMZT3CX0
1	WMZT1C01	WMZT2C01	WMZT3C01
1.5	WMZT1CX1	WMZT2CX1	WMZT3CX1
2	WMZT1C02	WMZT2C02	WMZT3C02
3	WMZT1C03	WMZT2C03	WMZT3C03
4	WMZT1C04	WMZT2C00	WMZT3C04
5	WMZT1C05	WMZT2C05	WMZT3C05
6	WMZT1C06	WMZT2C06	WMZT3C06
7	WMZT1C07	WMZT2C07	WMZT3C07
8	WMZT1C08	WMZT2C08	WMZT3C08
10	WMZT1C10	WMZT2C10	WMZT3C10
13	WMZT1C13	WMZT2C13	WMZT3C13
15	WMZT1C15	WMZT2C15	WMZT3C15
16	WMZT1C16	WMZT2C16	WMZT3C16
20	WMZT1C20	WMZT2C20	WMZT3C20
25	WMZT1C25	WMZT2C25	WMZT3C25
30	WMZT1C30	WMZT2C30	WMZT3C30
32	WMZT1C32	WMZT2C32	WMZT3C32
40	WMZT1C40	WMZT2C40	WMZT3C40
D Curve (10 – 20X I_n Current Rating)			
0.5	WMZT1DX0	WMZT2DX0	WMZT3DX0
1	WMZT1D01	WMZT2D01	WMZT3D01
1.5	WMZT1DX1	WMZT2DX1	WMZT3DX1
2	WMZT1D02	WMZT2D02	WMZT3D02
3	WMZT1D03	WMZT2D03	WMZT3D03
4	WMZT1D04	WMZT2D04	WMZT3D04
5	WMZT1D05	WMZT2D05	WMZT3D05
6	WMZT1D06	WMZT2D06	WMZT3D06
7	WMZT1D07	WMZT2D07	WMZT3D07
8	WMZT1D08	WMZT2D08	WMZT3D08
10	WMZT1D10	WMZT2D10	WMZT3D10
13	WMZT1D13	WMZT2D13	WMZT3D13
15	WMZT1D15	WMZT2D15	WMZT3D15
16	WMZT1D16	WMZT2D16	WMZT3D16
20	WMZT1D20	WMZT2D20	WMZT3D20
25	WMZT1D25	WMZT2D25	WMZT3D25
30	WMZT1D30	WMZT2D30	WMZT3D30
32	WMZT1D32	WMZT2D32	WMZT3D32
40	WMZT1D40	WMZT2D40	WMZT3D40

WMZT UL 489 Circuit Breakers with Ring-Tongue Terminals — 10 kAIC



Amperes	1-Pole Catalog Number	2-Pole Catalog Number	3-Pole Catalog Number
C Curve with Ring-Tongue Terminals (5 – 10X I_n Current Rating)			
0.5	WMZT1CX0T	WMZT2CX0T	WMZT3CX0T
1	WMZT1C01T	WMZT2C01T	WMZT3C01T
1.5	WMZT1CX1T	WMZT2CX1T	WMZT3CX1T
2	WMZT1C02T	WMZT2C02T	WMZT3C02T
3	WMZT1C03T	WMZT2C03T	WMZT3C03T
4	WMZT1C04T	WMZT2C04T	WMZT3C04T
5	WMZT1C05T	WMZT2C05T	WMZT3C05T
6	WMZT1C06T	WMZT2C06T	WMZT3C06T
7	WMZT1C07T	WMZT2C07T	WMZT3C07T
8	WMZT1C08T	WMZT2C08T	WMZT3C08T
10	WMZT1C10T	WMZT2C10T	WMZT3C10T
13	WMZT1C13T	WMZT2C13T	WMZT3C13T
15	WMZT1C15T	WMZT2C15T	WMZT3C15T
16	WMZT1C16T	WMZT2C16T	WMZT3C16T
20	WMZT1C20T	WMZT2C20T	WMZT3C20T
25	WMZT1C25T	WMZT2C25T	WMZT3C25T
30	WMZT1C30T	WMZT2C30T	WMZT3C30T
32	WMZT1C32T	WMZT2C32T	WMZT3C32T
40	WMZT1C40T	WMZT2C40T	WMZT3C40T
D Curve with Ring-Tongue Terminals (10 – 20X I_n Current Rating)			
0.5	WMZT1DX0T	WMZT2DX0T	WMZT3DX0T
1	WMZT1D01T	WMZT2D01T	WMZT3D01T
1.5	WMZT1DX1T	WMZT2DX1T	WMZT3DX1T
2	WMZT1D02T	WMZT2D02T	WMZT3D02T
3	WMZT1D03T	WMZT2D03T	WMZT3D03T
4	WMZT1D04T	WMZT2D04T	WMZT3D04T
5	WMZT1D05T	WMZT2D05T	WMZT3D05T
6	WMZT1D06T	WMZT2D06T	WMZT3D06T
7	WMZT1D07T	WMZT2D07T	WMZT3D07T
8	WMZT1D08T	WMZT2D08T	WMZT3D08T
10	WMZT1D10T	WMZT2D10T	WMZT3D10T
13	WMZT1D13T	WMZT2D13T	WMZT3D13T
15	WMZT1D15T	WMZT2D15T	WMZT3D15T
16	WMZT1D16T	WMZT2D16T	WMZT3D16T
20	WMZT1D20T	WMZT2D20T	WMZT3D20T
25	WMZT1D25T	WMZT2D25T	WMZT3D25T
30	WMZT1D30T	WMZT2D30T	WMZT3D30T
32	WMZT1D32T	WMZT2D32T	WMZT3D32T
40	WMZT1D40T	WMZT2D40T	WMZT3D40T

For our complete product offering, see the Distribution Products Catalog (CA08101001E).

WMZH Product Selection

- UL approved (UL 489) and CSA Certified (CSA C22.2 No.5-02) as Branch Circuit Breakers
- Interrupting capacity: 14 kA UL/CSA; 15 kA IEC 60947
- Current limiting device
- Optional connections for ring-tongue terminals

WMZH UL 489 Circuit Breakers — 14 kAIC



Amperes	1-Pole Catalog Number	2-Pole Catalog Number	3-Pole Catalog Number
C Curve (5 – 10X I_n Current Rating)			
15	WMZH1C15	WMZH2C15	WMZH3C15
16	WMZH1C16	WMZH2C16	WMZH3C16
20	WMZH1C20	WMZH2C20	WMZH3C20
25	WMZH1C25	WMZH2C25	WMZH3C25
D Curve (10 – 20X I_n Current Rating)			
13	WMZH1D13	WMZH2D13	WMZH3D13
15	WMZH1D15	WMZH2D15	WMZH3D15
16	WMZH1D16	WMZH2D16	WMZH3D16
20	WMZH1D20	WMZH2D20	WMZH3D20

WMZH UL 489 Circuit Breakers with Ring-Tongue Terminals



Amperes	1-Pole Catalog Number	2-Pole Catalog Number	3-Pole Catalog Number
C Curve (5 – 10X I_n Current Rating)			
15	WMZH1C15T	WMZH2C15T	WMZH3C15T
16	WMZH1C16T	WMZH2C16T	WMZH3C16T
20	WMZH1C20T	WMZH2C20T	WMZH3C20T
25	WMZH1C25T	WMZH2C25T	WMZH3C25T
D Curve (10 – 20X I_n Current Rating)			
13	WMZH1D13T	WMZH2D13T	WMZH3D13T
15	WMZH1D15T	WMZH2D15T	WMZH3D15T
16	WMZH1D16T	WMZH2D16T	WMZH3D16T
20	WMZH1D20T	WMZH2D20T	WMZH3D20T

WMZD Product Selection

- UL approved (UL 489) and CSA Certified (CSA C22.2 No.5-02) as Branch Circuit Breakers
- Interrupting capacity: 10 kA at 125 Vdc UL/CSA
- 125 Vdc for 1-pole, 250 Vdc for 2-pole in series
- Current limiting device

WMZD UL 489 Circuit Breakers — 10 kAIC at 125 Vdc per pole


Amperes	1-Pole Catalog Number	2-Pole Catalog Number
C Curve (5 – 10X I_n Current Rating)		
2	WMZD1C02	WMZD2C02
3	WMZD1C03	WMZD2C03
4	WMZD1C04	WMZD2C04
5	WMZD1C05	WMZD2C05
6	WMZD1C06	WMZD2C06
7	WMZD1C07	WMZD2C07
8	WMZD1C08	WMZD2C08
10	WMZD1C10	WMZD2C10
13	WMZD1C13	WMZD2C13
15	WMZD1C15	WMZD2C15
16	WMZD1C16	WMZD2C16
20	WMZD1C20	WMZD2C20
25	WMZD1C25	WMZD2C25
30	WMZD1C30	WMZD2C30
32	WMZD1C32	WMZD2C32
40	WMZD1C40	WMZD2C40

UL 489 DIN Rail Miniature Circuit Breakers

WMZ Circuit Breakers

ACCESSORIES

WMZ UL 489 Breakers

Accessory / Description	Catalog Number
2-Pole Contact or Auxiliary Contact/Trip Indicating Contact	**WMZSAUXTRIP**
Auxiliary Contact	**WMZTAUX**
Shunt Trip 110 – 415 Vac Shunt Trip 12 – 110 Vac	**WMZTST415** **WMZTST110**
Padlock Hasp	**WMZPLK**
Bus Bar — 1-Pole 6 Terminals Bus Bar — 1-Pole 12 Terminals Bus Bar — 1-Pole 18 Terminals Bus Bar — 2-Pole 6 Terminals Bus Bar — 2-Pole 12 Terminals Bus Bar — 2-Pole 18 Terminals Bus Bar — 3-Pole 6 Terminals Bus Bar — 3-Pole 12 Terminals Bus Bar — 3-Pole 18 Terminals	**WMZT1P6T** **WMZT1P12T** **WMZT1P18T** **WMZT2P6T** **WMZT2P12T** **WMZT2P18T** **WMZT3P6T** **WMZT3P12T** **WMZT3P18T**
3-Pole Bus Bar Shroud	**WMZT3PSHROUD**
Extension Terminal — 35 mm (2 – 14 AWG)	**WMZT35EXT**
Bus Connector — Conductors up to 50 mm² (~1/0 AWG)	**WMZTBCON** ①

① Contact sales office for availability.

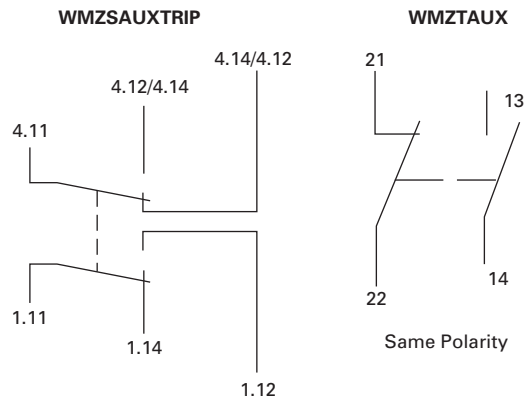
Tripping Signal Switch WMZSAUXTRIP, WMZTAUX

- Design according to IEC/EN 60947-5-1, IEC/EN 62019
- Field installable
- The specified minimum voltages are per contact — take into account particularly in case of series connection
- Self-cleaning contacts
- Contact material and design particularly suitable for extra low voltage
- WMZSAUXTRIP: the function of one of the two change-over contacts can be switched from “auxiliary switch” to “tripping signal switch”

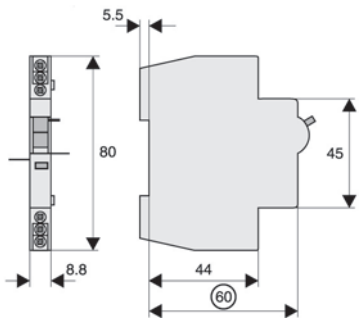
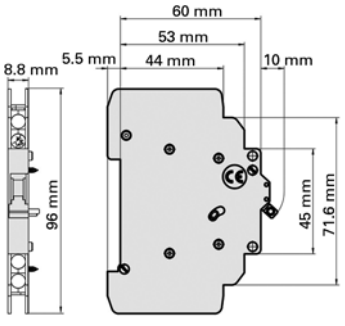
Attention: The voltage of the WMZT...Circuit Breaker is limited to 300V with this Auxiliary installed.

- Tripping signal contact transmits message of electric tripping, not mechanical switch-off
- Test key for contact function “electrical tripping”
- WMZTAUX: will allow for > 480Y/277 Vac rating

Connection Diagram



Accessories

Description	WMZSAUXTRIP ①	WMZTAUX
Electrical		
Contact Function	2CO	1NO + 1NC
Rated Voltage	230V	250V
Frequency	50/60 Hz	50/60 Hz
Rated Current	2A	6A
Rated Thermal Current I_{th}	2A	6A
Utilization Category AC13 Rated Operational Current I_e	3A / 250 Vac	3A / 250 Vac
Utilization Category AC15 Rated Operational Current I_e	2A / 250 Vac	2A / 250 Vac
Utilization Category DC12 Rated Operational Current I_e	0.5A / 110 Vdc	0.5A / 110 Vdc 0.25A / 220 Vdc
Rated Insulation Voltage U_i	250 Vac	250 Vac
Minimum Operational Voltage per Contact U_{min}	5 Vdc	5 Vdc
Minimum Operational Current I_{min}	10 mA dc	10 mA ac/dc
Rated Peak Withstand Voltage U_{imp} (1.2/50µ)	2.5 kV	4 kV
Conditional Short Circuit Current I_k with Back-Up Fuse 6A	1 kA	1 kA
Max. Back-Up Fuse, Overload and Short Circuit	6A gL	—
Mechanical		
Tripping Indicator "Electrical Tripping"	Blue / White	—
Frame Size	45 mm	45 mm
Device Height	80 mm	80 mm
Device Width	8.8 mm (0.5MU)	8.8 mm (0.5MU)
Mounting	Onto Switching Dev.	—
Degree of Protection, Built-In	IP40	IP40
Terminal Protection	Finger and Hand Touch Safe According to BGV A3, ÖVE-EN 6	Finger and Hand Touch Safe According to BGV A3, ÖVE-EN 6
Terminals	Lift Terminals	Lift Terminals
Terminal Capacity	20 – 14 AWG	0.5 – 2.5 mm^2
Terminal Screws	M3 (Pozidrive Z0)	M3 (Pozidrive Z0)
Fastening Torque of Terminal Screws	7 lb-in	Max. 1.2 Nm
		

① The voltage of the WMZT... Circuit Breaker is limited to 300V with this auxiliary switch installed.

UL 489 DIN Rail Miniature Circuit Breakers

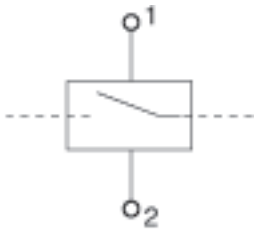
WMZ Circuit Breakers

ACCESSORIES

Shunt Trip Release WMZTST

- Remote release for subsequent mounting onto WMZT
- Additional installation of standard auxiliary switch is possible
- Position indicator red – green

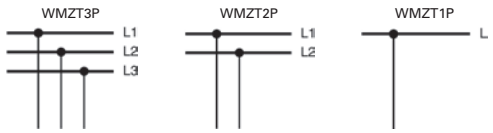
Connection Diagram



Bus Bar Block UL 489 (Pin)

- Tested according to UL 489
- Do not cut
- Extension terminal 35 mm² WMZT35EXT for copper conductors
- For covering of not used pins use bus bar tag shrouds WMZT3PSHROUD

Connection Diagram



Shunt Trip Release WMZTST

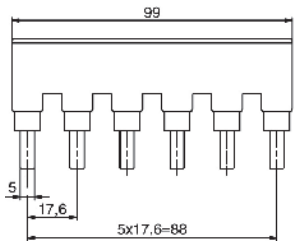
Description	WMZTST110	WMZTST415
Electrical		
Can be Mounted Onto	WMZT/WMZH/WMZD	WMZT/WMZH/WMZD
Operational Voltage Range	12 – 110 Vac 12 – 60 Vdc	110 – 415 Vac 110 – 230 Vdc
Frequency	50/60 Hz	50/60 Hz
Mechanical		
Frame Size	45 mm	45 mm
Device Height	105 mm	105 mm
Device Width	17.5 mm	17.5 mm
Mounting	Quick Fastening with 2 Lock-In Positions on EN 50022	
Degree of Protection, Built-In	IP40	IP40
Terminal Protection	Finger and Hand Touch Safe According to BGV A3, ÖVE-EN 6	
Terminals	Open Mouthed / Lift	Open Mouthed / Lift
Terminal Capacity 1 and 2 Wires	18 – 10 AWG	18 – 10 AWG

Bus Bar Block UL 489 (Pin)

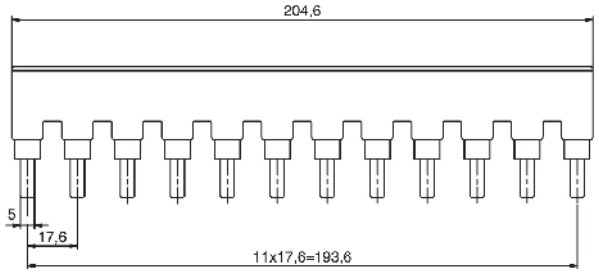
Description	UL 489	IEC/EN 60947-2
Electrical		
Rated Operational Voltage	480/277 Vac 96 Vdc	—
Rated Frequency	50/60 Hz	—
Rated Voltage	—	690 Vac
Overvoltage Category	—	III
Rated Impulse Withstand Voltage U_{imp}	—	9.5 kV
Rated Current	80A	80A
Rated Conditional Short-Circuit Current ac with 350A gG	—	15 kA
Short-Circuit Current	10 kA	—
Mechanical		
Bus Bar Cross Section	—	16 mm² Cu
Flame Class According to UL 94	V0	—
Pollution Degree	—	2
Comparative Tracking Index	—	CTI 600
Minimum Clearance (intern / extern)	—	> 9.5/25.4 mm
Minimum Creepage Distance (intern / extern)	—	> 12.7/50.8 mm
Resistance to Climatic Conditions	—	According to DIN/EN60068

Dimensions (mm)

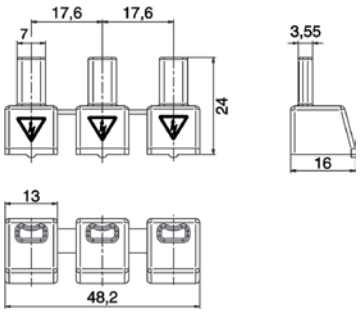
WMZT_ _ 6T



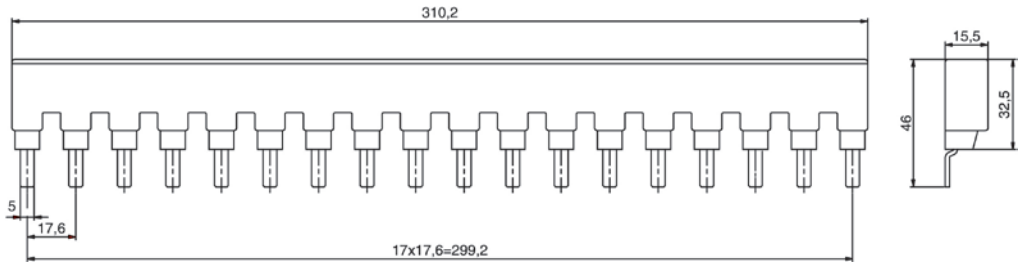
WMZT_ _ 12T



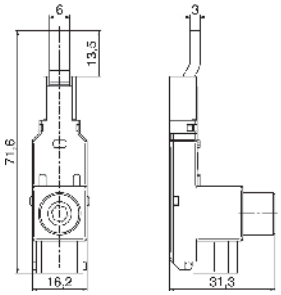
WMZT3PSHROUD



WMZT_ _ 18T



WMZT35EXT

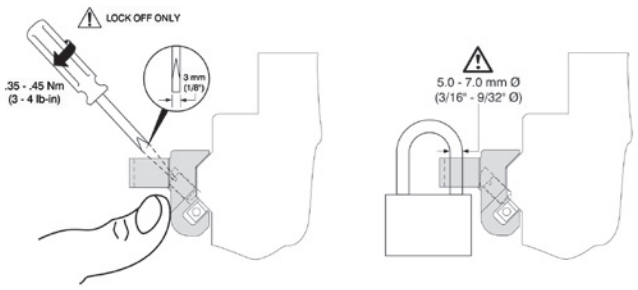


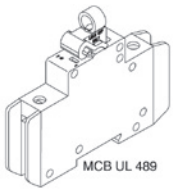
WMZT35EXT

Description	UL 489	IEC/EN 60947-2
	# 2 – 14 AWG 60/75°C Cu	2.5 – 35 mm² Cu
	0.56 in	14 mm
Tested according to		Tightening Torque of Terminal Screws
UL 486A	# 14 AWG	≥ 2.3 Nm
UL 486B	# 8 – 12 AWG	≥ 2.8 Nm
UL 486E	# 6 – 1 AWG	4 Nm

Lockout Attachment

WMZPLK





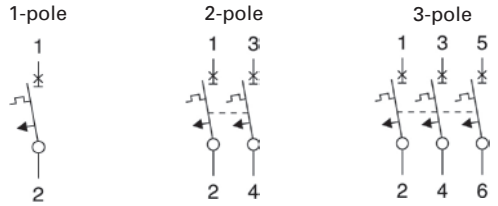
UL 489 DIN Rail Miniature Circuit Breakers

WMZ Circuit Breakers

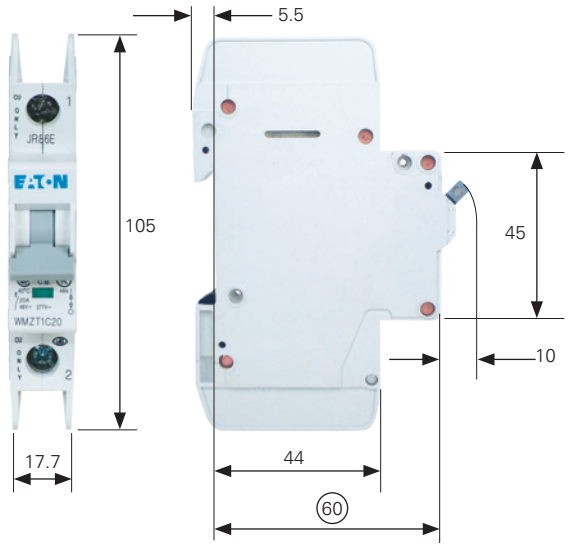
TECHNICAL DATA

Miniature Circuit Breakers WMZ

Connection Diagrams



Dimensions (mm)



Miniature Circuit Breakers WMZ

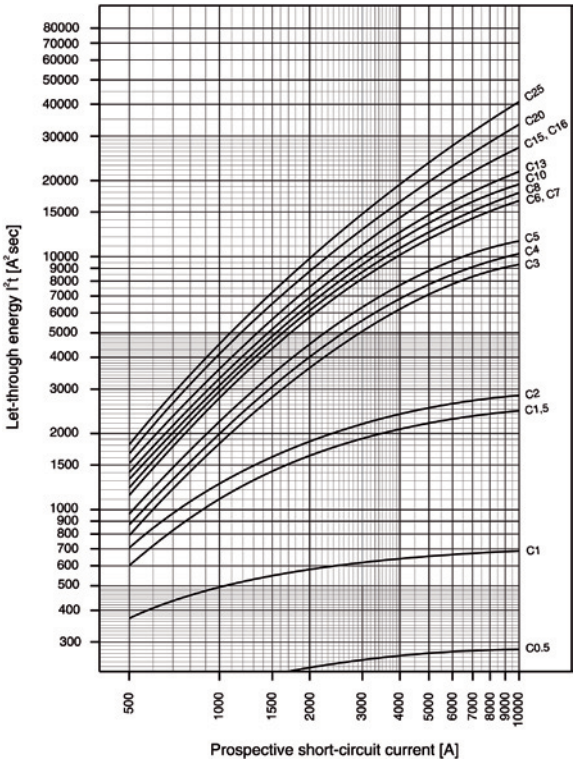
Description		
Electrical		
Design According to	UL 489, CSA C22.2 No.5, IEC 60947-2	
Rated Voltage WMZT UL/CSA UL/CSA UL/CSA IEC 947-2	 10 kAIC at 277/480V from 0.5A to 32A 10 kAIC at 240 Vac for 40A 10 kAIC at 48 Vdc per pole 15 kAIC at 240/415 Vac	
Rated Voltage WMZD UL/CSA	 10 kAIC at 125 Vdc per pole (2 poles max) 10 kAIC at 250 Vdc with 2 poles connected in series	
Rated Voltage WMZH UL/CSA IEC 947-2	 14 kAIC at 277/480V at listed amperages 15 kAIC at 240/415 Vac	
Rated Frequency	50/60 Hz	
Rated Breaking Capacity WMZT UL/CSA IEC 947-2	 10 kA 15 kA	
Rated Breaking Capacity WMZH UL/CSA IEC 947-2	 14 kA 15 kA	
Characteristic	C, D	
Endurance	≥ 20,000 Operations	
Line Voltage Connection	Suitable for Reverse Feed	
Mechanical		
Frame Size	45 mm	
Device Height	105 mm	
Device Width	17.7 mm per Pole	
Mounting	Quick Fastening with Two Lock-In Positions on IEC/EN 60715	
Upper and Lower Terminals	Open Mouth/Lift Terminals	
Terminal Capacity	1 Wire 2 Wires	AWG 18 – 6 AWG 18 – 10
Terminal Fastening Torque	AWG 18-21: 21 lb-in AWG 10-8: 25 lb-in AWG 6: 36 lb-in	
Mounting	Independent of Position	
Calibration Temperature UL 489, CSA C22.2 No.5 IEC 60947-2	 40°C 30°C	

Power Loss at I_n

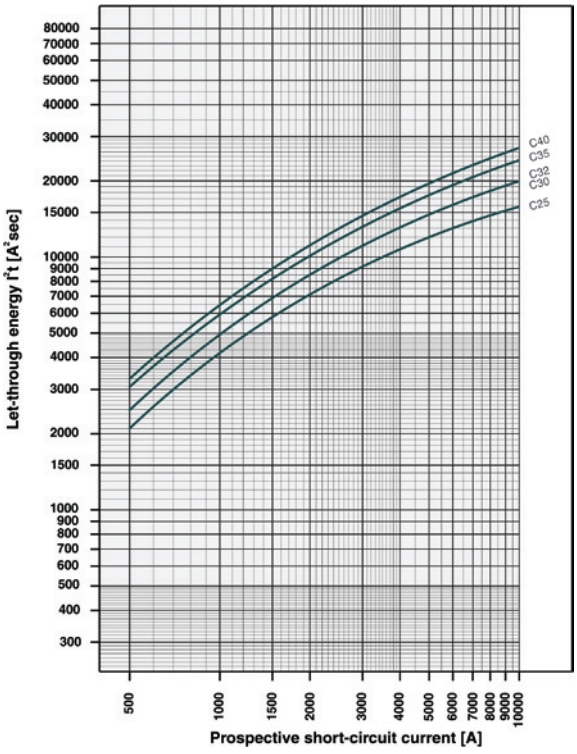
Characteristic C				Characteristic D		
	1-Pole	2-Pole	3-Pole	1-Pole	2-Pole	3-Pole
I_n [A]	P [W]	P [W]	P [W]	P [W]	P [W]	P [W
0.5	1.6	3.2	4.7	1.6	3.2	4.8
1	1.1	2.2	3.4	0.8	1.5	2.3
1.5	1.3	2.6	3.9	1.0	2.1	3.1
2	1.4	2.8	4.3	1.0	2.1	3.1
3	1.2	2.4	3.6	1.2	2.4	3.6
4	1.4	2.9	4.3	1.4	2.9	4.3
5	1.9	3.7	5.6	1.5	2.9	4.4
6	1.2	2.3	3.5	1.2	2.3	3.5
7	1.4	2.8	4.3	1.4	2.8	4.3
8	1.4	2.8	4.2	1.2	2.4	3.7
10	1.8	3.6	5.3	1.5	3.0	4.5
13	2.4	4.7	7.1	2.0	4.1	6.1
15	1.9	3.8	5.6	1.5	3.1	4.6
16	2.1	4.3	6.4	1.7	3.5	5.2
20	2.9	5.8	8.7	1.8	3.7	5.5
25	3.1	6.2	9.3	2.6	5.1	7.7
30	3.0	6.0	9.0	2.7	5.4	8.1
32	3.4	6.8	10.2	3.1	6.2	9.3
35	3.7	7.4	11.0	3.8	7.6	11.3
40	4.0	8.1	12.1	3.9	7.8	11.6

Let-Through Energy

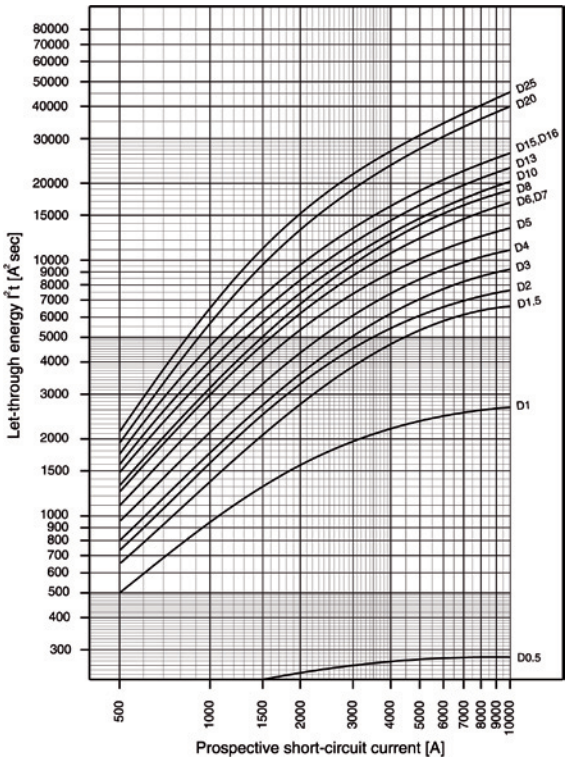
Characteristic C (0.5 – 32A), 277V



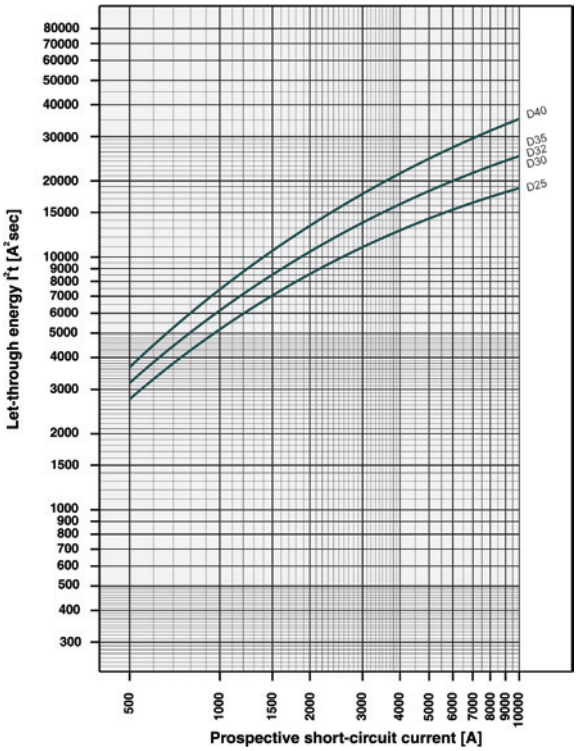
Characteristic C (40A), 240V



Characteristic D (0.5 – 32A), 277V



Characteristic D (40A), 240V



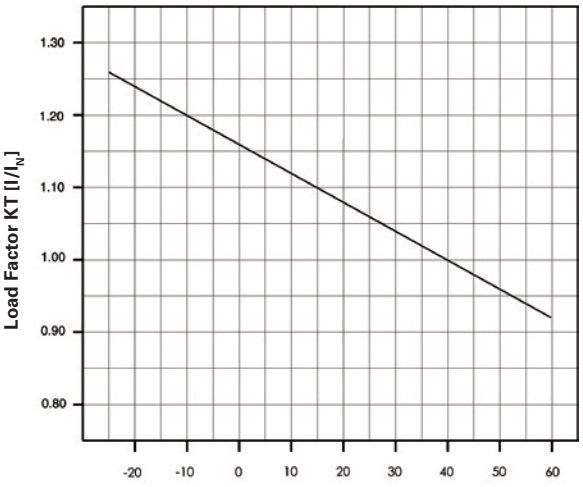
UL 489 DIN Rail Miniature Circuit Breakers

WMZ Circuit Breakers

TECHNICAL DATA

Influence of Ambient Temperature T on Load Carrying Capacity

Device Market Current Rating I_n (A) at 40°C	I_n (A) at Higher Ambient Temperature							
	15°C	20°C	25°C	30°C	40°C	50°C	55°C	60°C
0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1.0	1.1	1.1	1.1	1.0	1.0	1.0	0.9	0.9
1.5	1.7	1.6	1.6	1.6	1.5	1.4	1.4	1.4
2.0	2.2	2.2	2.1	2.1	2.0	1.9	1.9	1.8
3.0	3.3	3.2	3.2	3.1	3.0	2.9	2.9	2.8
4.0	4.4	4.3	4.2	4.2	4.0	3.8	3.8	3.7
5.0	5.5	5.4	5.3	5.2	5.0	4.8	4.7	4.6
6.0	6.6	6.5	6.4	6.2	6.0	5.8	5.6	5.5
7.0	7.7	7.6	7.4	7.3	7.0	6.7	6.6	6.4
8.0	8.8	8.6	8.5	8.3	8.0	7.7	7.5	7.4
10.0	11.0	10.8	10.6	10.4	10.0	9.6	9.4	9.2
13.0	14.3	14.0	13.8	13.5	13.0	12.5	12.5	12.0
15.0	16.5	16.2	15.9	15.6	15.0	14.4	14.1	13.8
16.0	17.6	17.3	17.0	16.6	16.0	15.4	15.0	14.7
20.0	22.0	21.6	21.2	20.8	20.0	19.2	18.8	18.4
25.0	27.5	27.0	26.5	26.0	25.0	24.0	23.3	23.0
30.0	33.0	32.4	31.8	31.2	30.0	28.8	28.2	27.6
32.0	35.2	34.6	33.9	33.3	32.0	30.7	30.1	29.4
40.0	44.0	43.2	42.4	41.6	40.0	38.4	37.6	36.8



Maximum Load I_L at ambient temperature T: I_L (T) = I_N K_T(T)

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