

Защитные автоматические выключатели серии "QZ" Технические характеристики



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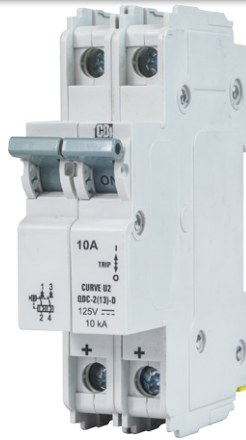
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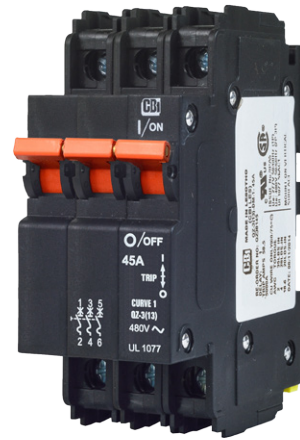
QZ - Series Miniature Circuit Breakers



Dual Mount
1 pole



DIN Mount
2 pole



Dual Mount
3 pole

Features

- AC circuit breaker
- Hydraulic-magnetic technology
- 100% rating capability, independent of ambient temperature
- One, two and three pole (UL). One, two, three pole and 1+N, 3+N (VDE).
- VDE, EAC approved, CE certified
- UL 1077 recognised (supplementary protector)
- Ratings 0.1 to 60 A (depends on specification and number of poles)
- Optional shunt trip (approvals pending)
- Wide range of time delays and operating currents
- Precision tripping characteristics
- Ultra compact – 13 mm wide module
- Trip indication with mid-trip handle
- Reset immediately after overload
- DIN mount product in grey shells
- Dual mount product in black shells
- Ring terminal ready (terminal screw is removable)
- Suitable to use for electrical isolation

Auxiliary Switch, Trip Alarm & Combo: Features

- Auxiliary switch (DIN and Dual Mount)
- Auxiliary switch + trip alarm (Dual Mount only)
- Trip alarm (Dual Mount only)
- AC and DC voltages
- UL 489 listed (auxiliary switch: 6 A 250 V AC, 0.5 A 80 V DC)
- IEC 60947-5-1 approved (auxiliary switch: 6 A 240 V AC, 0.5 A 110 V DC; trip alarm: 6 A 240 V AC, 0.5 A 110 V DC)
- Factory fitted
- Attached to right hand side of circuit breaker
- Compact 6.5 mm width

Applications

- AC branch circuit protection (IEC / EN 60947-2)
- Supplementary protection (UL 1077)
- Motor control (UL 60947-4-1A)
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Alternative energy equipment
- Mobile power generation equipment
- Railway signalling equipment

Optional Accessories

- Handle lock
- Surface mounting clips
- Busbar
- 57 mm escutcheon blank (Dual Mount only)
- 57 mm safety blank (Dual Mount only)

QZ - Series Miniature Circuit Breakers

Technical Data

Product Type	Circuit Breaker				
Approvals	IEC / EN 60947-2, VDE, CE, EAC				
Number of Poles	1	2 (1+N)	2	3	4 (3+N)
Operating Voltages	240 V AC		415 V AC		
Minimum Current Rating	0.1 A				
Maximum Current Rating	50 A				
Specific Ratings (Verify Certification)	0.1, 0.2, 0.3, 0.4, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 25, 30, 35, 40, 45, 50 A				
Interrupting Capacity	3 kA				

Product Type	Supplementary Protector						
Approvals	UL 1077						
	Tested with and without series fuse					Tested without series fuse	
Number of Poles	1	1	2	3	3	1	3
Operating Voltages	120 V AC	277 V AC	480 V AC	240 V AC	277 / 480 V AC	120 V AC	240 V AC
Minimum Current Rating	0.1 A					0.1 A	
Maximum Current Rating	60 A					50 A	
Specific Ratings (Verify Certification)	0.1, 0.2, 0.3, 0.4, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 25, 30, 35, 40, 45, 50 A						
Interrupting Capacity	5 kA					5 kA	

Product Type	Motor Controller		
Approvals	UL 60947-4-1A		
Number of Poles	1	2	3
Operating Voltages	277 V AC	480 V AC	480 V AC
Minimum Current Rating	0.1 A		
Maximum Current Rating	40 A	30 A	30 A
Interrupting Capacity	5 kA		

Auxiliary Module	
Auxiliary Switch	DIN and CBI Mini Rail mounted
Trip Alarm	CBI Mini Rail mount only
Auxiliary Switch / Trip Alarm Combo	CBI Mini Rail mount only

QZ - Series Miniature Circuit Breakers

Technical Data

Product Type	QZ
Operating Temperature Range	-40 °C to +85 °C
Mounting Options	DIN Rail, Dual mounting (DIN & Mini), surface mounting clip
Time Delay Curves	1, 2, 3, 9, OP
Endurance	10000 operations - 1500 electrical at rated current and voltage (IEC 60947-2) 6000 electrical operations (UL 1077)
Dielectric Strength	1480 V (single pole) / 1830 V (multi pole), 50 Hz for one minute after testing
Weight	102 g per pole, 160 g with auxiliary (unpacked)
Humidity	35 to 85% relative
Altitude	Certification tests done at altitude ≈ 2000 metres. Will operate at higher altitudes.
Shock	16 G (IEC 60068-2-27)
Vibration	2 G (IEC 60068-2-6) (sinusoidal wave)
Flammability	I3 - Ignition does not persist at 850 °C after glow wire is withdrawn with an oxygen index of ≥ 28
Toxicity	F1 - Smoke index of ≤ 20 which determines the fume class
Pollution Degree	PD2 - Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.

Breaker QZ	Wire Size mm ² (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)	Comments
1 Pole & 2 Pole	0.75 - 35 mm ²	18 - 2 - AWG	2.5 Nm	20 in-lb	Pozidriv #2 Combi head

QZ - Series Miniature Circuit Breakers

Ordering Information

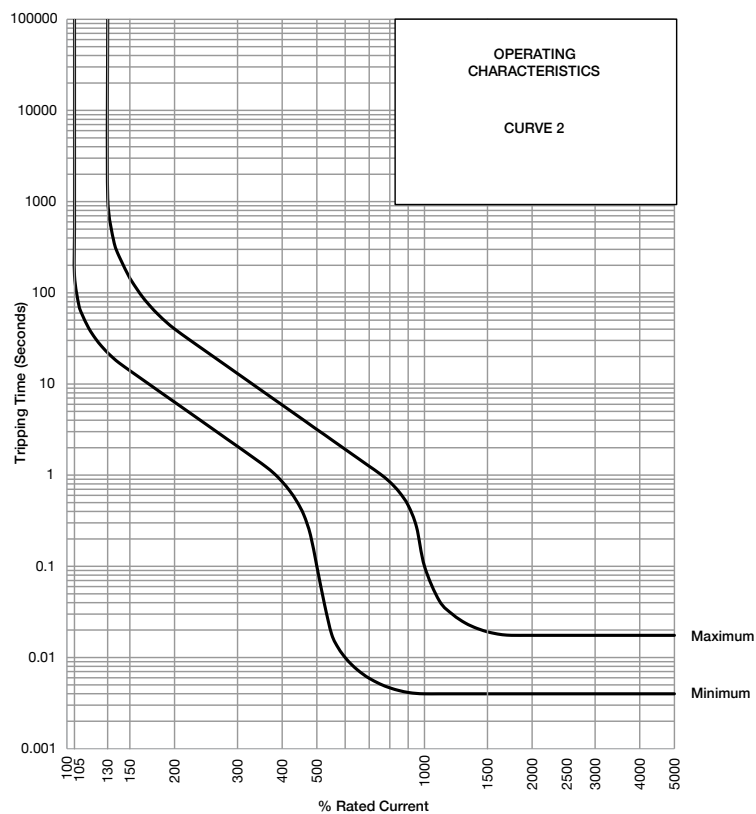
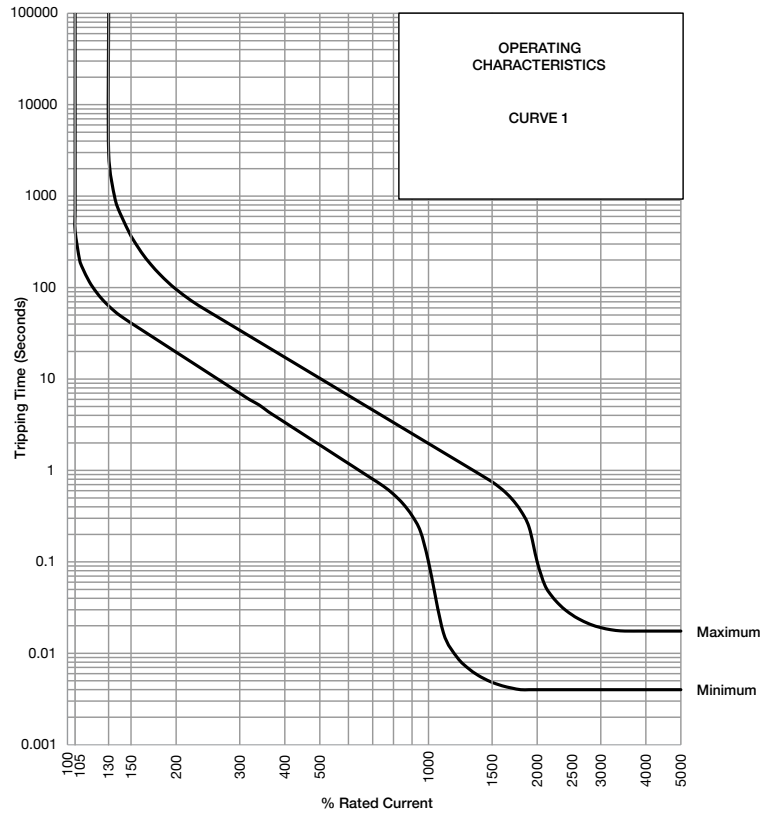
Example Code: **QZ--AT-3(13)-DM-2-50A-----**

Group	1	2	3	4	5	6	7	8	9	10	11
Requirement	QZ Frame	Switch / Neutral	Auxiliary switch + trip alarm	Triple pole	13 mm module width	Dual Mount	Medium delay curve 2	Current Rating 50 A	Future use	No shunt trip	Future use
Long Code	QZ	-	AT	3	(13)	DM	2	50A	-	-	-

Group	Code	Description	Comments
Group 1: Frame Type	QZ	13 mm wide miniature circuit breaker	
Group 2: Switch/Neutral	-	Not applicable	Overload poles do not have any further coding
	N	Neutral	Green handle
Group 3: Auxiliary	-	Not applicable	Use this code if no auxiliary used
	A	Auxiliary switch (1 x Aux in 1 module)	6.5 mm module fitted on right-hand side
	AA	Double auxiliary switch (2 x Aux in 1 module)	6.5 mm module fitted on right-hand side
	T	Trip alarm (1 x trip alarm in 1 module)	6.5 mm module fitted on right-hand side
	AT	Auxiliary switch + trip alarm combo (combined in 1 module)	6.5 mm module fitted on right-hand side
Group 4: No of Poles	1	Single pole	
	2	Double pole	2 pole or 1+N
	3	Triple pole	
	4	Four pole	3+N only
Group 5: Module Width	(13)	13 mm module width	13 mm per pole
Group 6: Mounting	D	DIN rail mount - 45 mm Escutcheon, grey body	DIN mount supplied in grey only
	DM	Dual mount - 57 mm escutcheon, black body	Dual mount supplied in black only
Group 7: Time Delays	1	Long time delay, high instantaneous trip	10 – 20 Orange handle
	2	Medium time delay	5 – 10 White handle
	3	Short time delay	3 – 5 White handle
	9	Long time delay	7 – 12 White handle
	OP	Instantaneous	None White handle
Group 8: Current Ratings	Code / Description		Comments
	0.1, 0.2, 0.3, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 60 A		Ratings available vary depending on certification * Other ratings are available as special orders. Check availability.
Group 9:	Code	For future use (-)	
Group 10: Shunt Trip (approvals pending)	Code	Description	Comments
	-	Not applicable	Use this code if no shunt trip is used
	V0	100 – 480 V AC	Fly leads (approximately 60 mm long)
	V5	100 – 480 V AC	Internally connected
	Other voltages are available as special orders. Check availability.		
Group 11	Code	For future use (-)	

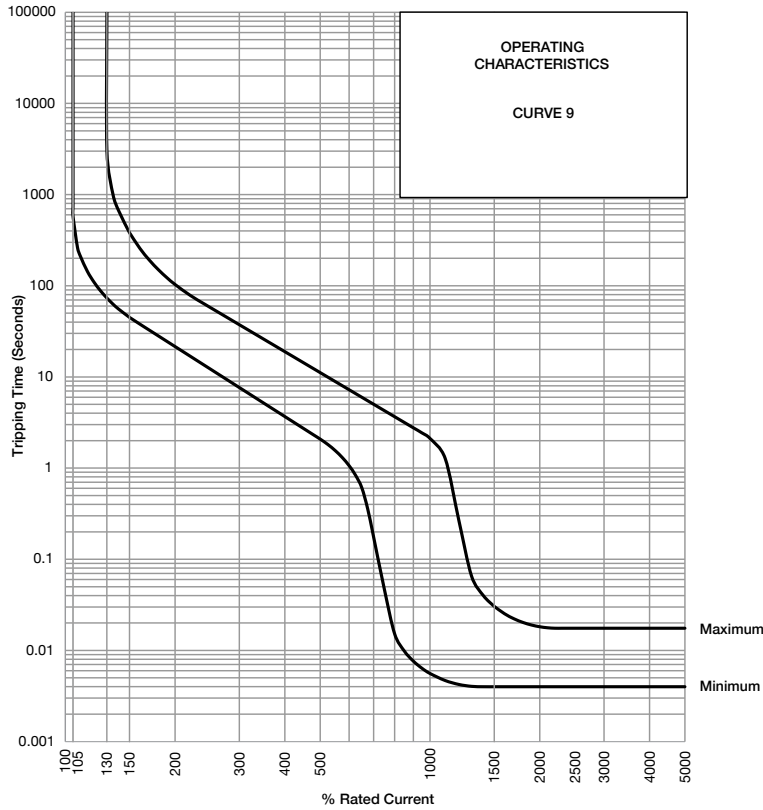
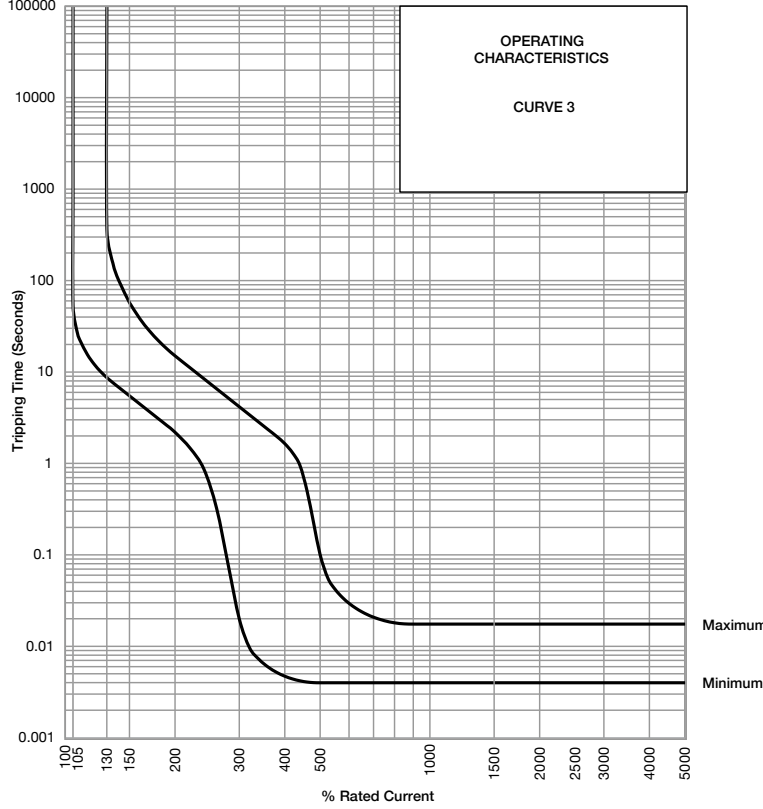
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Time Delay Curves



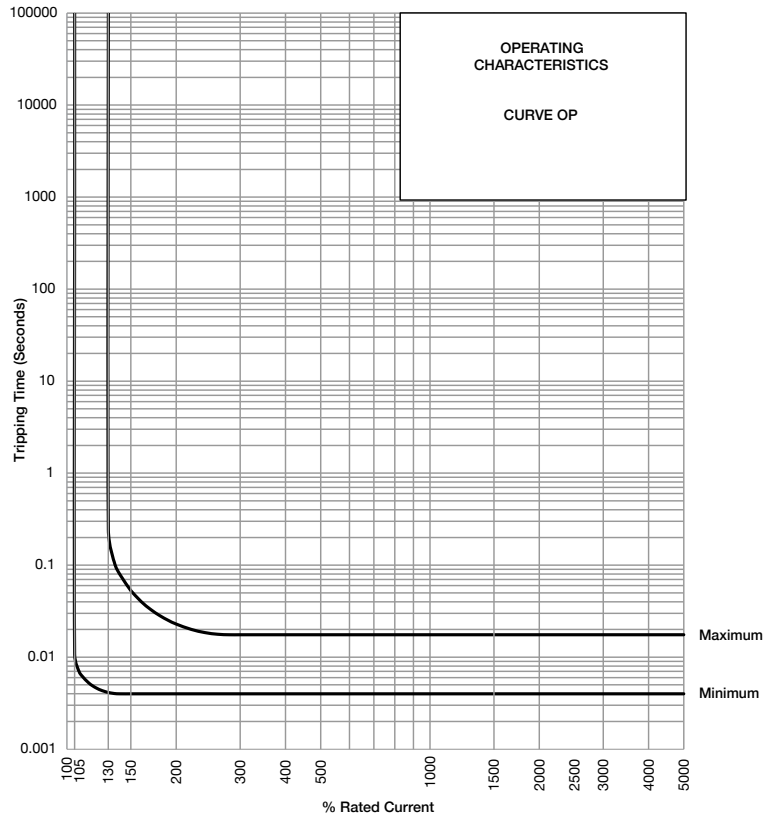
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Time Delay Curves



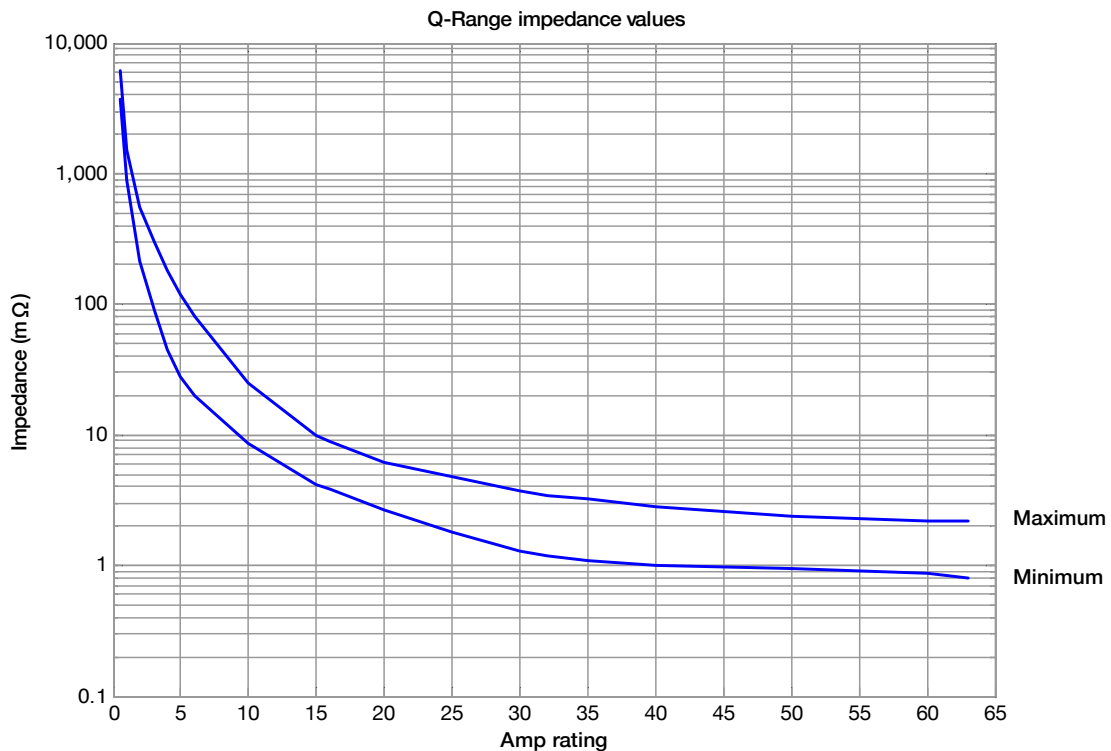
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Time Delay Curves



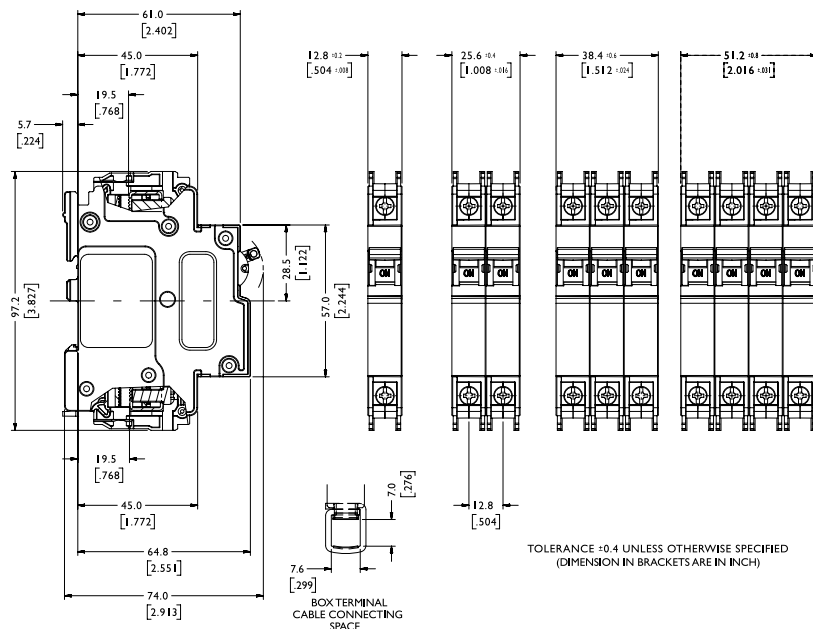
* The published time delay curves are generated at 30°C ambient temperature with the Circuit Breaker mounted in the up-right position. The “must hold”, “must trip” and “instantaneous trip” current values are not affected by temperature, although delay time for the other operating current values may have to be adjusted using the temperature compensation curve which is available on request.

Internal Impedance vs Current Rating

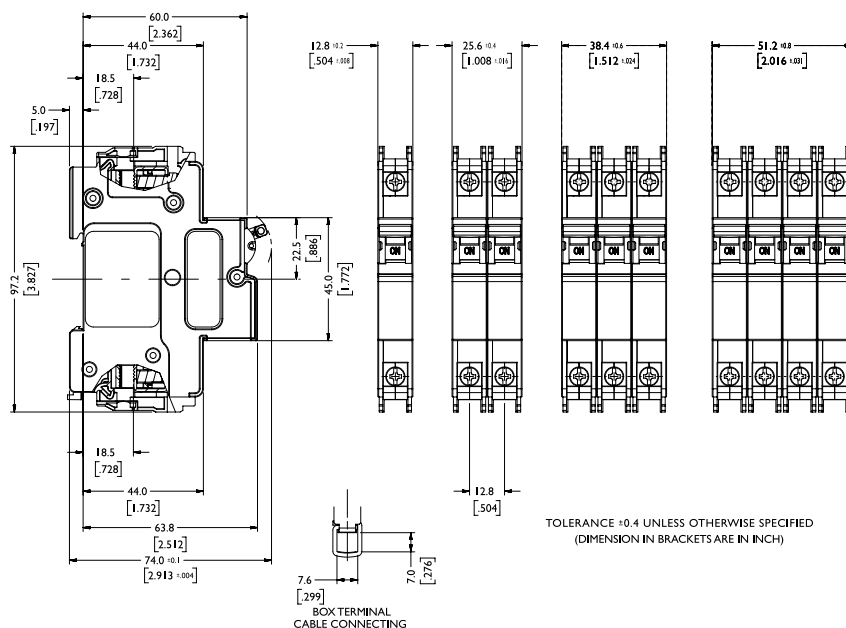


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Outline Dimensions: Dual mount



Outline Dimensions: DIN mount



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