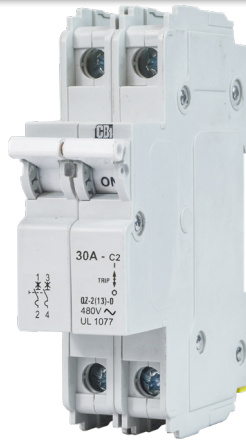


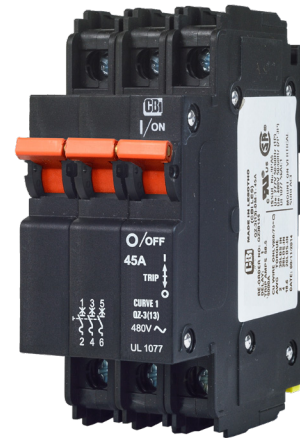
QZ - Series Miniature Circuit Breakers



1 Pole
Dual (DIN & Mini Rail) Mount



2 Pole
Dual (DIN & Mini Rail) Mount



3 Pole
Dual (DIN & Mini Rail) Mount

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).
- DIN / EN, EAC approved, CE certified
- UL 1077 recognised (Supplementary protector)
- Ratings 0.1 A to 60 A - UL 1077
- 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
- Can be switched on immediately after tripping
- DIN mount product in grey shells
- Dual (DIN and mini rail) mount product in black shells

Applications

- AC branch circuit protection (DIN / EN 60947-2)
- Supplementary protection (UL 1077)
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Mobile power generation equipment

Auxiliary Switch, Trip Alarm & Combo: Features

- Factory fitted
- Attached to right hand side of circuit breaker
- Compact 6.5 mm width
- Auxiliary switch (DIN and Dual mount)
- Auxiliary switch + trip alarm (Dual mount only)
- Trip alarm (Dual mount only)
- UL 489 & IEC 60947-5-1
- 110 Vdc, 0.5 A; 240 Vac, 6A

Optional Accessories

- Handle lock - QFAP001
- Surface mounting clips - SAAX000
- 57 mm escutcheon blank (Dual mount only) - 2356208
- 57 mm safety blank (Dual mount only) - SAEB000



Hydraulic-Magnetic Circuit Breakers 100% rated, unaffected by ambient temperature

QZ - Series Miniature Circuit Breakers

Technical Data

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

Product Type	Circuit Breaker				
Approvals	DIN / EN 60947-2, EAC, CE, UKCA				
Number of Poles	1	2 (1+N)	2	3	4 (3+N)
Operating Voltages	240 Vac		415 Vac		
Minimum Current Rating	5 A				
Maximum Current Rating	50 A				
Specific Ratings (Verify Certification)	5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 25, 30, 35, 40, 45, 50 A				
Ultimate S/C Breaking Capacity (Icu)	3 kA				

Verify approvals for specific ratings in accordance with the relevant test certificates.

For other ratings, consult CBI

QZ - Series Miniature Circuit Breakers

Technical Data

Product Type	QZ
Ambient Operating Temperature	-40 °C to +85 °C
Mounting Options	DIN rail, Dual (DIN & mini rail) mounting, Surface mounting clip
Time Delay Curves	1, 2, 3, 9, OP
Endurance	10000 operations - 1500 with current, 8500 without current (IEC 60947-2 Clause 7.2.4.2)* 6000 operations with current (UL 1077 Clause 22)*
Dielectric Strength	1000 - 2000 Vac for one minute (IEC 60947-2 Clause 8.3.3.3)* 1000 Vac plus twice the rated voltage for one minute (UL 1077 Clause 23)*
Rated Impulse Withstand Voltage	4 kV (IEC 60947-2)
Weight	102 g per pole, 160 g with auxiliary (unpacked)
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.

* Refer to the standard for details

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

Circuit Breaker	Wire Size (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)	Comments
Main Terminals	0.75 - 25 mm ²	14 – 4 AWG	2.5 N.m	20 lbf.in	PH #2 Combi head

Verify approvals for specific ratings in accordance with the relevant test certificates.

QZ - Series Miniature Circuit Breakers

Long Code

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

Group	1	2	3	4	5	6	7	8	9	10	11	12	13
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	Ring Terminal Ready	Customer specific
Long Code	QZ	-	AT	3	(13)	DM	2	50A	-	-	-	R	-

Ordering Information

Group 1: Frame Type	Code	Description	Comments	
	QZ	Miniature circuit breaker	DIN / EN 60947-2, UL 1077	
Group 2: Switch/Neutral	Code	Description	Comments	
	-	Not applicable		
	N	Neutral	Green handle	
Group 3: Auxiliary	Code	Description	Comments	
	-	Not applicable	If no auxiliary is required	
	A	Auxiliary switch (1 x Aux in 1 module)	6.5 mm module fitted on right-hand side (DIN & Dual mount)	
	T	Trip alarm (1 x Trip alarm in 1 module)	6.5 mm module fitted on right-hand side (Dual mount black)	
	AT	Auxiliary switch + trip alarm combo (Combined in 1 module)	6.5 mm module fitted on right-hand side (Dual mount black)	
Group 4: No of Poles	Code	Description	Comments	
	1	Single pole		
	2	Double pole	2 pole or 1+N	
	3	Triple pole		
	4	Four pole	3+N	
Group 5: Module Width	Code	Description	Comments	
	(13)	13 mm module width	13 mm per pole	
Group 6: Mounting	Code	Description	Comments	
	D	DIN rail mount	DIN mount supplied in grey only - 45 mm escutcheon, grey body	
	DM	Dual (DIN & mini rail) mount	Dual mount supplied in black only - 57 mm escutcheon, black body	
Group 7: Time Delays	Code	Description	Instantaneous Trip Point (x In)	Comments
	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	
Group 8: Current Ratings	Code	Description	Comments	
	-	0.1, 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	For other ratings, consult CBI	
Group 9: Future Use	Code	Description	Comments	
	-	Not applicable	For future use (-)	

Continues on page 5

QZ - Series Miniature Circuit Breakers

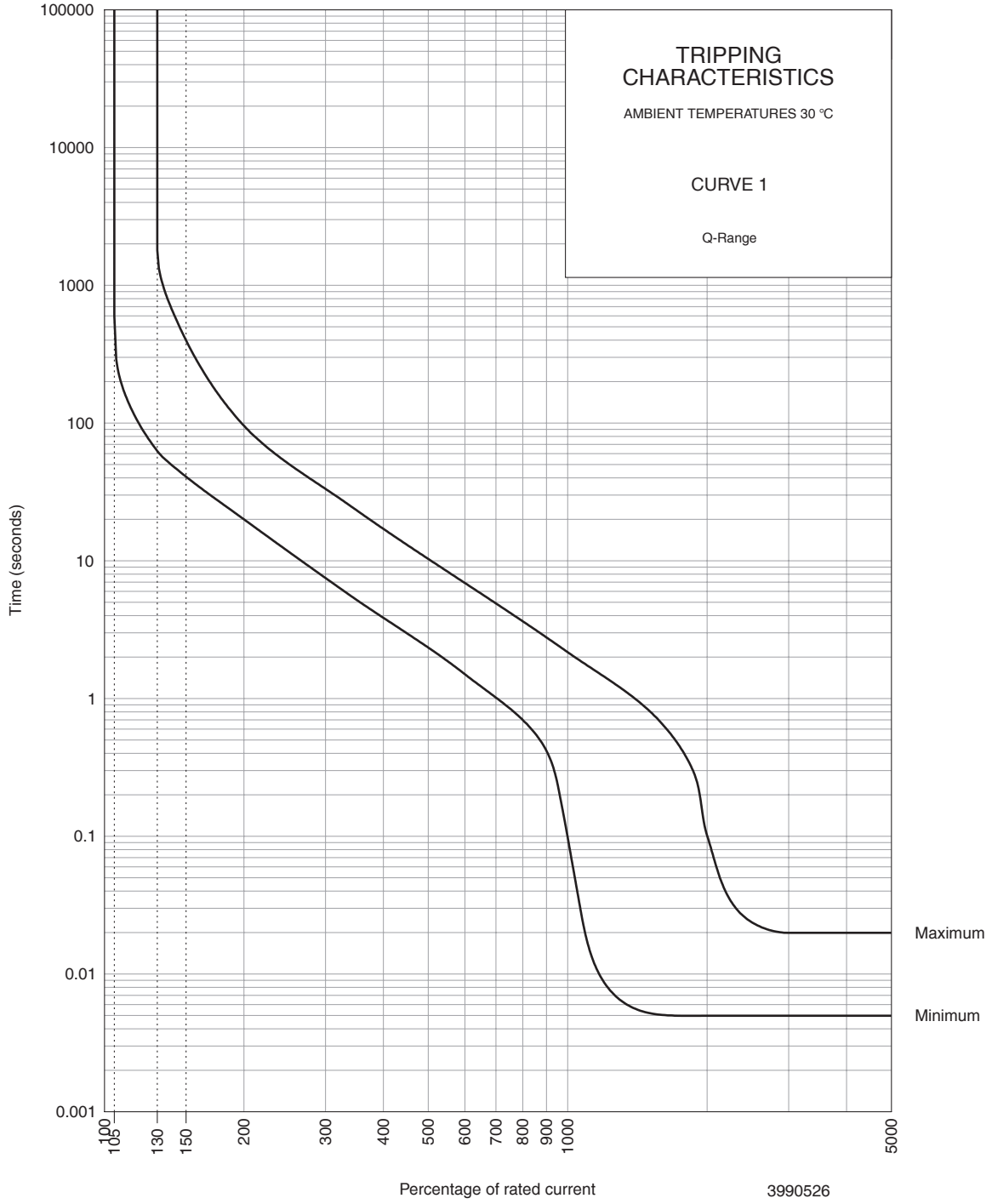
Ordering Information continues

Group 10: Shunt Trip (not certified only offered as special order)	Code	Description	Comments
	-	Not applicable	If no shunt trip is required
Group 11	Code	Description	Comments
	-	Not applicable	For future use (-)
Group 12: Special Termination	Code	Description	Comments
	R	Ring terminal ready	Terminal screw is removable. Ring lug (5 mm)
Group 13: Customer Specific	Code	Description	Comments
	-	Not applicable	For future use (-)

For options not listed, please contact CBI

QZ - Series Miniature Circuit Breakers

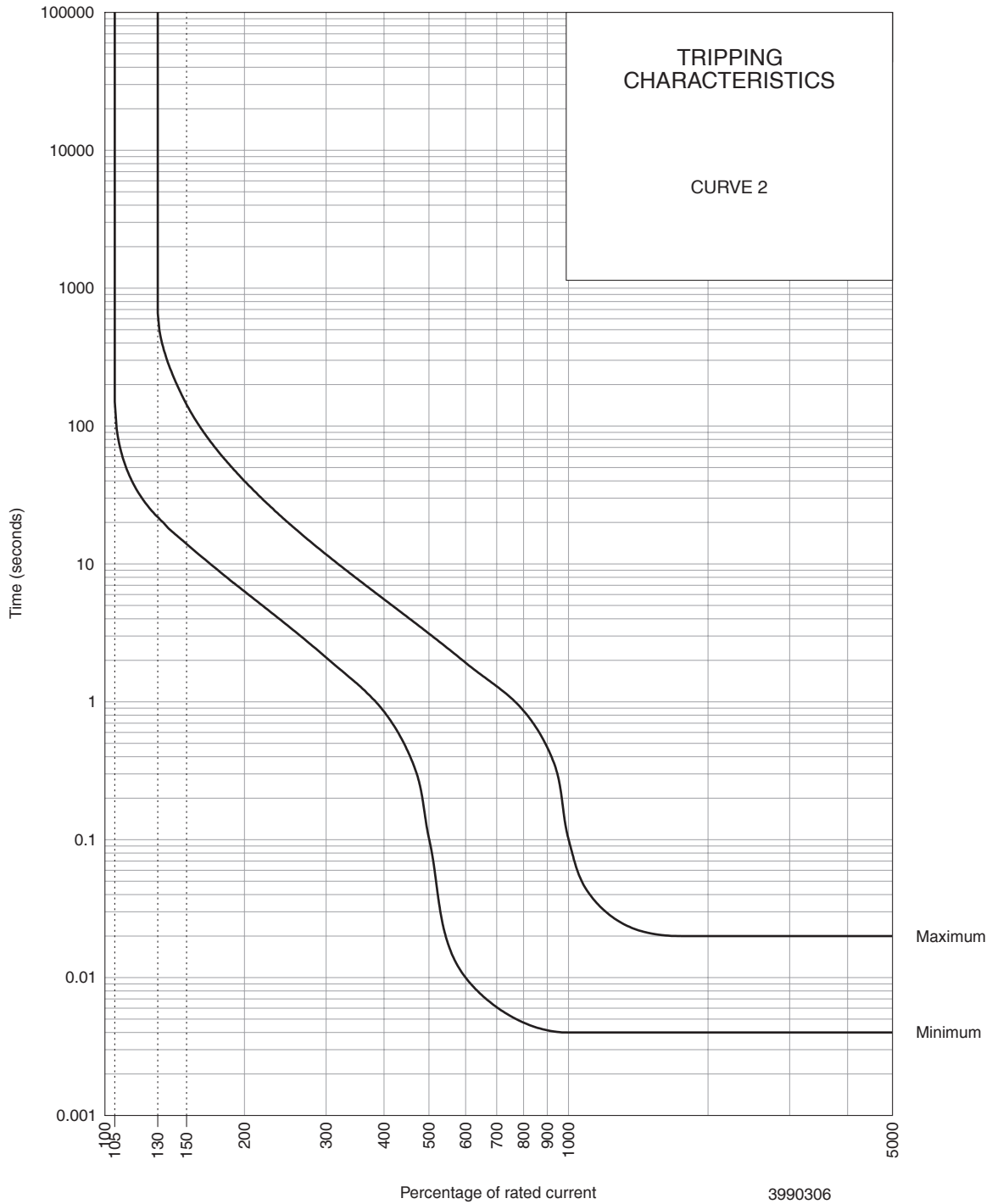
Time Delay Curve



PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	63	45	41	20	7.5	3.8	2.3	1.5	1.01	0.7	0.42	0.1	0.005
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	1800	503	400	96	34	17	10.3	6.8	4.9	3.6	2.8	2.2	0.1

QZ - Series Miniature Circuit Breakers

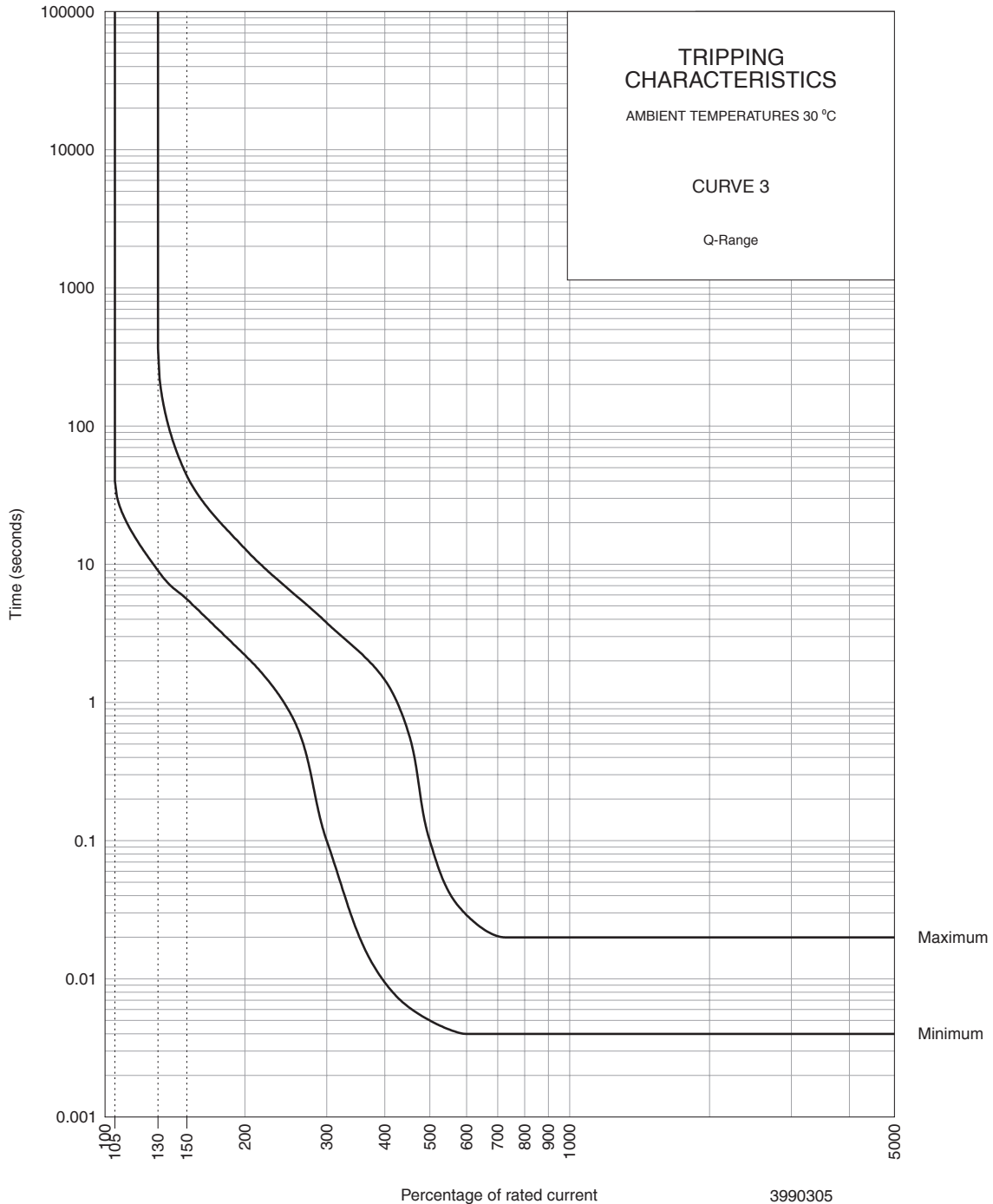
Time Delay Curve



PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	22	15.4	14	6.3	2.1	0.85	0.1	0.001	0.006	0.005	0.041	0.004	0.004
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	660	180	144	40	12	5.5	3	1.92	1.3	0.86	0.47	0.1	0.02

QZ - Series Miniature Circuit Breakers

Time Delay Curve

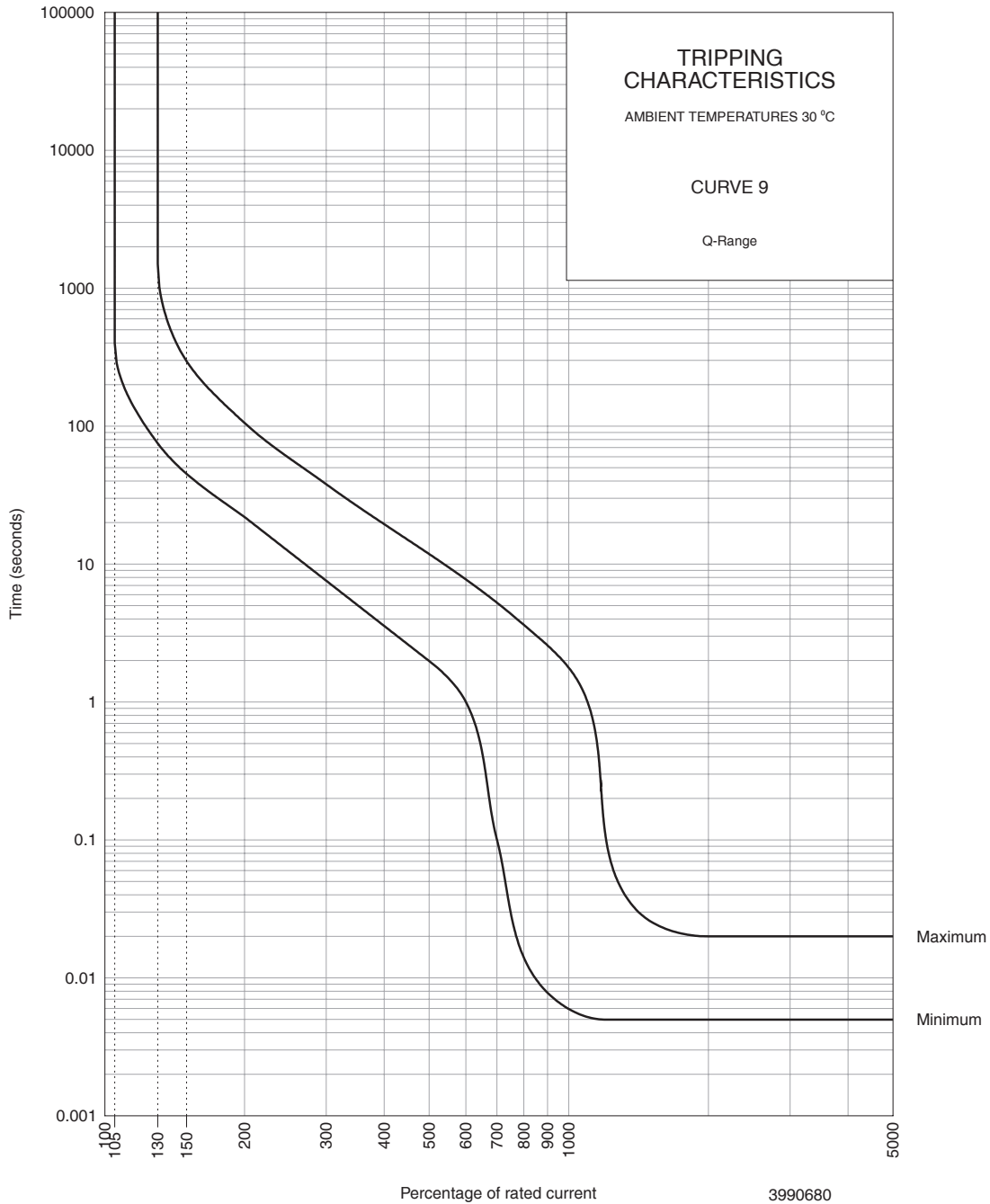


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PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	9	6	5.6	2.2	0.1	0.009	0.005	0.004	0.004	0.004	0.004	0.004	0.004
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	365	57	44	13	3.8	1.45	0.1	0.028	0.02	0.02	0.02	0.02	0.02

QZ - Series Miniature Circuit Breakers

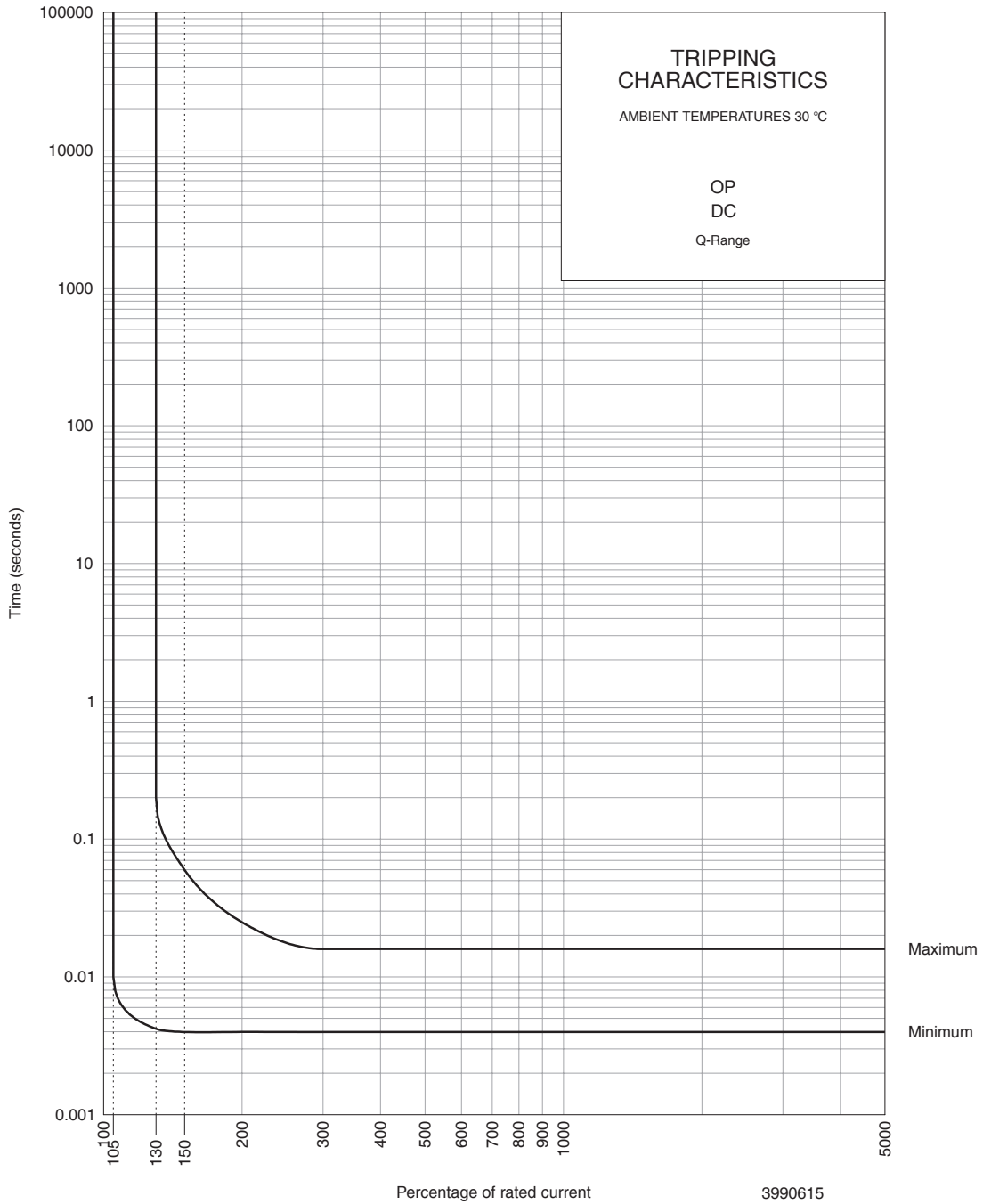
Time Delay Curve



PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1200%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	75	50	45	22	7.6	3.6	2	1	0.1	0.01	0.008	0.005	0.005
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	1500	360	295	100	38	19	11.8	7.7	5.3	3.6	2.6	0.06	0.02

QZ - Series Miniature Circuit Breakers

Time Delay Curve

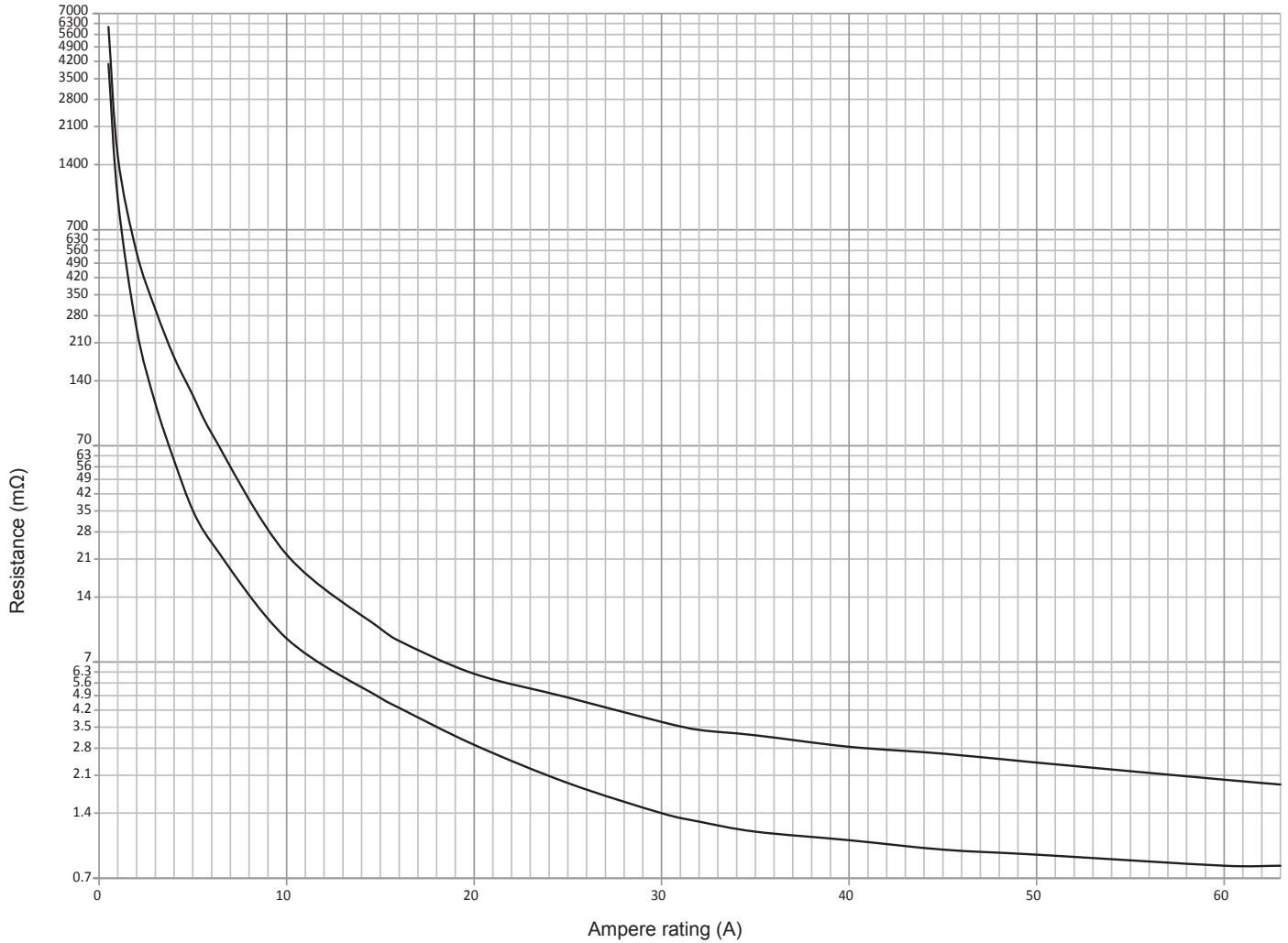


PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1000%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	0.0042	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	0.2	0.07	0.06	0.025	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016	0.016

* 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.

QZ - Series Miniature Circuit Breakers

Resistance Curve

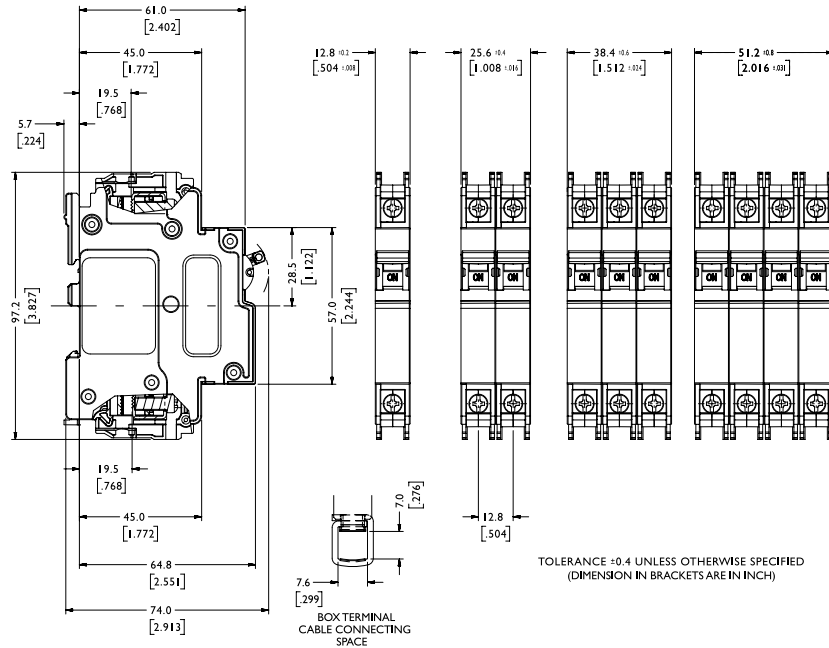


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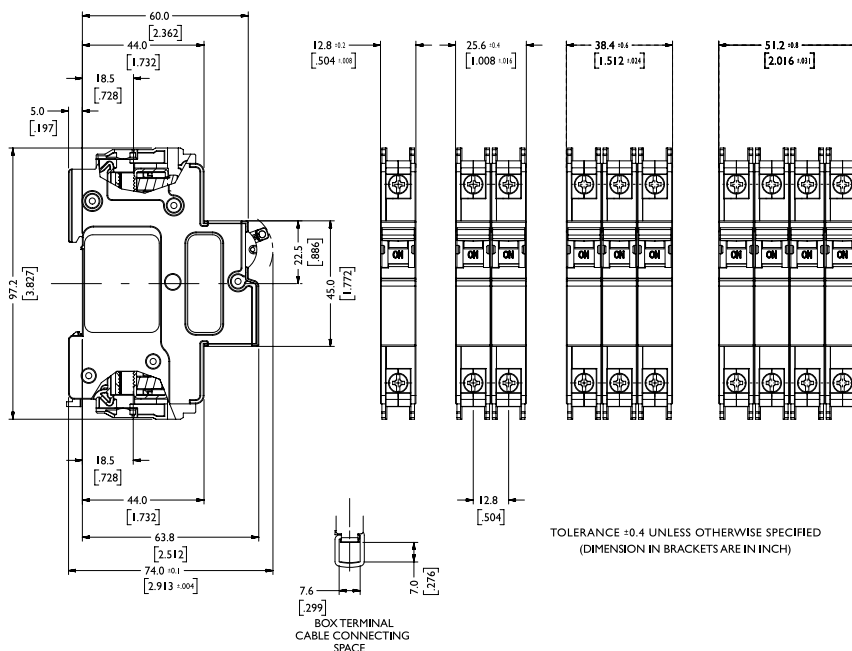
Amp RATING	0.5	1	2	5	6	10	15	20	25	30	32	40	50	60	63
MINIMUM (mΩ)	4085	970	244	35	25	9.0	4.8	2.9	1.9	1.4	1.3	1.1	0.9	0.8	0.8
MAXIMUM (mΩ)	6065	1527	550	120	80	22	10	6.2	4.8	3.7	3.4	2.8	2.4	2.0	1.9

QZ - Series Miniature Circuit Breakers

Outline Dimensions: Dual mount



Outline Dimensions: DIN mount



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