

QF(19) - 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

3 Pole + N
Dual (DIN & mini rail) mount

Features

- AC circuit breaker
- Hydraulic-magnetic technology
- 100% rated current capability, independent of ambient temperature
- One, two, three pole, 1+N and 3+N
- VC 8036 (SANS 556-1) compliant
- VDE, EAC and CCC approved, CE certified
- Ratings 1 A to 63 A
- Available in various currents and time delays
- Precision tripping characteristics
- Trip indication with mid-trip position
- Can be switched immediately after tripping
- Dual (DIN & mini rail) mount, **57 mm** front escutcheon (**Black**)
- Suitable to use for electrical isolation

Auxiliary Switch, Trip Alarm or Combination: Features

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

Applications

- AC branch circuit protection (DIN / EN 60947-2)
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Mobile power generation equipment
- Railway signalling equipment
- Residential equipment
- Industrial equipment

Optional Accessories

- Handle lock (SAAP002)
- Surface mounting clips (2096001)
- Busbar (2121381)

VC 8036



(DIN / EN 60947-2)



(GB 14048.2)



(IEC 60947-2)



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

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Technical Data

Product Type	Circuit Breaker				
Approvals	VC 8036 (SANS 556-1)				
Number of Poles	1	2 (1+N)	2	3	4 (3+N)
Operating Voltages	240 Vac		415 Vac		
Minimum Current Rating	1 A				
Maximum Current Rating	63 A				
Ultimate S/C Breaking Capacity (Icu)	5 kA				

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Approvals	DIN / EN 60947-2, EAC, CE, UKCA				
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Operating Voltages	240 Vac		415 Vac		
Minimum Current Rating	1 A				
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Approvals	GB/T 14048.2				
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Minimum Current Rating	1 A				
Maximum Current Rating	63 A				
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Auxiliary Module	
Auxiliary Switch	Dual mount
Trip Alarm	Dual mount
Auxiliary Switch / Trip Alarm Combo	Dual mount

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Technical Data

Product Type	QF(19)
Ambient Operating Temperature	-40 °C to +85 °C
Mounting Options	Dual (DIN & mini rail) mount, Surface mount
Time Delay Curves	1, 2, 9
Endurance	10000 operations; 1500 with current, 8500 without current (IEC 60947-2 Clause 7.2.4.2)* 6000 operations with current
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
Rated Impulse Withstand Voltage	4 kV (IEC 60947-2 Clause 8.3.3.2)
Weight	130 g per pole, 190 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 960 °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 standard for details.

Breaker QF	Wire Size (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)	Comments
1 Pole to 4 Pole	0.75 mm ² - 35 mm ²	14 - 4 AWG	2.5 N.m	20 lbf.in	Pz #2 Combi head

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Long Code

Example Code: QF---AT-3(19)-DM-2-63A-----

Group	1	2	3	4	5	6	7	8	9	10	11	12	13
Requirement	QF frame	Switch / neutral	Auxiliary switch + trip alarm	Triple pole	19 mm module width	Dual mount	Medium delay curve 2	Current rating 63 A	Future use	Shunt trip	Special requirement	Special termination	Customer specific
Long Code	QF	-	AT	3	(19)	DM	2	63A	-	-	-	-	-

Ordering Information

Group 1: Frame Type	Code	Description	Comments	
	QF	Miniature circuit breaker		
Group 2: Switch/Neutral	Code	Description	Comments	
	-	Not applicable		
	S	Switch	Green handle	
	N	Neutral	Green handle	
Group 3: Auxiliary / Trip Alarm	Code	Description	Comments	
	-	Not applicable		
	A	Auxiliary switch (1 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	Code	Description	Comments	
	1	Single pole		
	2	Double pole	2 pole or 1+N	
	3	Triple pole		
	4	Four pole	3+N only	
Group 5: Module Width	Code	Description	Comments	
	(19)	19 mm module width		
Group 6: Mounting	Code	Description	Comments	
	DM	Dual (DIN & mini rail) mount	Dual mount supplied in black body only - 57 mm escutcheon	
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
	9	Long time delay	7 – 12	White handle
Group 8: Current Ratings	Code / Description		Comments	
	1, 2, 3, 4, 5, 6, 8, 10, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 60, 63 A		Ratings available vary depending on certification * Other ratings are available as special orders. Check availability.	
Group 9:	Code	Description	Comments	
	-	Not applicable	For future use	

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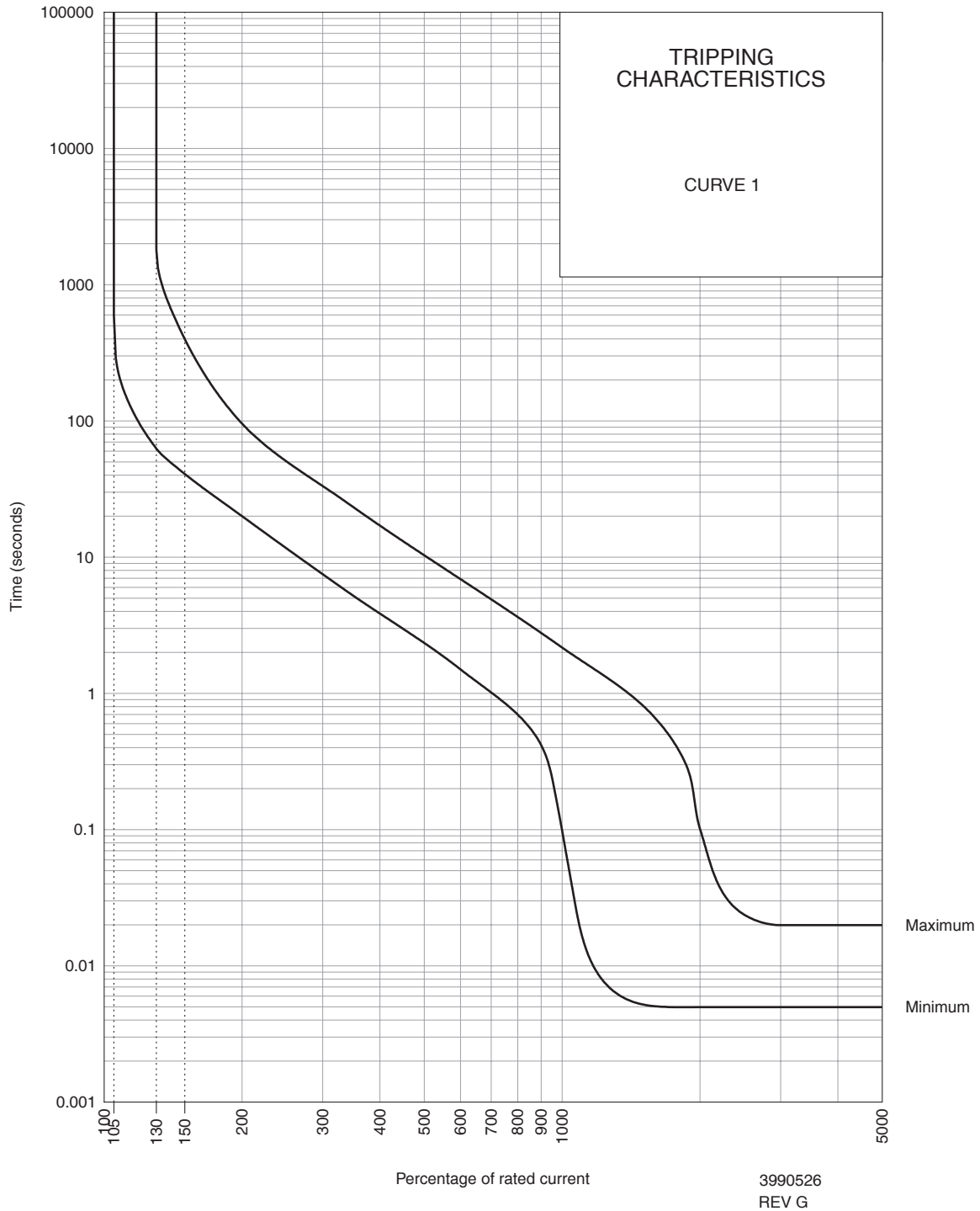
Ordering Information continues

Group 10: Shunt Trip (Fitted on Neutral pole)	Code	Description	Comments
	-	Shunt trip not fitted	
	U0	12 Vdc shunt trip (fly leads)	
	U1	24 Vdc shunt trip (fly leads)	
	U2	48 Vdc shunt trip (fly leads)	
	U3	60 Vdc shunt trip (fly leads)	
	U4	110 Vdc or 110 Vac shunt trip (fly leads)	
	U5	220 Vac or 240 Vac shunt trip (fly leads)	
Group 11:	Code	Description	Comments
	-	Not applicable	For future use
Group 12: Special Termination	Code	Description	Comments
	-	Not applicable	For future use
Group 13: Customer Specific	Code	Description	Comments
	-	Not applicable	For future use

For options not listed, please contact CBI

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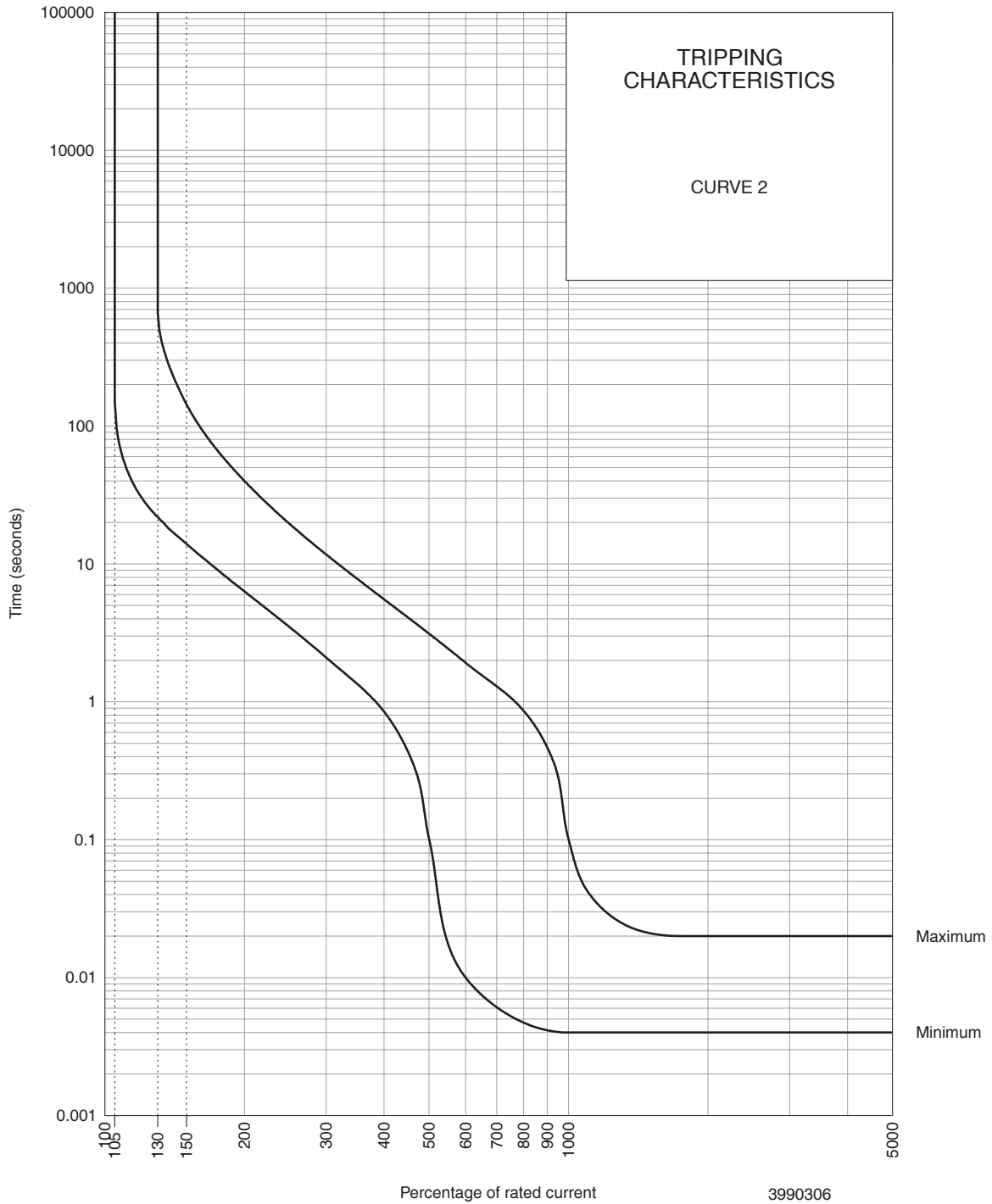
Time Delay Curve



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

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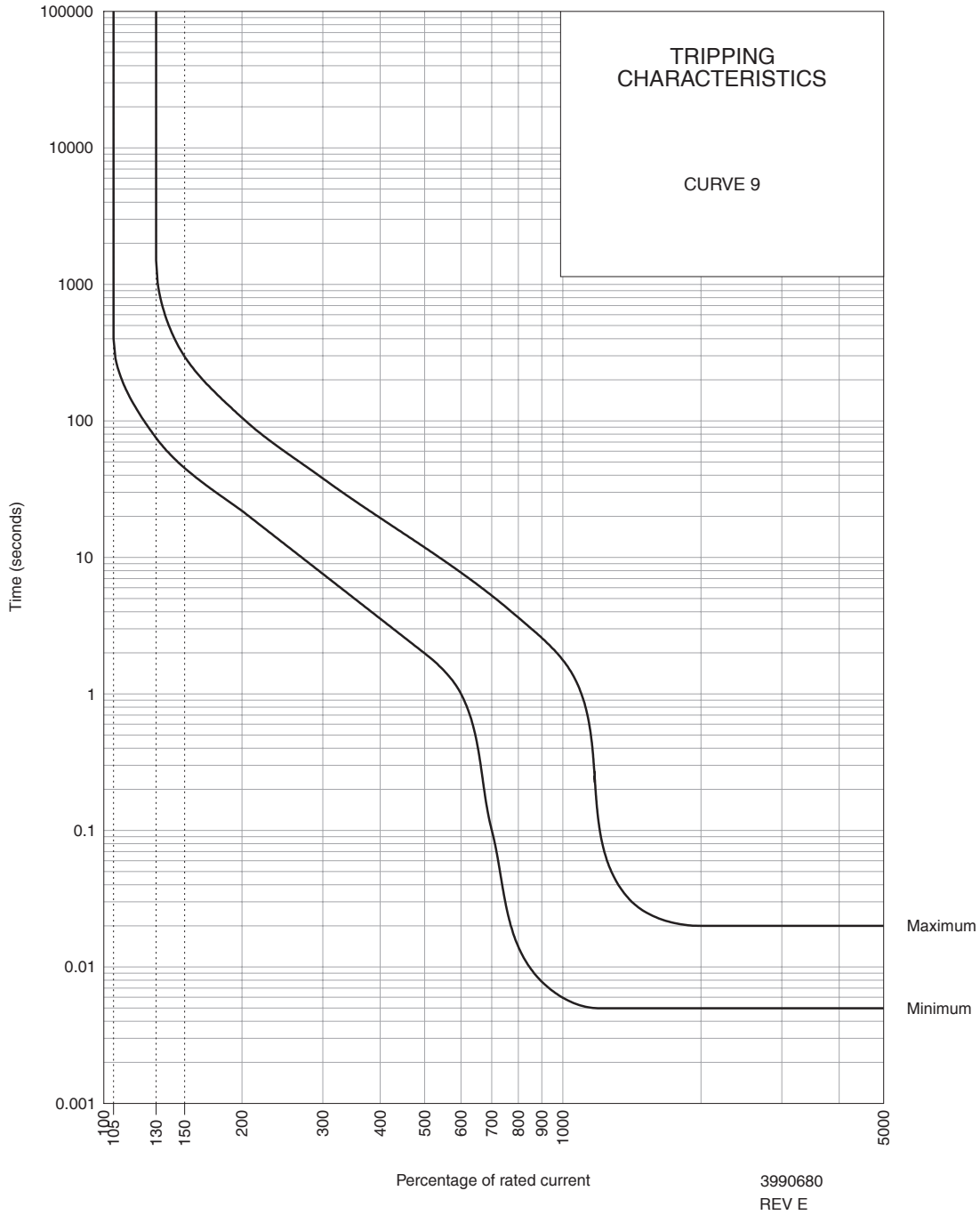
Time Delay Curve



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

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Time Delay Curve

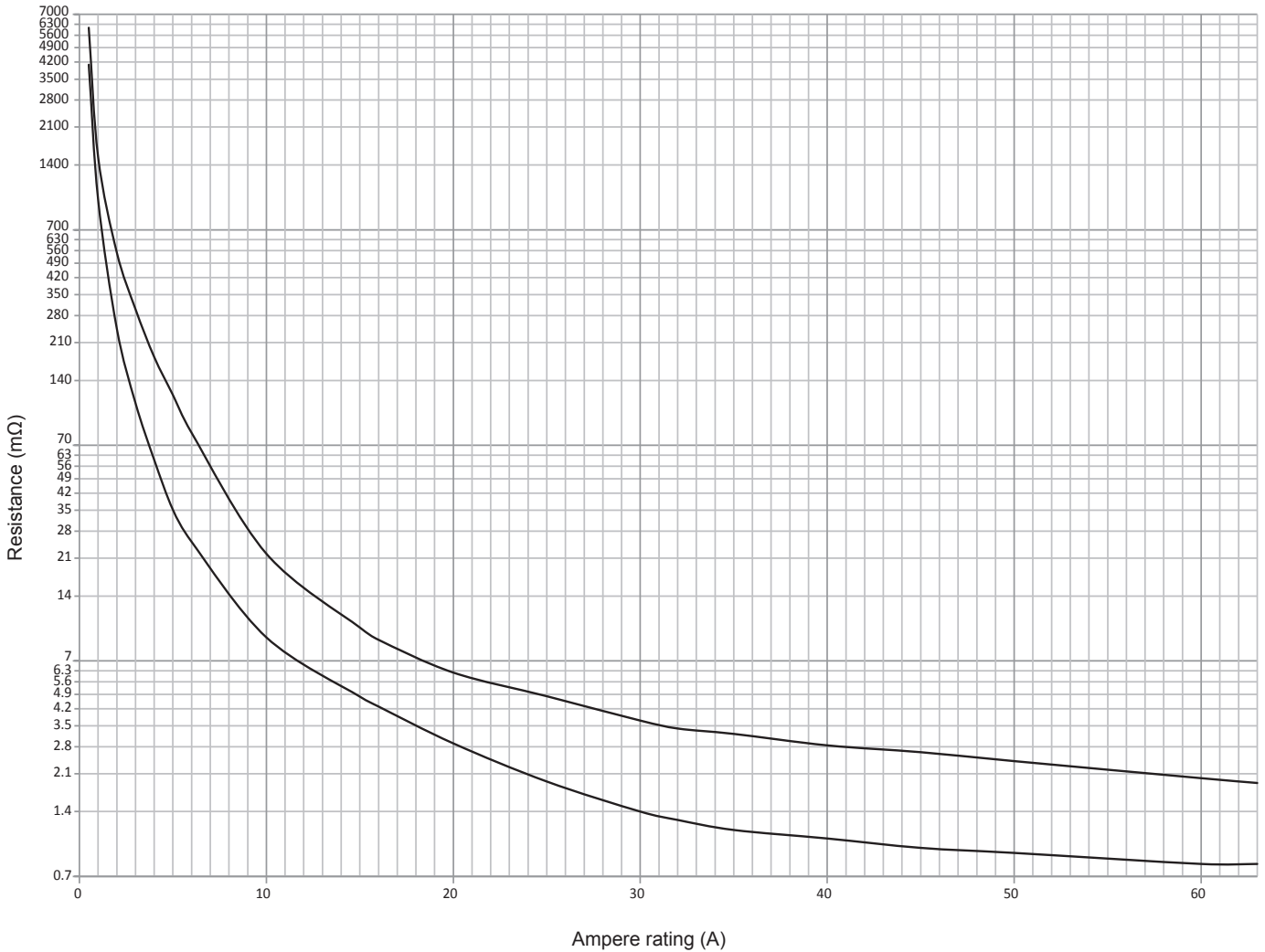


PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1200%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	75	50	45	22	7.6	3.6	2	1	0.1	0.01	0.008	0.005	0.005
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	1500	360	295	100	38	19	11.8	7.7	5.3	3.6	2.6	0.06	0.02

* 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.

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Resistance Curve

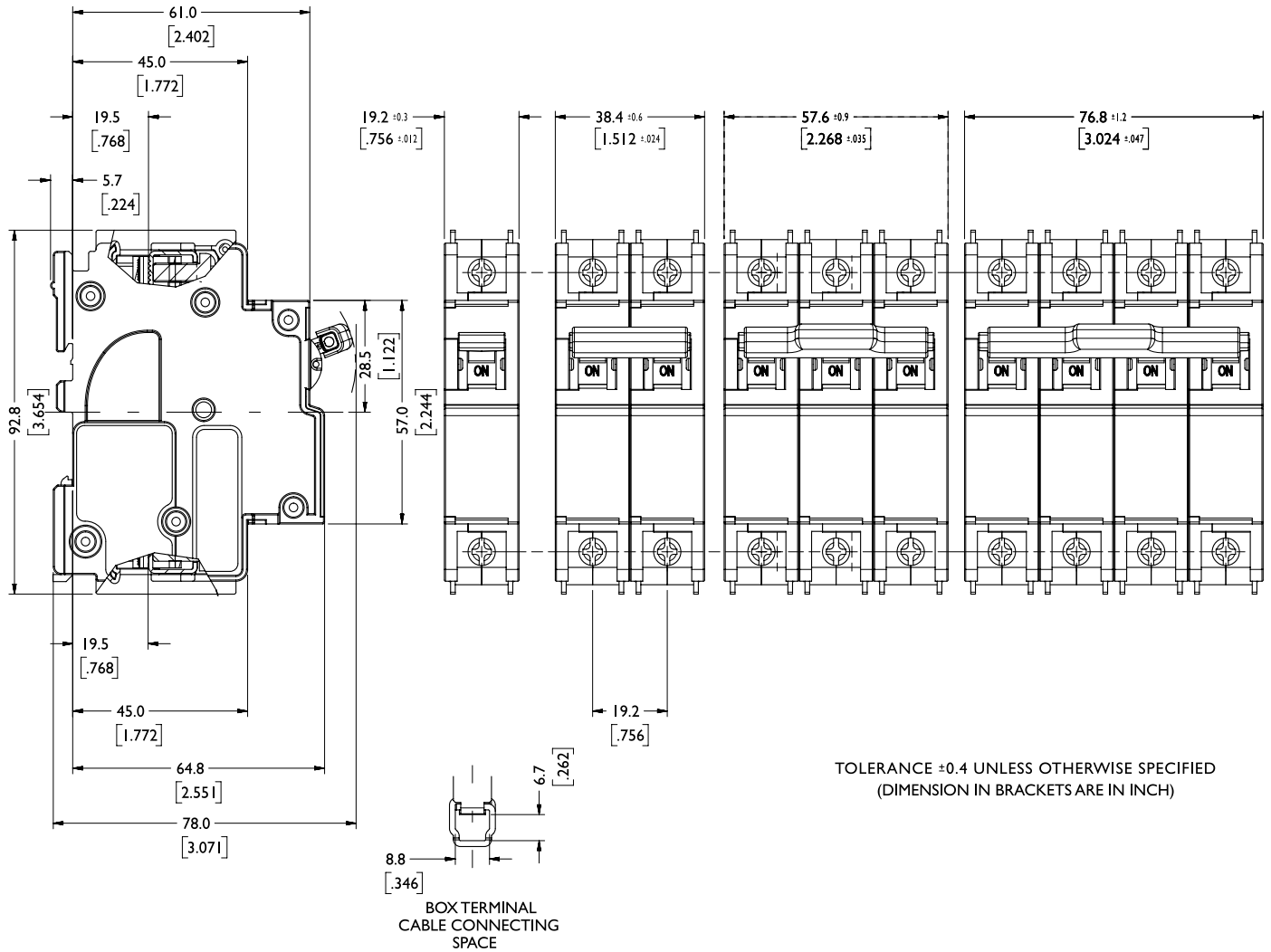


3990A784 REV A

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

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Outline Dimensions: Dual (DIN & mini rail) mount



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