

QF(18) - Series Miniature Circuit Breakers



1 pole
DIN Mount

2 pole
DIN Mount

3 pole
DIN Mount

3+N
DIN 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 compliant
- SANS 556-1 tested
- VDE, EAC and CCC approved, CE certified
- Ratings 1 A to 63 A
- Wide range of time delays & operating currents
- Precision tripping characteristics
- Trip indication with mid-trip position
- Can be switched on immediately after tripping
- DIN mount, 45 mm front escutcheon (Grey)
- Suitable to use for electrical isolation

Auxiliary Switch: Features

- Factory fitted
- Attached to right hand side of the circuit breaker
- Compact 6.5 mm width
- IEC 60947-5-1
110 Vdc, 0.5 A; 240 Vac, 6A
- UL 489 (auxiliary switch: 6 A 240 Vac, 0.5 A 110 Vdc)

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 (QFAP001)
- Surface mounting clips (2096001)
- Busbar (2121381)

VC 8036



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				

Product Type	Circuit Breaker				
Approvals	DIN / EN 60947-2, CE, UKCA, EAC, GB/T 14048.2				
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)	6 kA				

Product Type	Circuit Breaker			
Approvals	AS/NZS 3111			
Number of Poles	1	2	3	3+N
Operating Voltages	240 Vac	415 Vac		
Minimum Current Rating	1 A			
Maximum Current Rating	63 A			
Ultimate S/C Breaking Capacity (Icu)	6 kA			

Product Type	Circuit Breaker		
Approvals	UL 1077		
Number of Poles	1	2	3
Operating Voltages	277 Vac	480 Vac	
Minimum Current Rating	1 A		
Maximum Current Rating	60 A		
Short Circuit Current Rating (SC)	3 kA, U1		

Auxiliary Module	
Auxiliary Switch	DIN mounted

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Technical Data

Product Type	QF(18)
Ambient Operating Temperature	-40 °C to +85 °C
Mounting Options	DIN 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)*
Dielectric Strength	1000 - 2000 Vac for one minute (IEC 60947-2 Clause 8.3.3.3)*
Rated Impulse Withstand Voltage	4 kV (IEC 60947-2 Clause 8.3.3.2)
Weight	120 g per pole, 180 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
Main Terminals	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---A-3(18)-D-2-50A-----

Group	1	2	3	4	5	6	7	8	9	10	11	12	13
Requirement	QF frame	Switch / neutral	Auxiliary switch	Triple pole	18 mm module width	DIN mount	Medium delay curve 2	Current rating 50 A	Future use	Shunt trip	Special requirement	Special termination	Customer specific
Long Code	QF	-	A	3	(18)	D	2	50A	-	-	-	-	-

Ordering Information

Group	Code	Description	Comments
Group 1: Frame Type	QF	Miniature circuit breaker	18 mm wide DIN mount
	-	Not applicable	
Group 2: Switch/Neutral	S	Switch	Green handle
	N	Neutral	Green handle
	-	Not applicable	
Group 3: Auxiliary / Trip Alarm	A	Auxiliary switch (1 x Aux in 1 module)	6.5 mm module fitted on right-hand side
	-	Not applicable	
Group 4: No of Poles	1	Single pole	
	2	Double pole	2 pole or 1P + N
	3	Triple pole	
	4	Four pole	3P + N only
Group 5: Module Width	(18)	18 mm module width	
	-	Not applicable	
Group 6: Mounting	D	DIN mount	DIN mount supplied in grey body only - 45 mm front escutcheon
	-	Not applicable	
Group 7: Time Delays	1	Long time delay, high instantaneous trip	Instantaneous Trip Point (x In) 10 – 20 Comments 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, 5, 10, 15, 16, 20, 25, 30, 32, 35, 40, 45, 50, 60, 63A		Ratings available vary depending on certification * Other ratings are available as special orders. Check availability.
Group 9	-	Not applicable	For future use
	-	Not applicable	

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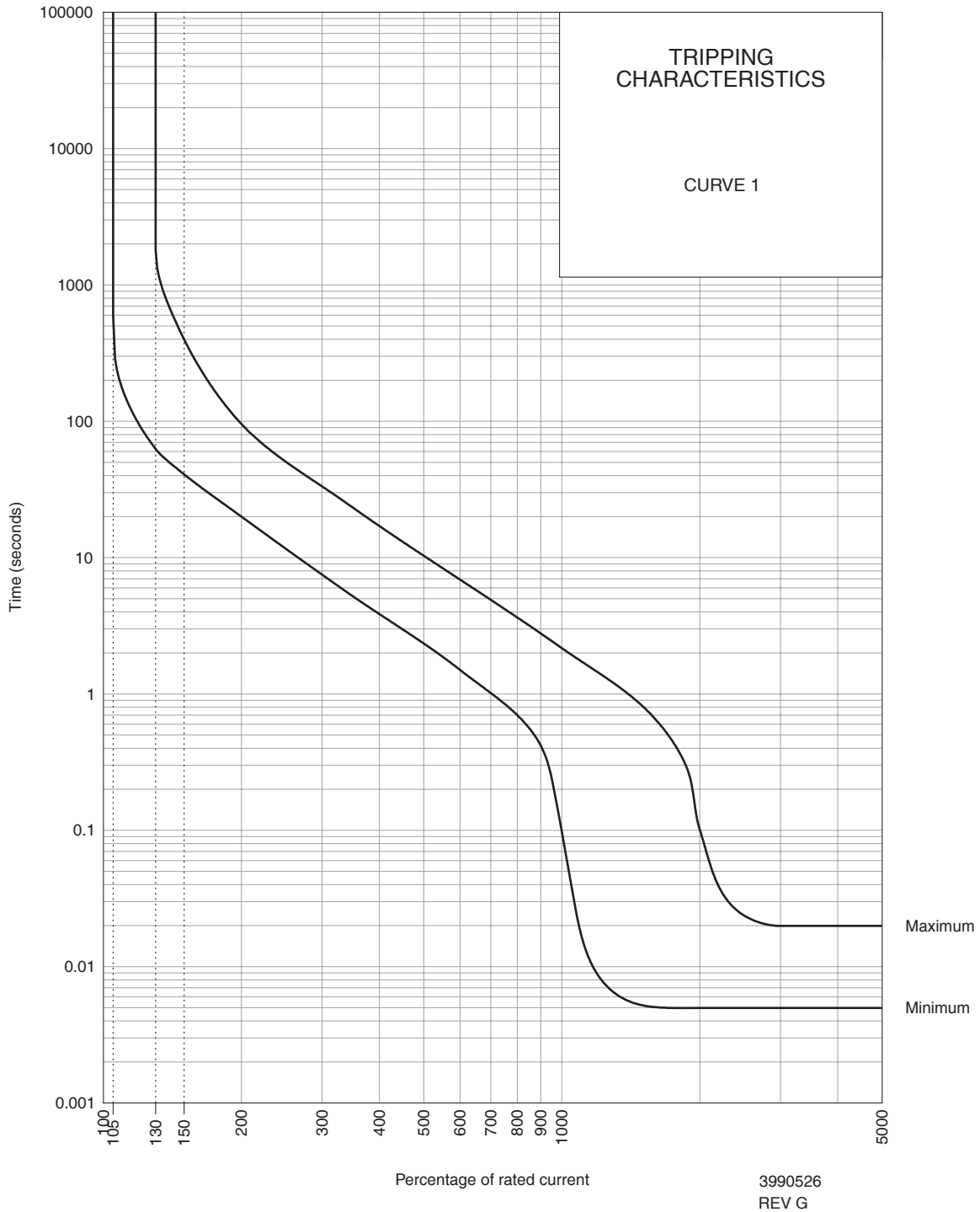
Ordering Information continues

Group 10: Shunt Trip	Code	Description	Comments
	-	Not applicable	If shunt trip is not required
	U0	12 Vdc Shunt trip (Flying leads)	
	U1	24 Vdc Shunt trip (Fly leads)	
	U2	48 Vdc Shunt trip (Fly leads)	
	U3	110 Vdc & 110 Vac Shunt trip (Fly leads)	
	U4	220 - 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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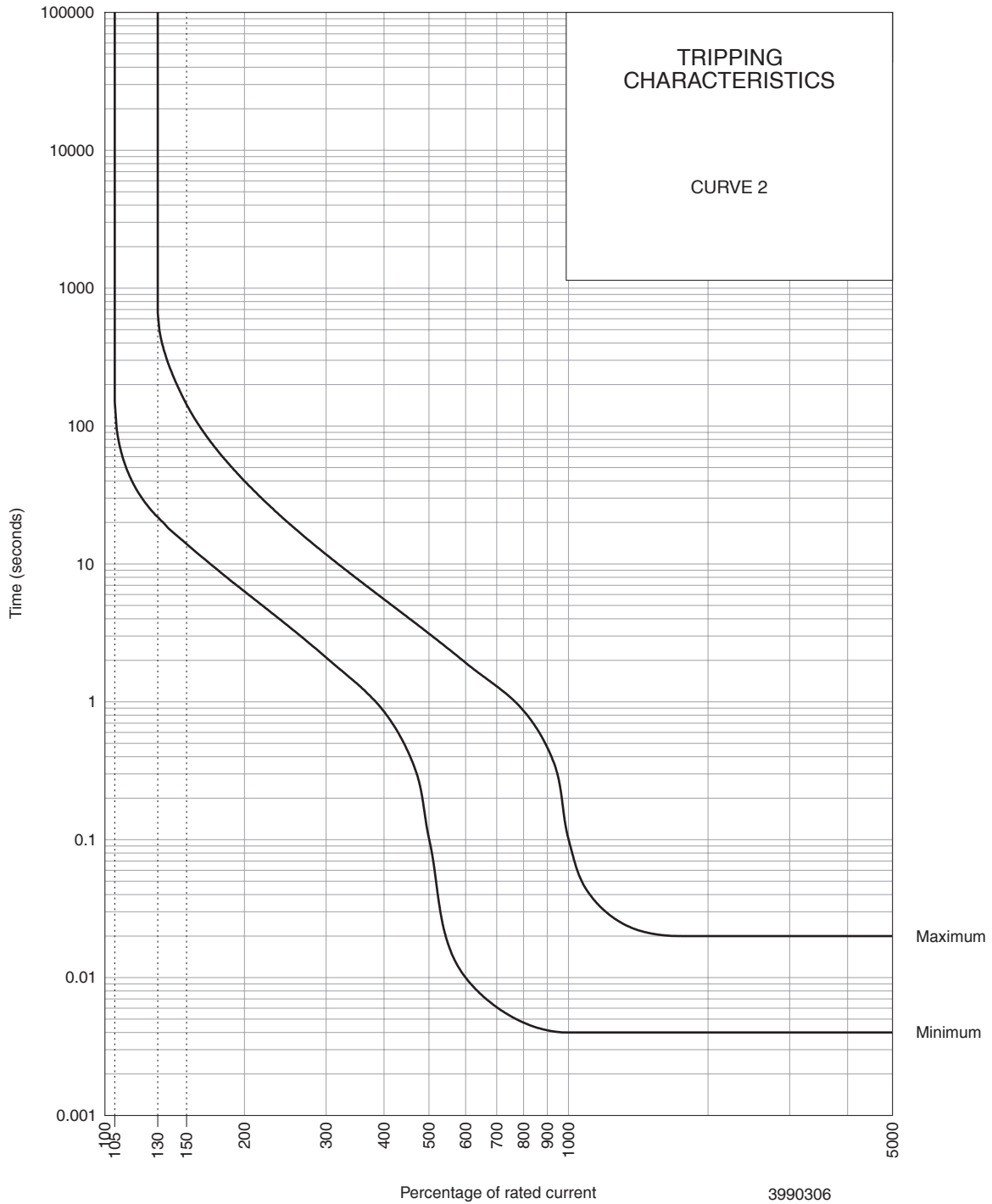
Time Delay Curve



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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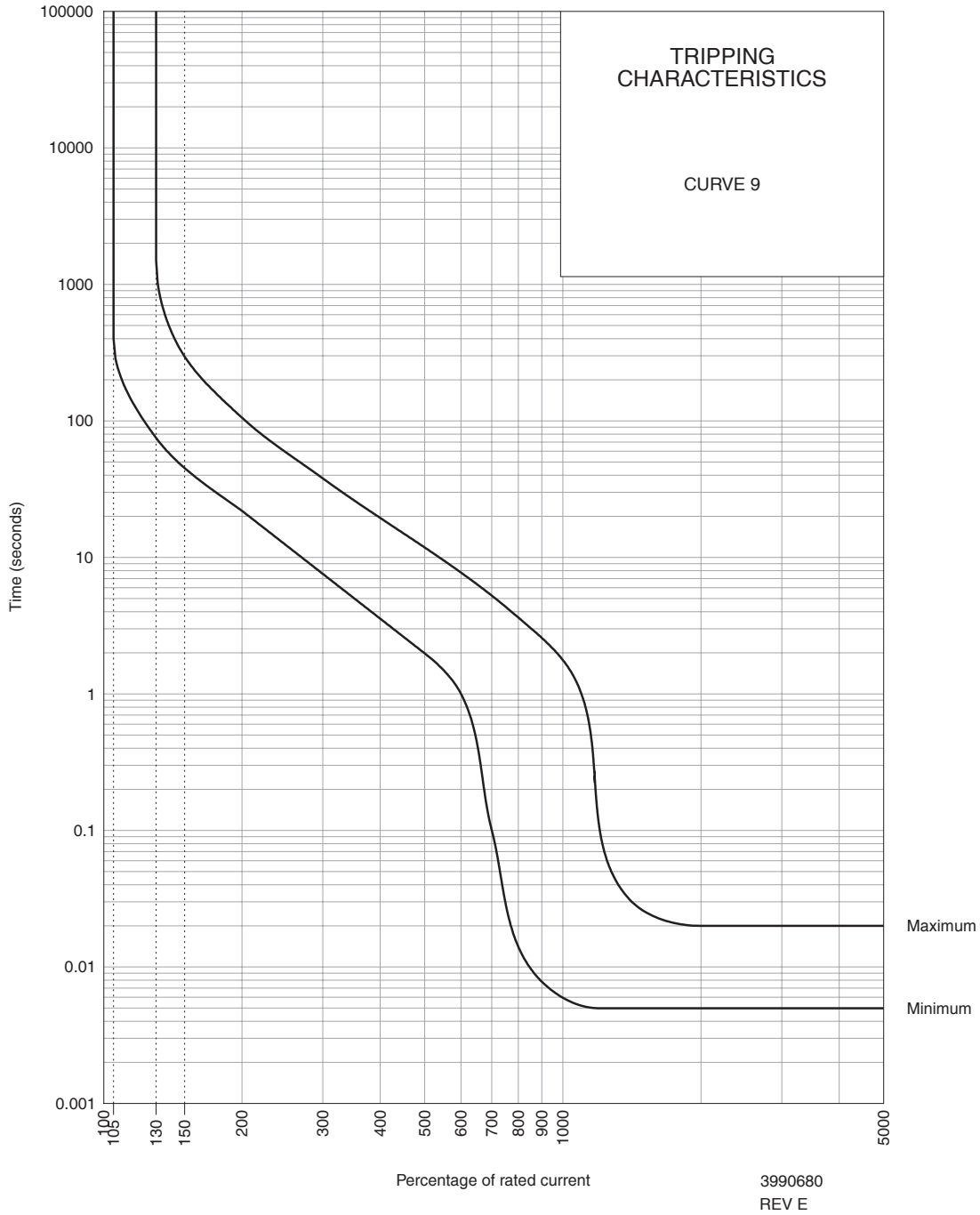
Time Delay Curve



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

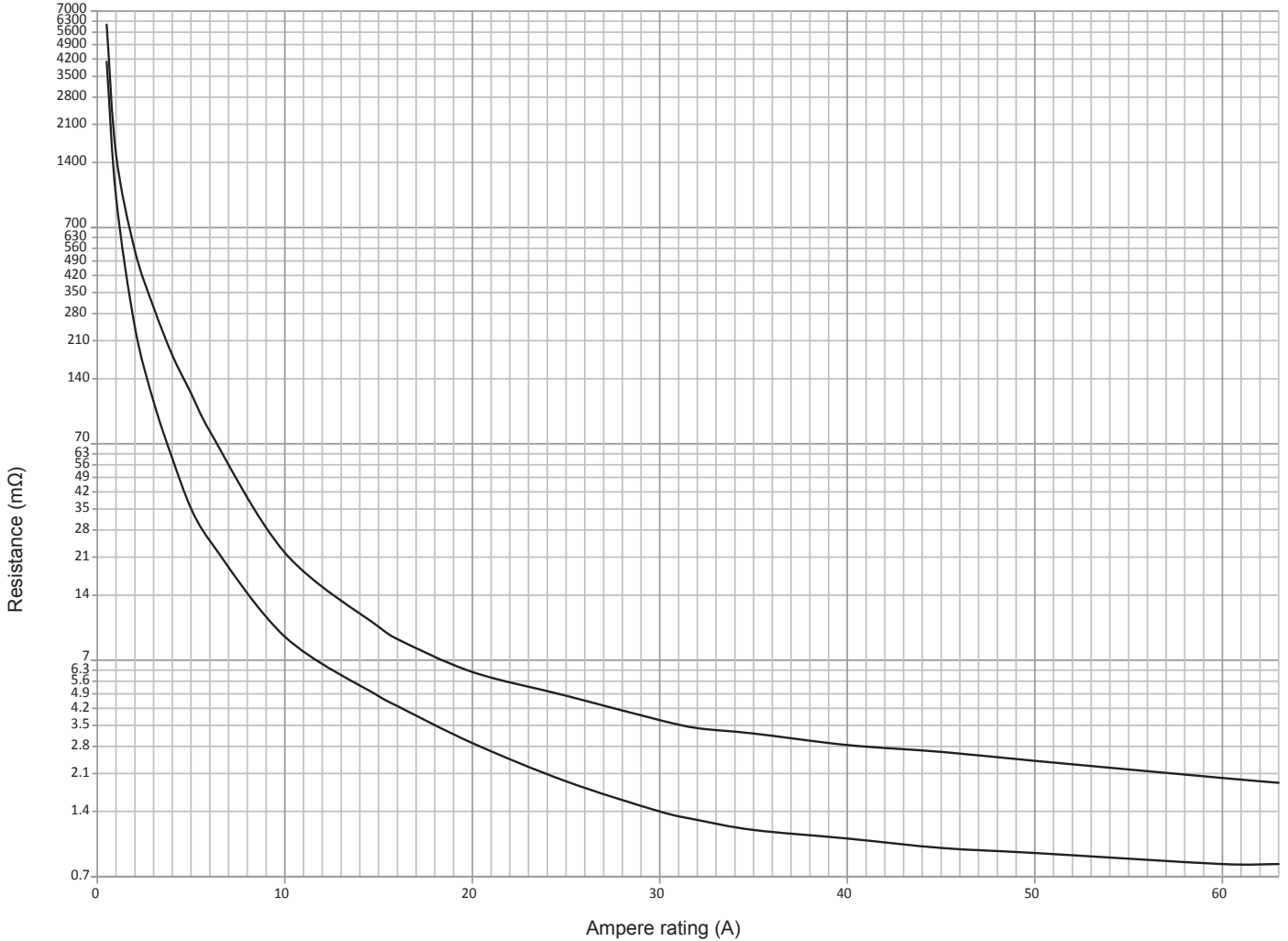


PERCENTAGE OF RATED CURRENT	105%	130%	145%	150%	200%	300%	400%	500%	600%	700%	800%	900%	1200%	2000%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	75	50	45	22	7.6	3.6	2	1	0.1	0.01	0.008	0.005	0.005
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	1500	360	295	100	38	19	11.8	7.7	5.3	3.6	2.6	0.06	0.02

* 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

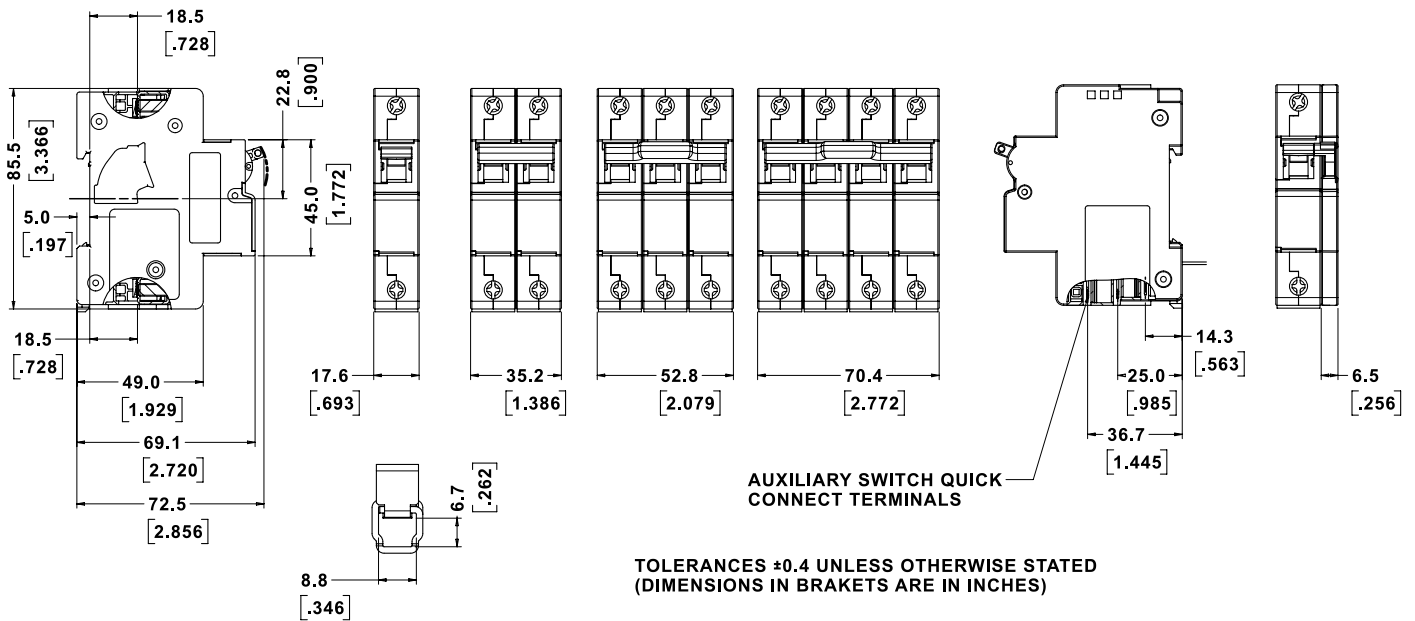


3990A784 REV A

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: DIN mount



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