

QA(13) - Series Miniature Circuit Breakers



Mini Rail Mount
1 pole



Mini Rail Mount
2 pole



Mini Rail Mount
3 pole



Mini Rail Mount
3 + N

Features

- AC circuit breaker
- Hydraulic-magnetic technology
- One, two, three, four pole, 1+N and 3+N
- 100% rating capability, independent of ambient temperature
- VC 8036 compliant (SANS 556-1)
- VDE approved, CE certified
- Ratings 5 to 60 A (subject to certification)
- Precision tripping characteristics
- Ultra compact – 13 mm wide module
- Trip indication with mid-trip position
- Reset immediately after overload
- Mini rail mount product in black shells
- Suitable to use for electrical isolation
- Shell designed for easier installation onto busbar

Auxiliary Switch, Trip Alarm & Combo: Features

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

Applications

- AC branch circuit protection (IEC / EN 60947-2)
- Switch disconnecter (SANS 60947-3)
- Telecom / datacom equipment
- Lighting control
- UPS equipment
- Alternative energy equipment
- Mobile power generation equipment
- Railway signalling equipment
- Residential equipment
- Industrial equipment

Optional Accessories

- Handle lock
- Surface mounting clips
- Busbar
- Escutcheon blank
- Safety blank

Approvals

VC 8036

SANS 60947-2



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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	5 A			5 A	
Maximum Current Rating	60 A			50 A	
Specific Ratings (Verify Certification)	5, 6, 7, 8, 9, 10, 12, 15, 16, 20, 25, 30, 35, 40, 45, 50, 60 A				
Interrupting Capacity	2.5 kA				

Product Type	Circuit Breaker				
Approvals	IEC / EN 60947-2, VDE				
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, 60 A				
Interrupting Capacity	3 kA				

Product Type	Switch Disconnecter			
Approvals	SANS 60947-3			
Number of Poles	1	2	3	4
Operating Voltages	240 Vac	415 Vac		
Current Rating	63 A			

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

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Technical Data

Product Type	QA(13)
Operating Temperature Range	-40 °C to +85 °C
Mounting Options	Mini rail, surface mount
Time Delay Curves	3
Endurance	10000 operations - 1500 electrical at rated current and voltage (IEC 60947-2)
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 (depending on rating) (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	1 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 QA	Wire Size mm ² (IEC)	Torque (IEC)	Comments
1 Pole to 4 Pole	0.75 - 35 mm ²	2.5 Nm	Pozidriv #2 Combi head



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Long Code

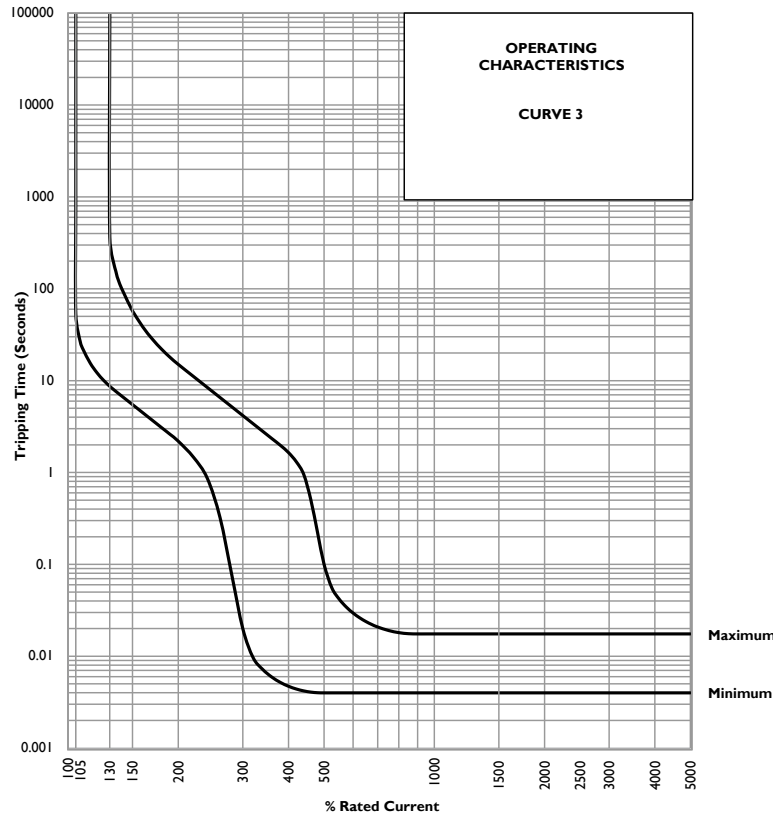
Example Code: QA----3(13)-MR-3-15A-----

Group	1	2	3	4	5	6	7	8	9	10	11
Requirement	QA frame	Switch / neutral	Auxiliary + trip alarm	Triple pole	13 mm module width	Mini rail	Short delay curve 3	Current rating 15 A	Future use	Shunt trip	Future use
Long Code	QA	-	-	3	(13)	MR	3	15A	-	-	-

Group 1: Frame Type	Code	Description	Comments	
	QA	13 mm wide miniature circuit breaker		
Group 2: Switch/Neutral	Code	Description	Comments	
	-	Not applicable	Overload poles do not have any further coding	
	S	Switch	Green handle	
	N	Neutral	Green handle	
Group 3: Auxiliary	Code	Description	Comments	
	-	Not applicable	Use this code if no auxiliary used	
	A	Auxiliary switch (2 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	Code	Description	Comments	
	1	Single pole		
	2	Double pole	2 pole or 1+N	
	3	Triple pole		
	4	Four pole	4 pole or 3+N	
Group 5: Module Width	Code	Description	Comments	
	(13)	13 mm module width		
Group 6: Mounting	Code	Description	Comments	
	MR	Mini rail mount	Mini rail mount supplied in black body only - 57 mm escutcheon	
Group 7: Time Delays	Code	Description	Instantaneous Trip Point (x In)	Comments
	3	Short time delay	3 – 5	White handle
Group 8: Current Ratings	Code / Description		Comments	
	5, 10, 15, 16, 20, 25, 30, 35, 40, 45, 50, 60 A		Ratings available vary depending on certification * Other ratings are available as special orders. Check availability.	
Group 9:		For future use (-)		
Group 10: Shunt Trip	Code	Description	Comments	
	-	Not applicable	Use this code if no shunt trip is used	
Group 11		For future use (-)		

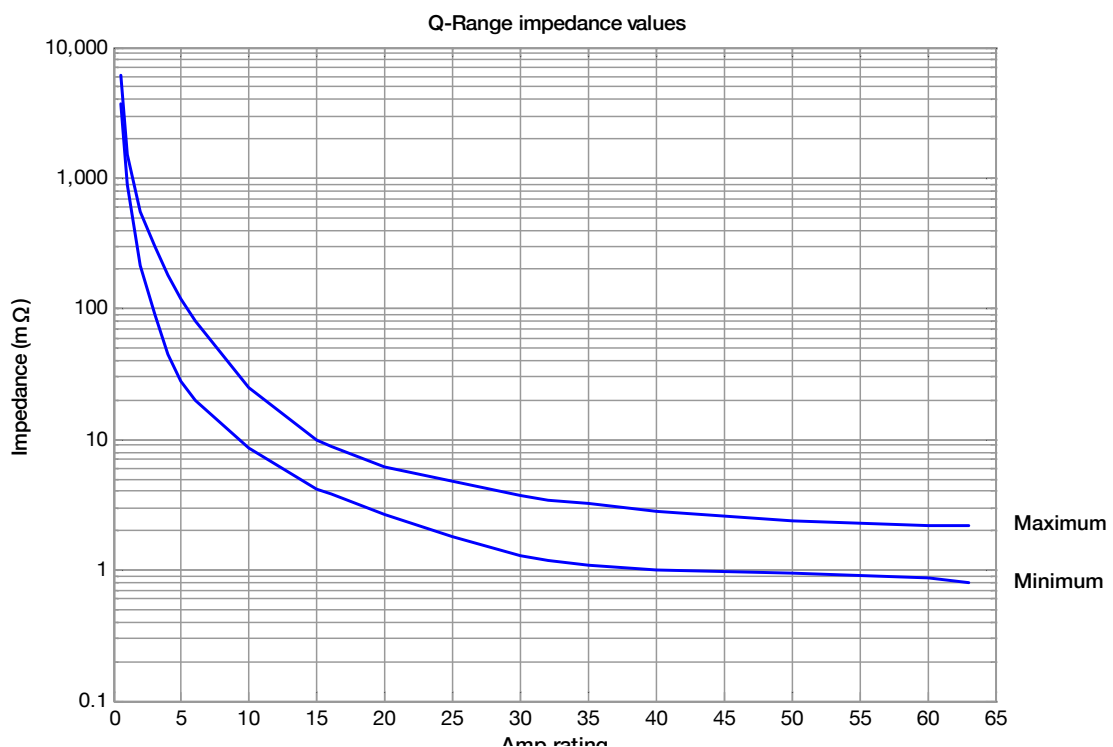
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Time Delay Curves



* 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



Technical drawing of the 1000 Series Terminal Block showing front, side, and detail views with dimensions in mm and inches.

Front View Dimensions:

- Overall Width: 61.0 [2.402]
- Internal Width: 45.0 [1.772]
- Top Flange Width: 19.5 [.768]
- Top Flange Thickness: 5.7 [.224]
- Overall Height: 92.8 [3.654]
- Mounting Hole Spacing: 19.5 [.768]
- Internal Mounting Hole Spacing: 45.0 [1.772]
- Bottom Flange Width: 64.8 [2.551]
- Bottom Flange Thickness: 74.0 [2.913]

Side View Dimensions:

- Terminal Pitch: 12.8 ± 0.2 [.504 $\pm .008$]
- Terminal Height: 25.6 ± 0.4 [1.008 $\pm .016$]
- Terminal Spacing: 38.4 ± 0.6 [1.512 $\pm .024$]
- Terminal Width: 51.2 ± 0.8 [2.016 $\pm .031$]

Detail View Dimensions:

- Terminal Width: 7.6 [2.99]
- Terminal Height: 7.0 [2.76]

BOX TERMINAL CABLE CONNECTING SPACE

TOLERANCE ± 0.4 UNLESS OTHERWISE SPECIFIED (DIMENSION IN BRACKETS ARE IN INCH)

Made in Lesotho