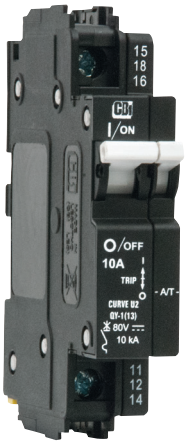
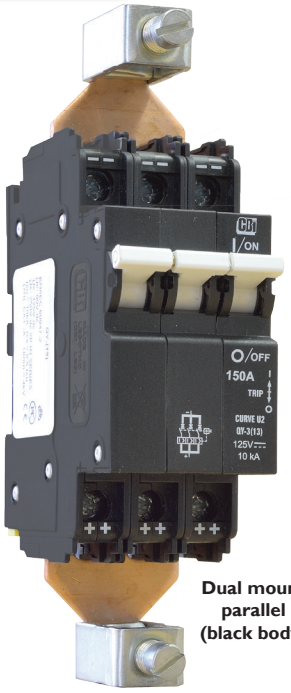
QY - Series Miniature Circuit Breakers


DIN mount
(grey body)


Dual mount
(black body)


Dual mount + Auxiliary
(black body)


Dual mount
parallel
(black body)


Dual mount
series
(black body)

Features

- DC Circuit Breaker
- Hydraulic-Magnetic technology
- 100% rating capability, independent of ambient temperature
- VDE and CCC approved, CE certified
- UL listed (UL 489 A)
- Ratings 0.1 to 63 A (1 & 2 pole), 3 pole parallel (150 A maximum), 4 pole parallel (200 A maximum)
- Optional Auxiliary Switch / Trip Alarm - factory fitted (6.5 mm wide)
- Optional Shunt Trip (no approvals)
- 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
- 80 V DC devices are reverse feedable
- 125 / 250 / 600 V DC devices are polarity sensitive
- Suitable to use for electrical isolation

Applications

- DC branch circuit protection (UL 489A, IEC / EN 60947-2)
- Telecom / datacom equipment
- UPS equipment
- Alternative energy equipment
- Battery protection & switching
- Telecommunication DC power distribution
- Railway signalling equipment

Auxiliary Switch, Trip Alarm & Combo: Features

- 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

Optional Accessories

- Auxiliary Switch (DIN and Dual Mount)
- Auxiliary Switch + Trip Alarm (Dual Mount only)
- Trip Alarm (Dual Mount only)
- Handle lock
- Surface mounting clips
- Busbar
- 57 mm Escutcheon blank (Dual Mount only)
- 57 mm Safety blank (Dual Mount only)

QY - Series Miniature Circuit Breakers

Technical Data

Approvals	IEC / EN 60947-2, VDE							
Number of Poles	1	2	2 parallel	2 parallel	3 parallel	4 parallel	2 series	1 pole plug-in
Operating Voltages	80 V DC, 125 V DC		80 V DC	125 V DC	80 V DC		250 V DC	80 V DC
Minimum Current Rating	0.1 A	0.1 A	60 A	30 A	110 A	200 A	0.1 A	0.1 A
Maximum Current Rating	63 A	50 A	100 A	100 A	150 A	200 A	50 A	50 A
Interrupting Capacity	10 kA							
Operating Temperature Range	-40°C to +85°C							
Mounting Options	DIN Rail, Dual mounting (DIN & Mini), surface mounting clip, plug-in terminal							
Time Delay Curves	1, 9, U2, U3, OP							

Approvals	UL 489A								
Number of Poles	1	2	2 parallel	2 parallel	3 parallel	4 parallel	2 series	4 series	1 pole plug-in
Operating Voltages	80 V DC, 125 V DC		80 V DC	125 V DC	80 / 125 V DC	80 V DC	250 V DC	600 V DC	80 V DC
Minimum Current Rating	0.1 A	0.1 A	30 A	20 A	110 A	200 A	0.1 A	0.1 A	0.1 A
Maximum Current Rating	63 A	50 A	100 A	100 A	150 A	200 A	50 A	20 A	50 A
Interrupting Capacity	10 kA								
Operating Temperature Range	-40°C to +85°C								
Mounting Options	DIN Rail, Dual mounting (DIN & Mini), surface mounting clip, plug-in terminal								
Time Delay Curves	1, 9, U2, U3, OP								

Approvals	CCC					
Number of Poles	1	2	2 parallel	3 parallel	4 parallel	1 pole plug-in
Operating Voltages	80 V DC					
Minimum Current Rating	0.1 A	0.1 A	30 A	110 A	200 A	0.1 A
Maximum Current Rating	63 A	50 A	100 A	150 A	200 A	50 A
Interrupting Capacity	10 kA					
Operating Temperature Range	-40°C to +85°C					
Mounting Options	DIN Rail, Dual mounting (DIN & Mini), surface mounting clip, plug-in terminal					
Time Delay Curves	1, 9, U2, U3, OP					

Breaker QY	Wire Size mm² (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)	Comments
1 Pole & 2 Pole	0.75 - 35 mm²	18 – 2 – AWG	2.5 Nm	20 in-lb	Pozidriv #2 Combi head
2 Pole Parallel	50 mm²	14 – 1/0 – AWG	3.2 Nm	28 in-lb	Bridge Terminal
3 Pole Parallel	95 mm²	14 – 5/0 – AWG	5.6 Nm	50 in-lb	Bridge Terminal
4 Pole Parallel	95 mm²	14 – 5/0 – AWG	5.6 Nm	50 in-lb	Bridge Terminal

QY - Series Miniature Circuit Breakers

Long Code

Example Code: QY--A-3(13)-D-U2-150A-B0-----Z

Group	1	2	3	4	5	6	7	8	9	10	11	12
Requirement	QY Frame	Switch / Neutral	Auxiliary	Triple pole	13 mm module width	DIN Rail	Medium delay curve U2	Current Rating 150 A	Voltage 80 V DC	No Shunt Trip	Future use	Parallel bridged (by customer)
Long Code	QY	-	A	3	(13)	D	U2	150A	B0	-	-	Z

Group 1: Frame Type	**Code**	**Description**	**Comments**	
	QY	13 mm wide Miniature Circuit Breaker	UL 489A, IEC / EN 60947-2,VDE, CE, CCC	
Group 2: Switch/Neutral	**Code**	**Description**	**Comments**	
	-	Not applicable	Overload poles do not have any further coding	
Group 3: Auxiliary	**Code**	**Description**	**Comments**	
	-	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 (DIN & Dual Mount)	
	T	Trip Alarm (1 x Trip Alarm in 1 module)	6.5 mm module fitted on right-hand side (Dual Mount only)	
	AT	Auxiliary Switch + Trip Alarm combo (combined in 1 module)	6.5 mm module fitted on right-hand side (Dual Mount only)	
Group 4: No of Poles	**Code**	**Description**	**Comments**	
	1	Single pole		
	2	Double pole		
	3	Triple pole		
	4	Four pole		
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 – 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	**Code**	**Description**	**Instantaneous Trip Point (x In)**	**Comments**
	1	Long time delay, high instantaneous trip	10 – 20	Orange handle
	9	Long time delay	7 – 12	White handle
	U2	Medium time delay	5 – 10	White handle
	U3	Short time delay	3 – 5	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, 63, 70, 80, 90, 100, 120, 125, 150, 200 A		Ratings available vary depending on certification, bridging configuration and voltage. (See comments in Group 9) * Other ratings are available as special orders. Check availability.	

Group 9: Voltage **(see diagram on page 7)**	**Code**	**Voltage**	**Description**	**Comments**
	B0	80 V DC	Not polarity sensitive	0.1 - 63 A 1 pole, 0.1 - 50 A 2 pole, 60 - 100 A 2 pole parallel (80 V DC), 30 - 100 A 2 pole parallel (125 V DC), 110 - 150 A 3 pole parallel, 200 A 4 pole parallel (ratings available vary depending on certification)
	B1	125 V DC	Polarity sensitive. Positive bottom.	
	B2	250 V DC	2 poles in series bridged (2 x 125 V) Positive = pole 1 bottom	0.1 - 50 A 2 pole series bridged at the top (by customer) pole 1 (-) to pole 2 (+)
	B3	250 V DC	2 poles in series bridged (2 x 125 V) Positive = pole 1 bottom	0.1 - 50 A 2 pole series bridged at the top (factory fitted) pole 1 (-) to pole 2 (+)
	B4	600 V DC	4 poles in series bridged (4 x 125 V) Positive = pole 1 bottom	0.1 - 20 A 4 pole series bridged (factory fitted) As per wiring diagram printed on unit
	T1	125 V DC	Polarity sensitive. Positive top.	0.1 - 63 A 1 pole, 0.1 - 50 A 2 pole, 30 - 100 A 2 pole parallel, 110 - 150 A 3 pole parallel, 200 A 4 pole parallel
	T2	250 V DC	2 poles in series bridged (2 x 125 V) Positive = pole 1 top	0.1 - 50 A 2 pole series bridged at the bottom (by customer) pole 1 (-) to pole 2 (+)
	T3	250 V DC	2 poles in series bridged (2 x 125 V) Positive = pole 1 top	0.1 - 50 A 2 pole series bridged at the bottom (factory fitted) pole 1 (-) to pole 2 (+)
	T4	600 V DC	4 poles in series bridged (4 x 125 V) Positive = pole 1 top	0.1 - 20 A 4 pole series bridged (factory fitted) As per wiring diagram printed on unit

Continues on page 4

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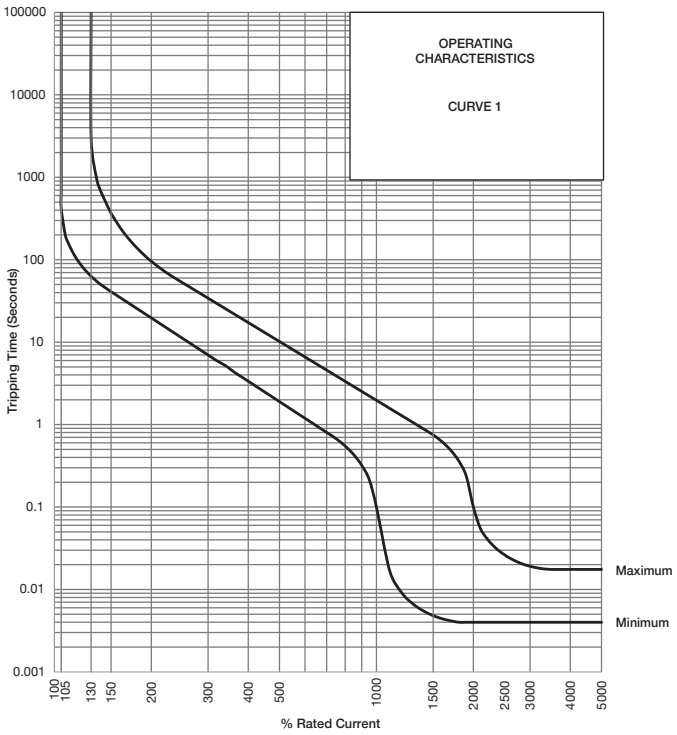
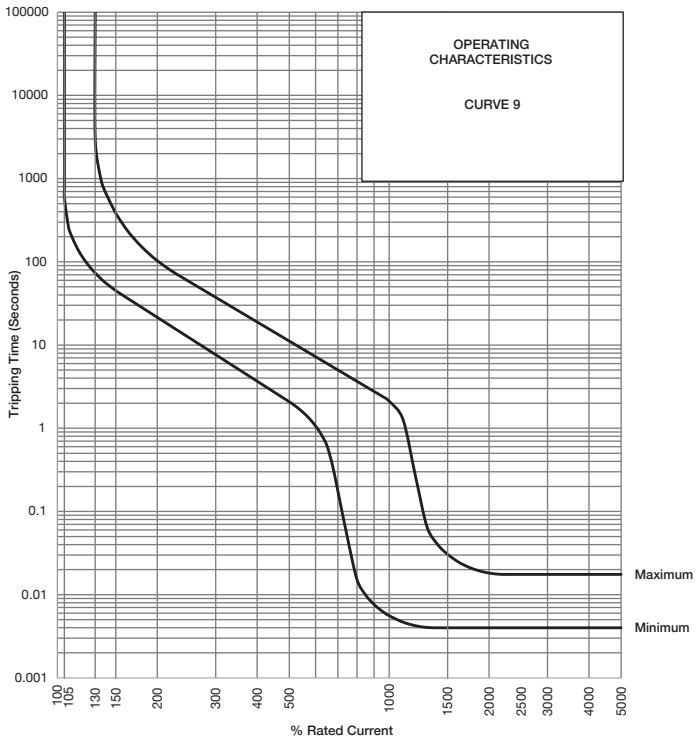
Long Code continues

	Code	Description	Comments
Group 10: Shunt Trip	-	Not applicable	Use this code if no Shunt Trip is used
(not certified, only offered as special order)	V0	100 – 480 V	Fly leads (approximately 60 mm long)
	V5	100 – 480 V	Internally connected
	Other voltages are available as special orders. Check availability.		
Group 11	**Code**	For future use (-)	
Group 12: Special Termination	**Code**	**Description**	**Comments**
	-	Not applicable	Use this code if no special terminations are used
	P	Plug-in	
	Z	Bridged unit (bridge to be fitted by customer)	
	ZL	Bridged unit (factory fitted)	

For options not listed, please contact CBI for assistance

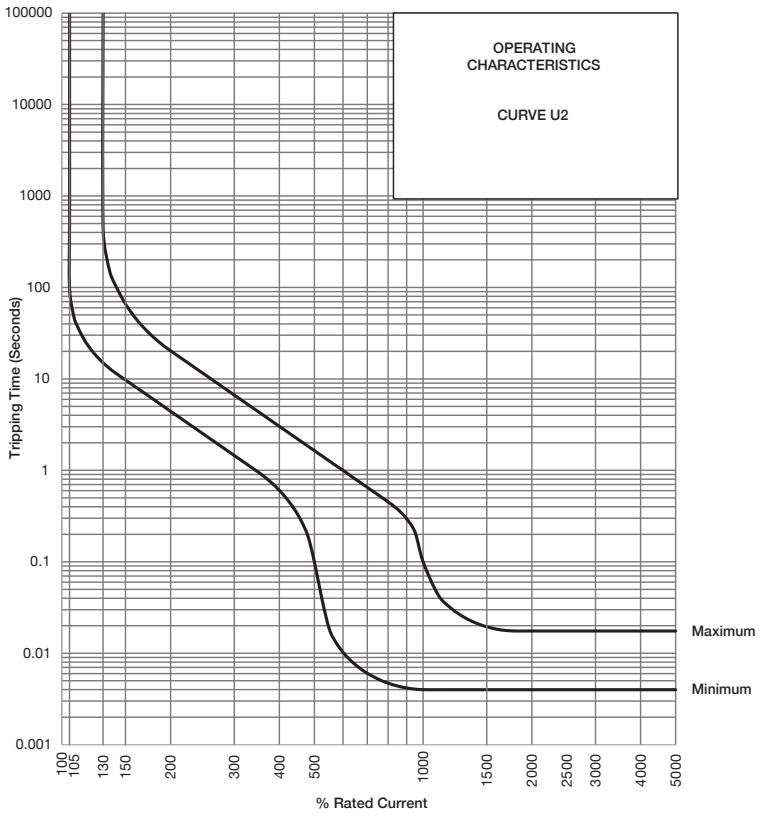
Time Delay Curves

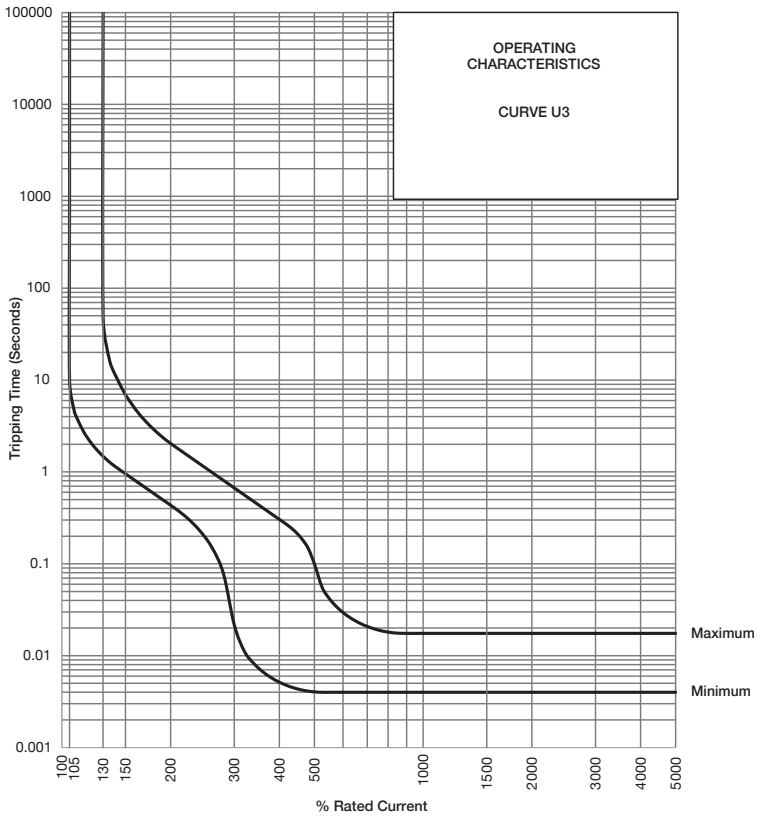




QY - Series Miniature Circuit Breakers

Time Delay Curves





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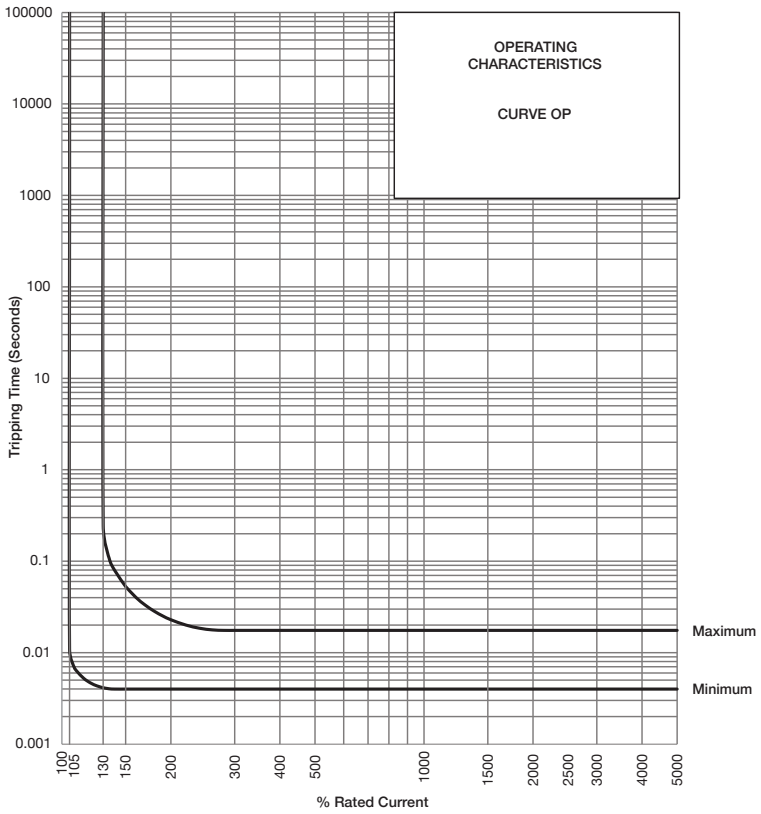
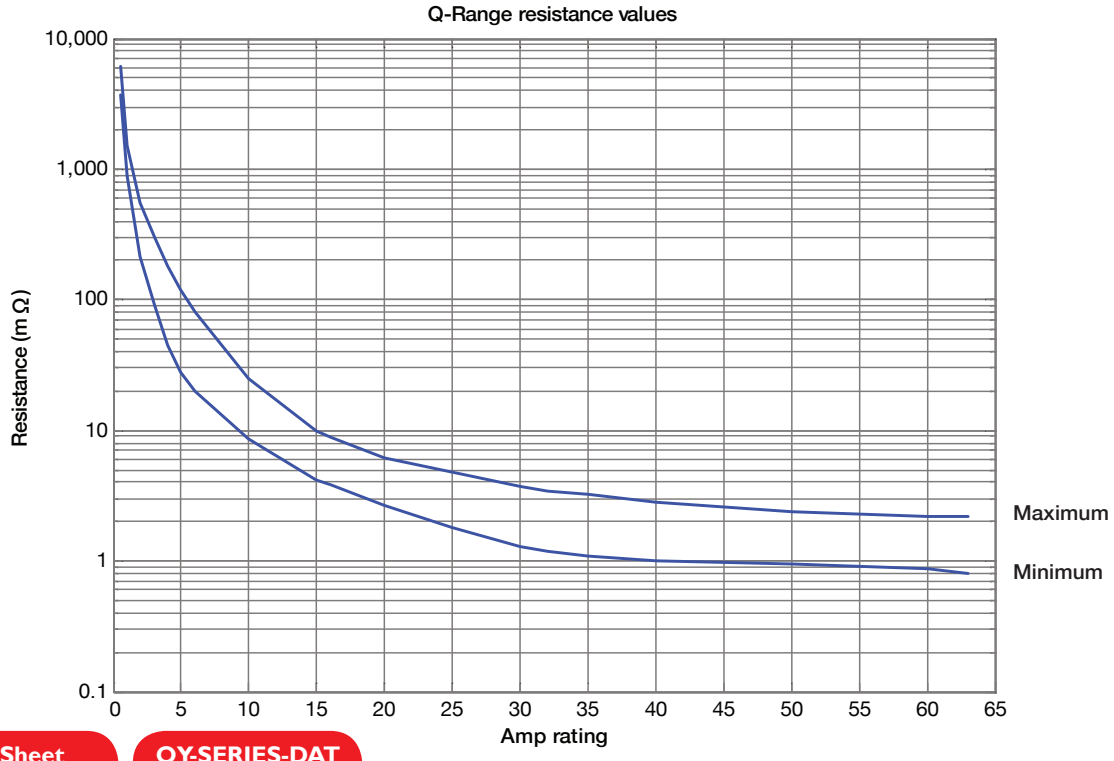
Time Delay Curves



* 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 Resistance vs Current Rating



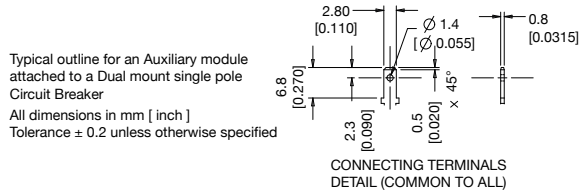
QY - Series Miniature Circuit Breakers

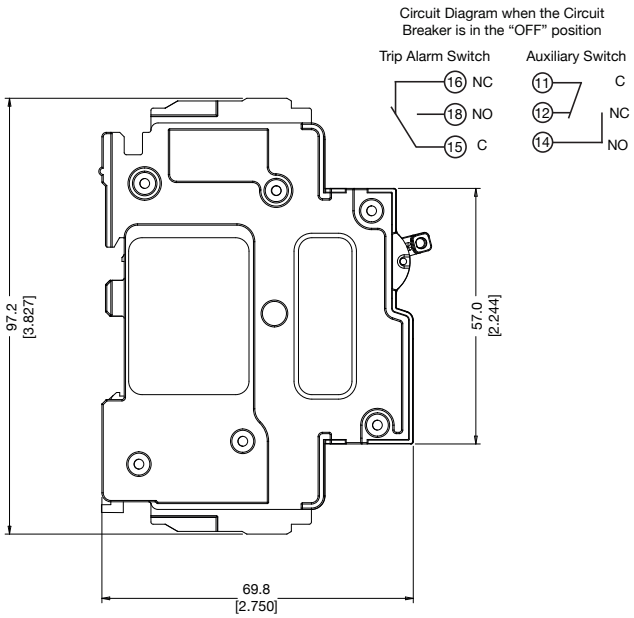
Typical outline of Auxiliary Switch / Trip Alarm

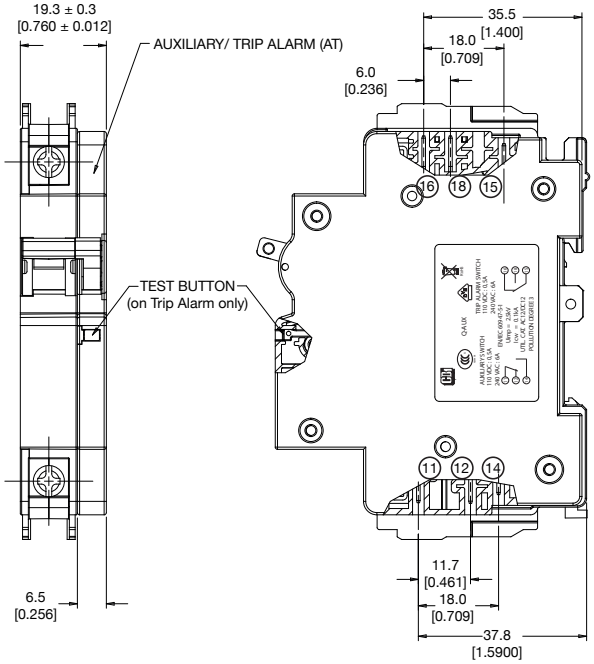
Auxiliary available (6.5 mm module width) to match the unit to which it is attached.

Available types as listed in Group 3:

- Type T - Trip Alarm as shown in outline drawings (fitted on a Dual mount product)
- Type AT - Auxiliary Switch + Trip Alarm (as shown)
- Type A - Auxiliary Switch

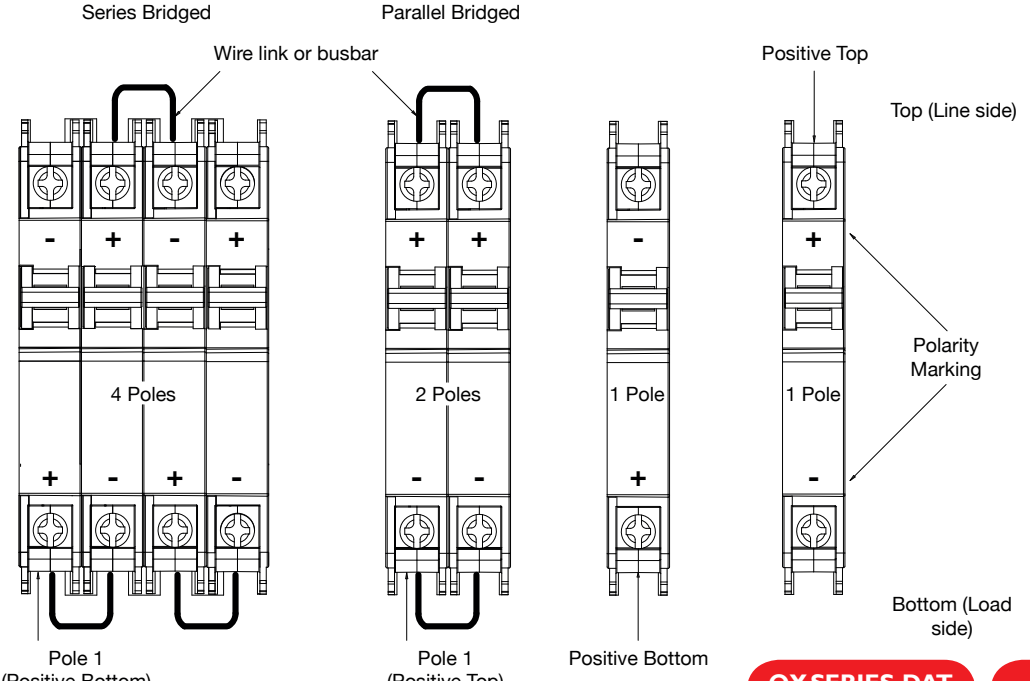






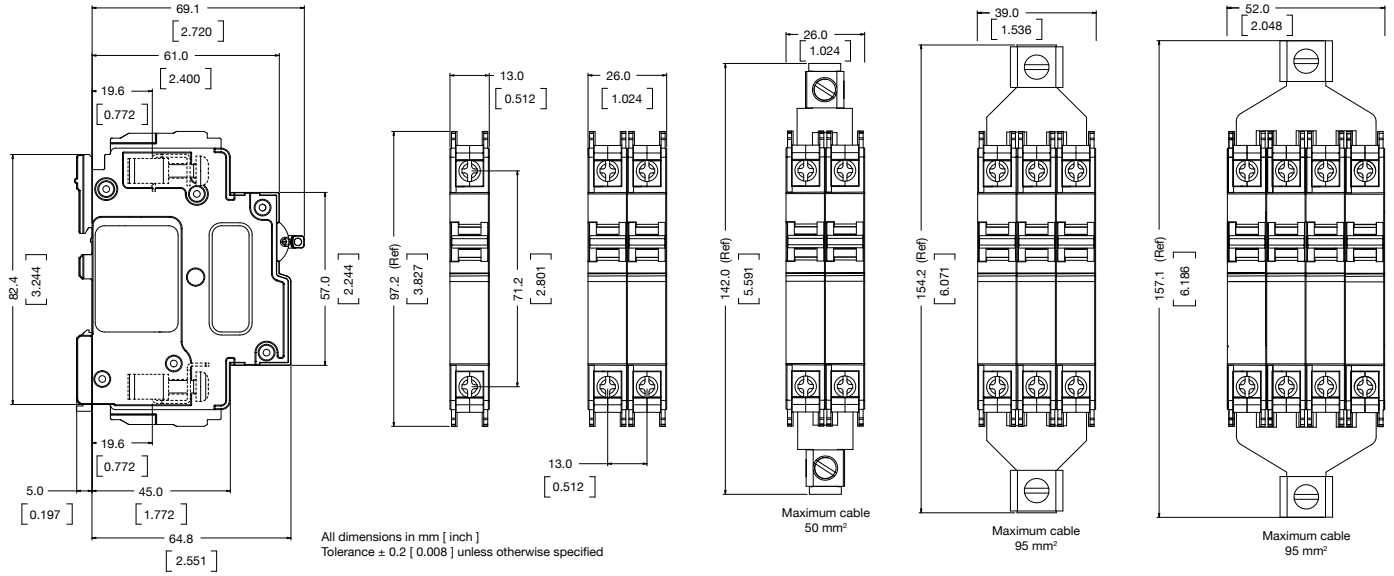
Polarity identification

Diagram identifying the polarity of 125 V DC products in reference to Group 9 on page 3. Devices are shown viewed from the front. Series devices (standard) - each pole is opposite polarity from the next pole on the left (bridged "-" to "+"). Parallel devices - each pole has the same polarity (bridged "+" to "+", "-" to "-").



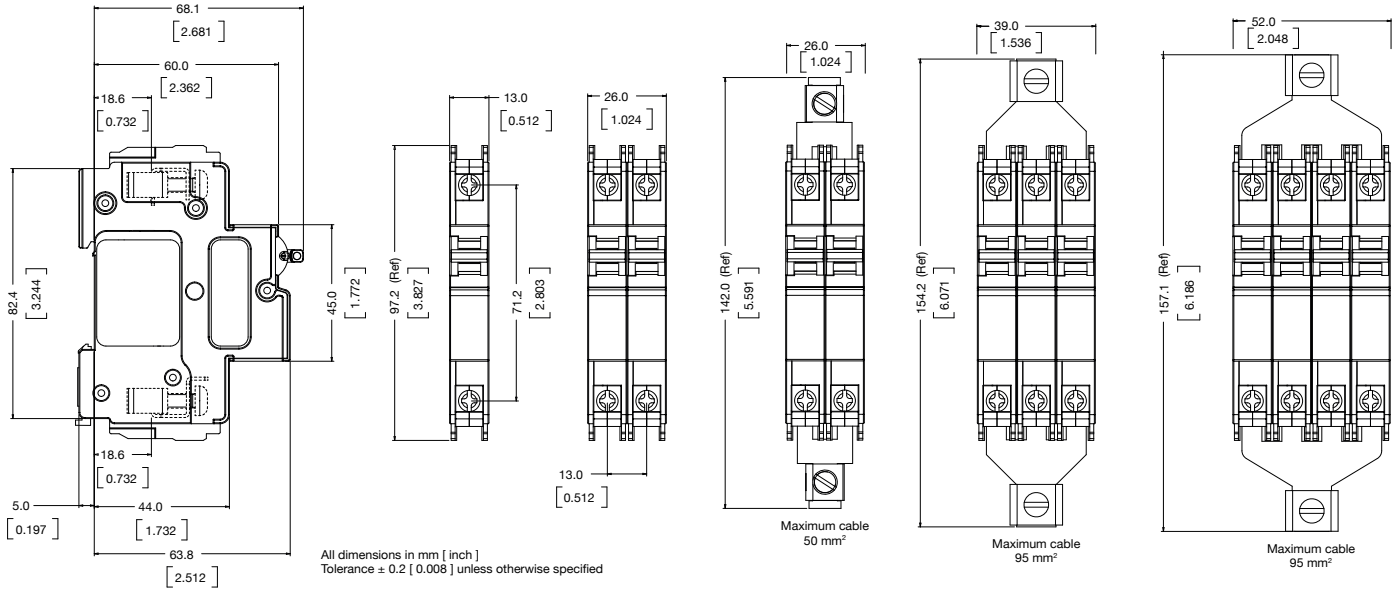
QY - Series Miniature Circuit Breakers

Outline Dimensions: Dual mount



All dimensions in mm [inch]
Tolerance ± 0.2 [0.008] unless otherwise specified

Outline Dimensions: DIN mount



All dimensions in mm [inch]
Tolerance ± 0.2 [0.008] unless otherwise specified

Plug-in terminal dimensions available on request