

## Y - Series Miniature Circuit Breakers



Single Pole  
ON



Two Pole  
ON



Single Pole  
OFF



Two Pole  
OFF

### Features

- High energy DC circuit breaker
- 300Vdc single pole, 600Vdc double pole
- (1 & 2 pole) Up to 50 A
- Ultra compact - 13 mm wide module
- VDE, EAC and CCC approved, CE certified
- UL listed (UL 489A; 489B)
- Hydraulic-magnetic technology
- Reset immediately after overload
- DIN mount product in grey shell
- Polarity sensitive
- ON and OFF indication
- Torx screw terminals
- Suitable for electrical isolation
- 100% rating capability, independent of ambient temperature
- RoHS compliant

### Applications

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

Approvals Pending



## Y - Series Miniature Circuit Breakers

Technical Data: Approvals Pending

Product Type	Circuit Breaker			
Approvals	IEC / EN 60947-2, VDE, CE	UL 489A	UL 489B	CCC
Number of Poles	1, 2	1, 2	1, 2	1, 2
Operating Voltages	300Vdc, 600Vdc	300Vdc, 600Vdc	300Vdc, 600Vdc	300Vdc, 600Vdc
Minimum Current Rating	3 A	0.5 A	0.5 A	3 A
Maximum Current Rating	50 A	50 A	50 A	50 A
Interrupting Capacity	3 kA	3 kA	3 kA	3 kA

Product Type	Y
Operating Temperature Range	-40 °C to +85 °C
Mounting Options	DIN Rail
Time Delay Curves	Fast, Medium and Instantaneous
Endurance	10000 operations - 1500 electrical at rated current and voltage
Dielectric Strength	1600 V (single pole) / 2200 V (double pole)
Weight	110 g per pole
Humidity	35 % to 85 % relative
Altitude	Certification tests conducted at altitude ≈ 2000 metres. Will operate at higher altitudes.
Shock	20 G (IEC 60068-2-27)
Vibration	3 G (IEC 60068-2-6) (sinusoidal wave)
Flammability	I3 - Ignition does not persist at 850 °C
Toxicity	F1 - Smoke index of ≤ 20
Pollution Degree	PD2 - Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.

### T25 TORX SCREW

Breaker Y	Wire Size mm <sup>2</sup> (IEC)	Wire Gauge (UL)	Torque (IEC)	Torque (UL)
1 Pole & 2 Pole	0.75 - 25 mm <sup>2</sup>	18 - 4 AWG	3.5 Nm	30 in-lb

### Long Code

Example Code: YA- - - -2-(13)-D-M-50A-B7- - - - -600V-3kA

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Requirement	Y Frame	Future use	Future use	Double pole	13 mm module width	DIN Rail	Medium delay curve M	Current Rating 50 A	Voltage Rating 600 V	No Shunt Trip	Future use	Future use	Future use	Voltage 600Vdc	kA Rating 3 kA
Long Code	YA	-	-	2	(13)	D	M	50A	B7	-	-	-	-	600V	3kA

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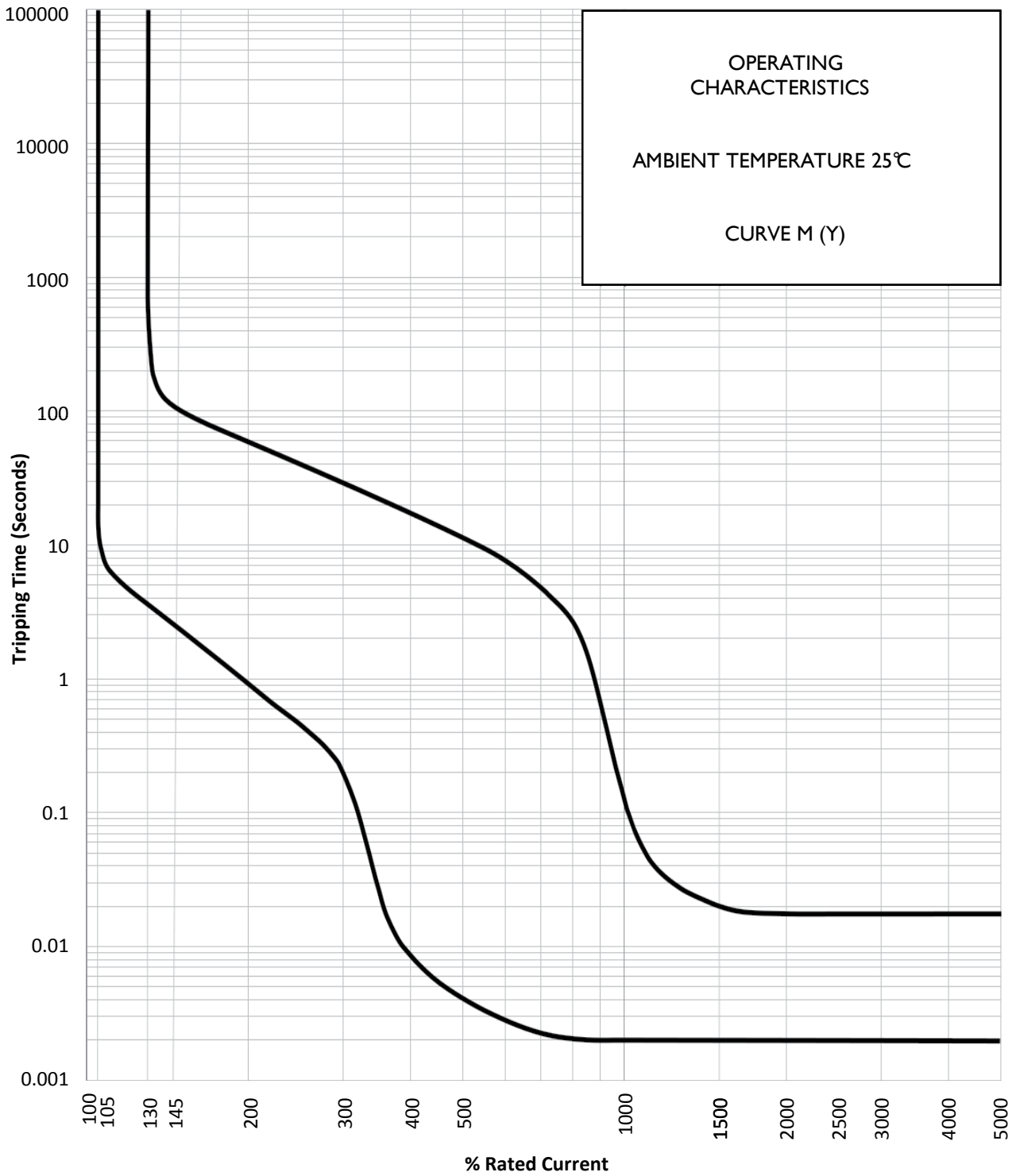
### Ordering Information

Group 1: Frame Type	Code	Description	Comments	
	YA	13 mm wide Miniature Circuit Breaker	IEC 60947-2 & UL489A	
	YB	13 mm wide Miniature Circuit Breaker	IEC 60947-2 & UL489B	
Group 2: Switch/Neutral	Code	Description	Comments	
	-	Not applicable	Future use	
Group 3: Auxiliary	Code	Description	Comments	
	-	Not applicable	Future use	
Group 4: No of Poles	Code	Description	Comments	
	1	Single pole	-	
	2	Double pole	-	
	3	Triple pole	Future use	
	4	Four pole	Future use	
Group 5: Module Width	Code	Description	Comments	
	13	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	
Group 7: Time Delays	Code	Description	Comments	
	F	Fast time delay	White handle	
	M	Medium time delay	White handle	
	I	Instantaneous time delay	White handle	
Group 8: Current Ratings	Code / Description		Comments	
	0.5, 1, 2, 3, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 A		Ratings available vary depending on certification, bridging configuration and voltage. (See comments in Group 9)	
Group 9: Voltage	Code	Voltage	Description	Comments
	B5	300 Vdc	Polarity marking. Positive bottom	
	B7	600 Vdc	Polarity marking. Positive Bottom	Bridged in series from the top of Pole 1 (LINE) to the bottom of Pole 2 (LOAD) to be done by the customer
Group 10: Shunt Trip	Code	Description	Comments	
	-	Not applicable	Future use	
Group 11	Code	For future use (-)		
Group 12: Special Termination	Code	Description	Comments	
	-	Not applicable	Future use	
Group 13: Customer Specific	Code	Description	Comments	
	-	Not applicable	Future use	
Group 14: Voltage	Code	Voltage	Description	Comments
	300V	300Vdc	Per pole	
	600V	600Vdc	Two poles in series	
Group 15: kA Rating	Code	Description	Comments	
	1	3 kA		

*For options not listed, please contact CBI for assistance*

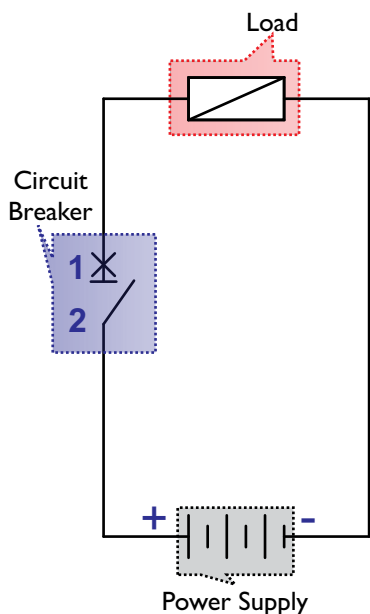
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### Time Delay Curves: Provisional



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## Connections Diagrams



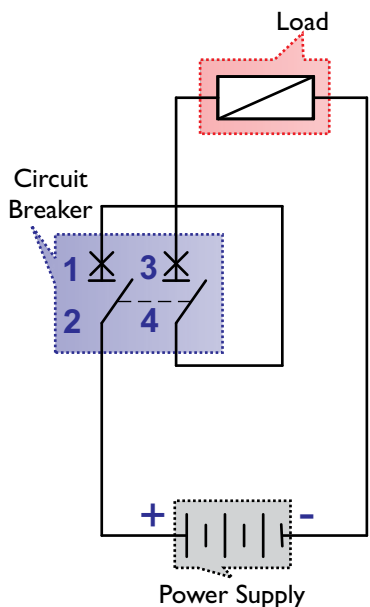
**Figure 1: Single Pole Single Break**

**Figure 1: Single Pole Single Break**

This circuit makes use of a single pole circuit breaker connected in series with the load providing a single contact break to the circuit before the load.

**Figure 2: Double Pole Double Break**

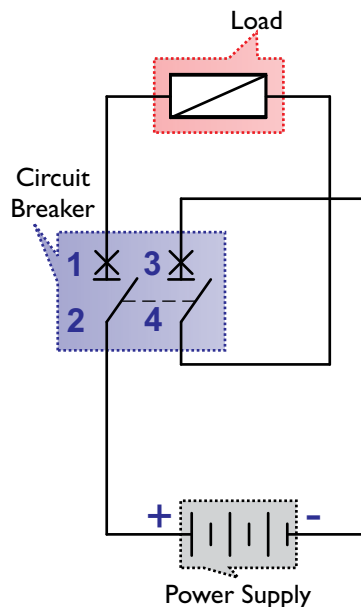
This circuit makes use of a double pole circuit breaker with both contacts in series with the load providing for a double contact break to the circuit before the load.



**Figure 2: Double Pole Double Break**

**Figure 3: Double Pole Double Break isolates the load**

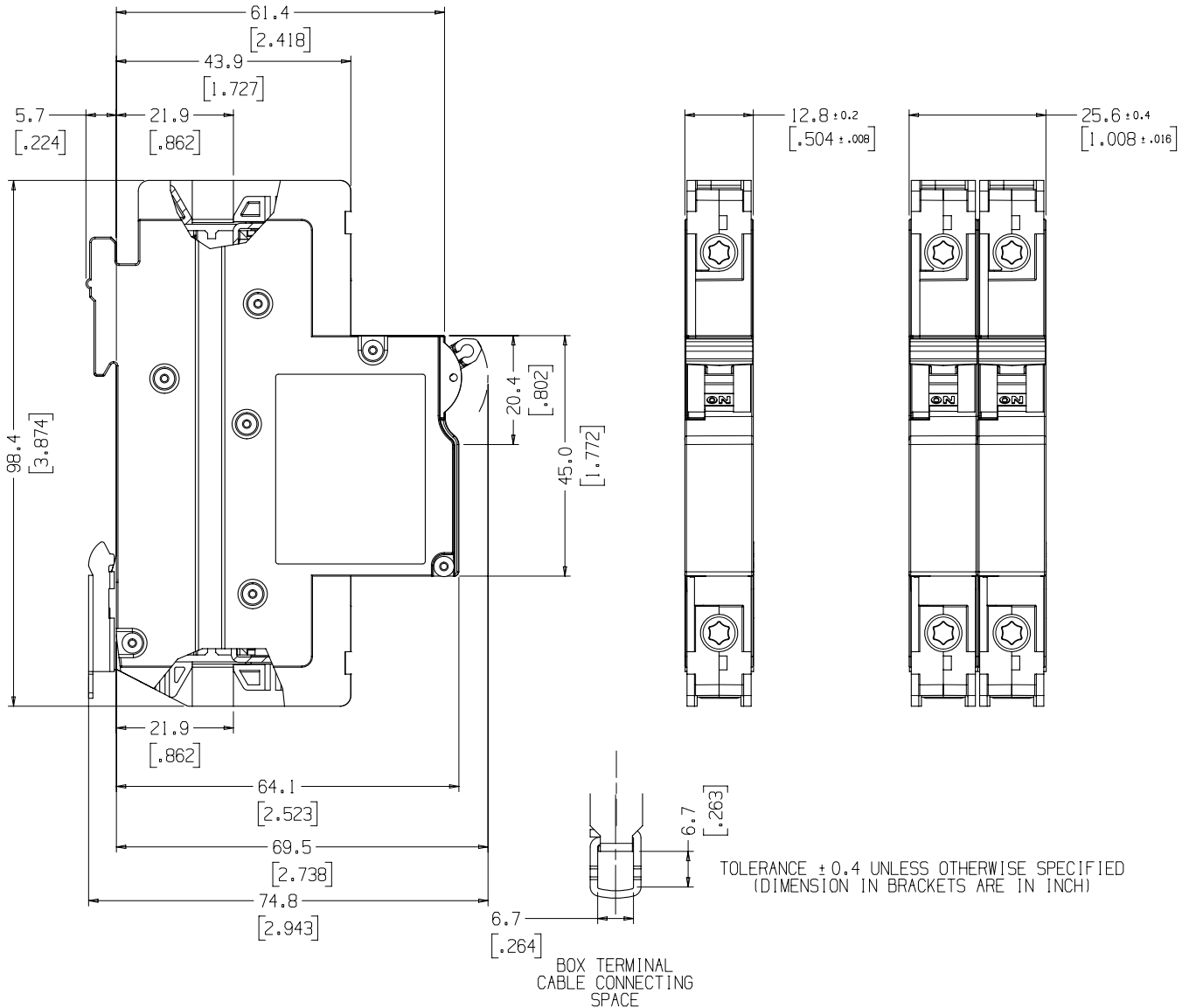
This circuit makes use of a double pole circuit breaker where the load is between the contacts, providing for full isolation of the load.



**Figure 3: Double Pole Double Break - Isolates the Load**

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### Outline Dimensions



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