

C Frame MKIV - Series Circuit Breakers



The C Frame is the most traditional distribution and equipment protection circuit breaker and is available in 1 to 4 poles. This front mounted circuit breaker is available for panel mounting, and is available with a toggle handle and rocker handle.

The C Frame MKIV circuit breaker is used in power distribution units, lighting control and in other equipment.

Approvals

The C frame MKIV is CE certified and carries various approvals such as VDE, cURus, CSA, EAC and CCC. It is also recognised to UL 1077, UL 1500 and UL 508, and listed to UL 489 and UL 489A.



Features

- AC and DC circuit breaker
- Hydraulic-magnetic technology
- 100% rating capability independent of ambient temperature
- Up to four poles
- VDE, EAC and CCC approved, CE certified
- UL compliant (listed / recognised)
- Ratings 0.1 to 50 A (specific certifications)
- Precision tripping characteristics
- Wide range of circuits, mountings, terminations and time delays
- Two colour handle indication (two tone flush rocker)
- Optional mid-trip indication (standard handle)
- Optional auxiliary switch and trip alarm

Applications

- Telecom DC Power distribution
- UPS equipment
- Mobile power generation equipment
- Alternative energy equipment
- Lighting control
- Marine protection

C Frame MKIV - Series Circuit Breakers

Technical Data

Product Type	C Frame MKIV
Operating Temperature Range	-40 °C to +85 °C
Endurance	10000 operations - 1500 electrical at rated current and voltage (IEC 60934) 6000 electrical operations (UL 1077)
Dielectric Strength	1000 - 2000 V, 50 Hz for one minute after testing (IEC 60934)
Weight	70 g per pole (unpacked)
Humidity	35 to 85% relative humidity
Altitude	Certification tests done at altitude ≈ 2000 metres. Will operate at higher altitudes.
Shock	100 G to MIL-STD-202G, test method 213B, test condition 1
Vibration	10 G to MIL-STD-202G test method 204D, test condition A
Flammability	I2 - No ignition at 850 °C with an oxygen index of ≥ 32
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.

Product Type	Circuit Breaker	Circuit Breaker	Circuit Breaker
Approvals	UL 489 / CSA	UL 489A	UL 1077 / CSA
Number of Poles	1, 2	1, 2	1 - 4
Maximum Voltages	120 / 240 V AC	80 V DC	240 V AC, 277 V AC, 80 V DC
Current Ratings	0.05 - 20 A	0.05 - 50 A	0.05 - 50 A, 0.1 - 30 A, 0.05 - 50 A DC
Interrupting Capacity	5 kA	5 kA	2 kA (AC), 7.5 kA (DC)

Product Type	Circuit Breaker	Circuit Breaker	Switch
Approvals	IEC / EN 60934, VDE, CE, CCC	UL 1500	UL 508
Number of Poles	1 - 4	1, 2	1 - 4
Maximum Voltages	240 / 415 V AC, 80 V DC	120 / 240 V AC, 65 V DC	240 V AC, 277 V AC, 80 V DC
Current Ratings	0.05 - 50 A / 0.1 - 30 A, 0.05 - 50 A DC	0.05 - 50 A	50 A
Interrupting Capacity	2 kA (AC), 4 kA (DC)	1.5 kA	-

C Frame MKIV - Series Circuit Breakers

C Frame MKIV Series Circuit Breakers Ordering Information

Group 1: Frame	Code	Description	Comments			
	C	C-Frame				
Group 2: Type	Code	Description	Comments			
	B	C-Frame MKIV				
	G	C-Frame MKIV UL 1500				
Group 3: Mounting	Code	Description	Comments			
	2	Front mount round aperture, fleet	Warning: Maximum penetration depth into the mounting screw is 5.4 mm			
	3	Snap-in mount edges bevelled, without handle guards				
	B	Snap-in mount edges flush, without handle guards				
	C	Front mount round aperture, dome	Required for UL listed products. Maximum penetration depth into the product by the mounting screw is 5.4 mm.			
	S	Front mount rectangular aperture flush rocker handle	Warning: maximum penetration depth into the mounting screw is 5.4 mm			
Group 4: Handle	Code	Description	Comments			
	A	Standard (toggle) handle	For mountings 2, 3, B and C			
	C	Cut-off handle - single pole only	For mountings 3, B, 2, C. Only 1 handle per unit			
	H	Flush rocker handle	For mounting S only. Only 1 handle per unit. Reduced handle.			
	M	Flush rocker handle, two tone	For mounting S only. Only 1 handle per unit. Reduced handle.			
	Q	Flush rocker handle, push-to-reset for mounting version S				
	R	Flush rocker handle, push-to-reset, two tone for mounting version S				
	2	Standard handle, mid-trip	For mountings 3, B, 22, C			
Group 5: Termination	Code	Description	Comments	Code	Description	Comments
	CX	Quick connect terminal (0.8 mm x 6.35 mm)	30 A max	52	Screw terminal 30° bent, bus connected (M5 or 10-32)	50 A max
	22	Screw terminal, bus connected (M5 or 10-32)	50 A max	62	Marine Screw Terminal (M5 or 10-32)	50 A max
	32	Screw terminal, upturned ears (M5 or 10-32)	50 A max	ZZ	Special - specify	
	42	Screw terminal 30° bent, bus connected (M5 or 10-32)	50 A max			
Group 6: Number of Poles	Code	Description	Code	Description		
	1	1 pole metric	A	1 pole imperial		
	2	2 pole metric	B	2 pole imperial		
	3	3 pole metric	C	3 pole imperial		
	4	4 pole metric	D	4 pole imperial		
Group 7: Rated Voltage and Frequency - Main Circuit	Code	Description	Comments			
	E	65V DC				
	J	240V 50 / 60 Hz				
	K	277V 50 / 60 Hz				
	L	80V DC / 277V 50 / 60 Hz	AC / DC version. With AC and DC curves			
	M	80V DC / 240V 50 / 60 Hz	AC / DC version. With AC and DC curves			
	N	80V DC				
	Q	240 / 415V 50 / 60 Hz	3 Phase multi-wire system			
	R	277 / 480V 50 / 60 Hz	3 Phase multi-wire system			
	S	120 / 240V 50 / 60 Hz	3 Wire centre tap supply. 120V per phase			
	Z	Special - specify				

C Frame MKIV - Series Circuit Breakers

Ordering Information

	Code	Description	System	Pulse Tolerance (X In)	Code	Description	System	Pulse Tolerance (X In)
Group 8: Time Delay Characteristics (Curve Details); Pulse Tolerance at 10 ms	AD	Long delay 50 / 60 Hz AS & dual rated	AC and DC	8 - 10	CH	Short delay 50 / 60 Hz CS & high inrush	AC	12 - 15
	BD	Medium delay 50 / 60 Hz BS & dual rated	AC and DC	8 - 10	AS	Long delay 50 / 60 Hz	AC or DC	8 - 10
	CD	Short delay 50 / 60 Hz CS & dual rated	AC and DC	6 - 8	BS	Medium delay 50 / 60 Hz	AC or DC	8 - 10
	AE	Long delay 50 / 60 Hz AH & inertia delay	AC	28 - 35	CS	Short delay 50 / 60 Hz	AC or DC	6 - 8
	BE	Medium delay 50 / 60 Hz BH & inertia delay	AC	28 - 35	AW	Long delay 50 / 60 Hz AD & inertia delay	AC and DC	16 - 20
	CE	Short delay 50 / 60 Hz CH & inertia delay	AC	21 - 35	BW	Medium delay 50 / 60 Hz BD & inertia delay	AC and DC	16 - 20
	AI	Long delay 50 / 60 Hz AS & inertia delay	AC or DC	16 - 20	CW	Short delay 50 / 60 Hz CD & inertia delay	AC and DC	12 - 15
	BI	Medium delay 50 / 60 Hz BS & inertia delay	AC or DC	16 - 20	H3	Short delay	DC	6 - 8
	CI	Short delay 50 / 60 Hz CS & inertia delay	AC or DC	12 - 15	OP	Instantaneous trip 50 / 60 Hz	AC and DC	None
	AH	Long delay 50 / 60 Hz AS & high inrush	AC	16 - 20	OX	Switch 50 / 60 Hz	AC and DC	-
	BH	Medium delay 50 / 60 Hz BS & high inrush	AC	16 - 20	ZZ	Special - specify		
Group 9: Rated Current (Main Circuit) - Examples Only - Specific A Ratings Possible	Code	Description			Comments			
	XXXX	Not applicable			Examples only - specific A ratings possible from 0.5 - 50 A			
	050M	50 mA						
	100	1 A						
	1000	10 A						
5000	50 A							
Group 10: Circuit Configuration (Circuit Breaker's Internal Construction)	Code	Description			Comments			
	AX	Switch						
	BX	Series trip			Circuit breaker, current coil in series			
	CX	Relay Trip current sensing, centre terminal construction, four terminal			Total load 50 A max			
	DX	Relay Trip voltage sensing, centre terminal construction, four terminal			See group 12 for voltage options			
	EX	Shunt Trip current sensing, 3rd terminal close to load side			Total load 50 A max			
	FX	Shunt Trip voltage sensing, 3rd terminal close to load side			See group 12 for voltage options			
	GX	Dual control shunt trip construction, 3rd terminal close to load side			Curves AH, BH, CH, AE, BE, CE not possible. See group 12 for voltage options (voltage coil normally at line voltage).			
	HX	Dual control relay trip construction (4 terminal)			Curves AH, BH, CH, AE, BE, CE not possible. See group 12 for voltage options			
	JX	Switch with auxiliary switch						
	KX	Series trip, with auxiliary switch						
	ZZ	Special - specify						

C Frame MKIV - Series Circuit Breakers

Ordering Information

	Code	Description		Comments				
Group 11: Auxiliary and Alarm Switches	X	Not applicable		No Auxiliary Switch - flat base plate				
	A	Gold tips, equally spaced terminals		2.75 mm, 0.1 A max				
	B	Silver tips, equally spaced terminals		2.75 mm, 10 A max				
	Z	Special - specify						
Group 12: Voltage and Current Ratings for Dual Control, Shunt and Relay Trip Construction)	Code	Description	Code	Description	Code	Description	Code	Description
	XX	Not applicable	A5	220 - 240 V AC 50 / 60 Hz	B1	24 V DC	B3	80 V DC
	A4	110 - 125 V AC 50 / 60 Hz	B0	12 V DC	B2	48 V DC	ZZ	Special - specify
Group 13: Voltage and Current Ratings for Dual Control, Shunt and Relay Trip Construction	Code	Description		Comments				
	X	Not applicable						
	B	Screw terminal,s M4 or 10 - 32		50 A max				
	C	Quick connect terminals (0.8 mm x 6.35 mm)		30 A max				
Group 14: Voltage for Illuminated Rocker	Code	Description		Comments				
	X	Not applicable						
Group 15: Terminal for Illuminated Rocker	Code	Description		Comments				
	X	Not applicable						
Group 16: Handle Colour	Code	Description		Comments				
	X	No handle						
	B	Black handle, white marking						
	G	Green handle, white marking						
	W	White handle, black marking						
	R	Red handle, white marking						
	Y	Yellow handle, black marking						
Group 17: Marking	Code	Description		Comments				
	X	No handle (n/a)						
	D	1 - 0 and ON - OFF		For products requiring VDE approvals and UL mark (IEC / EN 60934 & UL 1077)				
	H	1 - 0 and ON - OFF and Ampere rating						
	I	Push-to-reset and Ampere rating		Group 3 option S only. Group 4 options Q or R only. Flush rocker or two tone rocker handle.				
Group 18: Mounting Orientation for Marking	Code	Description		Comments				
	X	No handle (n/a)						
	1	Vertical (reverse mounting, line @ bottom)						
	2	Horizontal (line @ right)						
	H	Horizontal (line @ left)						
	V	Vertical (standard mounting, line @ top)						

Ordering Information

	Code	Description	Comments
Group 19: Front Plate Marking and Test Button	2	No marking, with test button, rocker handle	
	A	Standard marking, standard handle	
	B	No marking, rocker handle	
Group 20: Inter-phase Barrier and Terminal Cover	Code	Description	Comments
	X	Not applicable	
	1	Terminal cover(s)	
	2	Small inter-phase barrier and terminal cover	
	4	Z inter-phase barrier and terminal cover	
	A	Small inter-phase barrier	
	C	Z inter-phase barrier	
Group 21: Approvals (Product Normally Approved to)	Code	Description	Comments
	1	CUR, UL recognised UL 1077, CSA, IEC / EN 60934, VDE, CE	
	2	CUL, UL listed UL 489, CSA, IEC / EN 60947-2, VDE, CE	
	3	UL listed UL 489A, IEC / EN 60947-2, VDE, CE	
	Z	No third party approvals	
Group 22: Safety Marks	Code	Description	Comments
	-	Not applicable	
	C	CCC / CRCC	
	Z	Special - specify	

For options not listed, please contact CBI

Please review our Customer Terms and Conditions on www.cbi-lowvoltage.co.za

© 2016.09 CBI (Pty) Ltd. All Rights Reserved.

All rights reserved. Unless otherwise indicated, all materials on these pages are copyrighted by CBI (Pty) Ltd. No part of these pages, either text or image may be used for any purpose other than personal use. Therefore, reproduction, modification, storage in a retrieval system or retransmission, in any form or by any means, electronic, mechanical or otherwise, for reasons other than personal use, is strictly prohibited without prior written permission. CBI (Pty) Ltd reserves the right to alter any details of this document without notice and while every effort is made to ensure the accuracy of the content, no warranty is given as to the accuracy of this document and no responsibility will be accepted for error or misinterpretation and any resulting loss.

AUSTRALIA

CBI-electric: Australia
27 Wedgewood Rd, Hallam
Victoria 3803 Australia
Tel: +61 3 8752 9300
Fax: +61 3 9796 5407
Email: sales@cbi-electric.com.au
Website: www.cbi-electric.com.au

SOUTH AFRICA

CBI-electric: low voltage
Tripswitch Drive Elandsfontein
Gauteng South Africa
Tel: +27 11 928 2000
Fax: + 27 11 392 2354
Email: cbi@cbi-electric.com
internationalsales@cbi-electric.com
Website: www.cbi-lowvoltage.com

USA

CBI-electric: North America
35 E. Uwchlan Ave Suite 328
Exton PA 19341 USA
Tel: +1 610 524 9949
Fax: +1 610 524 9945
E-mail: info@cbibreakers.com
Website: www.cbibreakers.com