

SERIES CBS... BREAKERS MCCBs



CBS-4 (300A-400A)
 CBS-8 (500A-800A)
 CBS-2 (150A-250A)
 CBS-1 (15A-125A)

Trip Versions
 Fixed Trip - 15A-800A
 Adjustable Trip 32A-800A

Accessories Available



Auxiliary Switch (AX)



Alarm Switch (AL)



Shunt Trip (SHT)



Undervoltage Trip (UVT)

MOLDED CASE CIRCUIT BREAKERS
15 AMP THRU 800 AMP



SERIES CBS



UL 489

- OPTIONS FIELD KITS**
- Auxiliary Contacts
 - Alarm Contact
 - Shunt Trip
 - UV Trip

OPTIONS
 50kA / 100kA Int.
 UL Interrupting Rating

Standard Interruption CBS-1S-8S	High Interruption CBS-1H-8H
240V/50kA	240V/100kA
480V/35kA	480V/65kA
600V/10kA	600V/14kA

OPTIONS



• Open



• Extended rotary handles



• Enclosed



• Flange Handle

NEMA 1,3R,4,4X,12

Contents

Open Type Breakers:

Selection Type:



**Fixed Trip
Standard Interruption**

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Adjustable Trip

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**(Standard KA) - "S" Type
(15A-800Amps)**

50KA / 240V
35KA / 480V
10KA / 600V

High Interruption

Page: 175

(High Int KA) "H" Type

(15A - 125A)	(150A - 250A)
100KA/240V	100KA/240V
65KA/480V	65KA/480V
14KA/600V	18KA/600V

(300A -400A)	(500A-800A)
100KA / 240V	100KA / 240V
65KA / 480V	65KA / 480V
20KA / 600V	25KA / 600V

Enclosed Breaker



Technical Spec's:	Page: 171 - 173
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Operator Handles:	Page: 178 - 179
Dimensional Data:	Page: 180 - 182
Trip Curves:	Page: 177
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Series CBS

Example Part # Part Number : CBS-2S-200A
200 Amp 3 Pole Standard Interruption (35KA)



CBS

2	
1	100AF
2	250AF
4	400AF
8	800AF

S Short Circuit Interruption KA			
Volts	240v	480v	600v
S	50KA	35KA	10KA
H	100KA	65KA	14KA

200A			
125AF	15A 20A 30A 40A 50A 60A 80A 100A 125A	250AF	150A 175A 200A 225A 250A
		400AF	300A 350A 400A
	800AF		500A 600A 700A 800A

Standards & Approvals



Accessories

- Auxiliary Contacts
- Alarm/Trip Contacts
- Shunt Trip Relay
- Undervoltage Relay
- Through Door Mechanical interlock Operators
- Lockout devices
- Flange operators

Characteristics

Fixed Non-Adjustable

Fixed thermal, fixed magnetic trip units

- CBS-1S, 2S, 4S, 8S**
- Fixed thermal
15A ... 800A rated currents
 - Fixed magnetic
400A ... 8000A tripping currents



Two Versions:

Adjustable

Adjustable thermal, fixed magnetic trip units

- CBS- 1S-ADJ, 2S-ADJ, 4S-ADJ, 8S-ADJ**
- Adjustable thermal
40A ... 800A rated currents
 - Adjustable : 0.8~1× In
Fixed magnetic
400A ... 8000A tripping currents







**Series CBS - S - Standard Interruption
CBS - H - High Interruption**



Size
Frame size
Rated current In (Amps)
No. of Poles
Rated operational voltage, Ue AC
UL interrupting rating (AC50/60HZ)
240V
480V
600V
UL Standard
Mechanical life
Electrical life @ 600V AC
Weight 3- Pole
Basic dimensions, W x H x D 3 - Pole
Dimensions Approx. (inches)

CBS-1*	
125	
15, 20, 30, 40, 50, 60, 80, 100, 125A	
3	
600 Volt	
CBS-1S	CBS-1H
50KA	100KA
35KA	65KA
10KA	14KA
UL 489	
4,000	
4,000	
1.2	
90 x 164 x 86 (mm)	
3.5" x 6.5" x 3.4" (inches)	

Terminals - Line & load supplied standard with each breaker

Catalog No.	Shape	Terminal Material	Wire Range AWG, kcmil	Catalog No.	Shape	Terminal Material	Wire Range AWG, kcmil
CBS-1 (15-125)		Aluminum Alloy	14~8 AWG 6~1/0	CBS-4 (300A-400A)		Aluminum Alloy	250~400 500 3/0 (x2)
CBS-2 (150-250A)		Aluminum Alloy	1/0~2/0 3/0~4/0 250~300	CBS-8 (500A-800A)		Aluminum Alloy	250~500 (x2)

- Lug terminals are listed in accordance with Underwriters Laboratories, Inc., Standard UL486A.
- Lug terminals are suitable for compact wires that CSA Standard (C22.2 No.65) require.
- Wire connectors intended for use with copper conductors only.
- Lug terminals are suitable for 60/75°C wire.

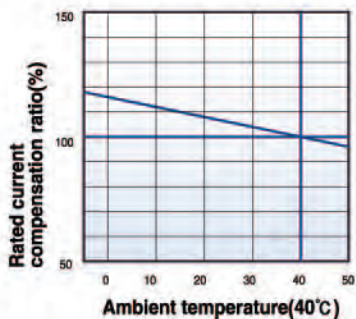


CBS-2*	
250	
150, 160, 175, 200, 225, 250A	
3	
600 Volt	
CBS-2S	CBS-2H
50	100
35	65
10	14
UL 489	
5,000	
1,000	
1.9	
105 x 178 x 86	
4" x 7.0" x 3.4"	

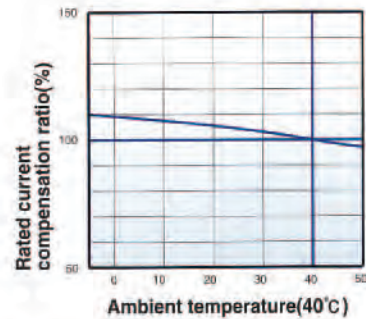
CBS-4*	
400	
300, 350, 400A	
3	
600 Volt	
CBS-4S	CBS-4H
50	100
35	65
10	14
UL 489	
5,000	
1,000	
5.7	
140 x 292 x 110	
5.5" x 11.5" x 4.3"	

CBS-8*	
800	
500, 600, 700, 800	
3	
600 Volt	
CBS-8S	CBS-8H
50	100
35	65
10	14
UL 489	
3,000	
500	
13.6	
210 x 428 x 135	
8.3" x 16.9" x 5.3"	

Ambient Compensation
Ration Chart for 15-250Amp



Ambient Compensation
Ration Chart for 300-800Amp





“Standard Interruption” Circuit Breaker Industrial Series CBS-S

3 Pole UL489
Fixed Trip



Order Information Standard Interruption Capacity (Fixed Trip)

STANDARD TRIP - 35kA, I.C. OPEN TYPE - THERMAL MAGNETIC

100 Amp Frame Series CBS-1S 3 Pole			(15A - 125 Amp)			
Continuous Amps, Max. (In Thermal)	Magnetic Instantaneous Trip - Amps	Interruption Capacity kA			Catalog No. Open Type	List
15 A	400A	240v	460v	600v	CBS-1S-15A	\$498
20 A	400 A	50	35	10	CBS-1S-20A	\$498
30 A	400 A				CBS-1S-30A	\$498
40 A	400 A				CBS-1S-40A	\$498
50 A	500 A				CBS-1S-50A	\$498
60 A	600 A				CBS-1S-60A	\$498
80 A	800 A				CBS-1S-80A	\$570
100 A	1000A				CBS-1S-100A	\$570
125 A	1250 A				CBS-1S-125A	\$755
250 Amp Frame Series CBS-2S 3 Pole			(150A - 250 Amp)			List
150 A	1500A	50	35	10	CBS-2S-150A	\$890
175 A	1750A				CBS-2S-175A	\$890
200 A	2000A				CBS-2S-200A	\$890
225 A	2250A				CBS-2S-225A	\$890
250 A	2250A				CBS-2S-250A	\$890
400 Amp Frame Series CBS-4S 3 Pole			(300A - 400 Amp)			List
300 A	3000 A	50	35	10	CBS-4S-300A	\$1,490
350 A	3500 A				CBS-4S-350A	\$1,490
400 A	4000 A				CBS-4S-400A	\$1,490
800 Amp Frame Series CBS-8S 3 Pole			(500A - 800 Amp)			List
500 A	5000 A	50	35	10	CBS-8S-500A	\$2,750
600 A	6000 A				CBS-8S-600A	\$2,750
700 A	7000 A				CBS-8S-700A	\$3,050
800 A	8000 A				CBS-8S-800A	\$3,050



ENCLOSED TYPE BREAKERS

BREAKER Amp Rating	NEMA 1/3R		NEMA 4/12		NEMA 4X	
	Add Suffix	Add Extra Cost	Add Suffix	Add Extra Cost	Add Suffix	Add Extra Cost
15A -100A	-3R	\$ 450	-4/12	\$ 490	-4X	\$ 520
125A-150A	-3R	\$ 800	-4/12	\$ 1,025	-4X	\$ 1,050
175A-225A	-3R	\$ 890	-4/12	\$ 1,200	-4X	\$ 1,760
250A	-3R	\$ 890	-4/12	\$ 1,200	-4X	\$ 1,760
300A-400A	-3R	\$ 1,650	-4/12	\$ 1,700	-4X	\$ 4,480
500A-600A	-3R	\$ 2,370	-4/12	\$ 2,550	-4X	\$ 6,150
700A-800A	-3R	\$ 2,370	-4/12	\$ 2,550	-4X	\$ 6,150

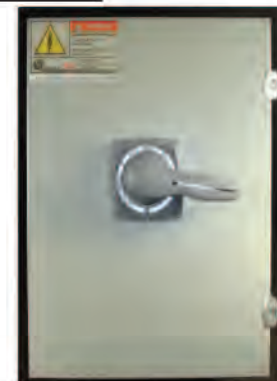
* If Enclosed desired add suffix to breaker part number and add enclosure list price to that of breaker.

Enclosed Version includes safety door interlock and padlockable handle.

Example: 15Amp Enclosed NEMA 3R.

Part # : CBS-1S-15A-3R List Each \$948.00

Discount Schedule: CB



-NEMA 4/12 (Metal) Enclosed
Dimensions see page 179



HIGH INTERRUPTION CIRCUIT BREAKER INDUSTRIAL SERIES CBS-H


 UL489
 3 Pole
 Fixed Trip

Order Information : CBS - *H Series 100kA - 240VAC
High Interruption / Thermal Magnetic / Fixed Trip 65kA - 480VAC
14 - 25kA - 600VAC

Continuous Amps, Max. (In Thermal)	Magnetic Instantaneous Trip - Amps	Interruption Capacity			Catalog No. Open Type	
		240V	480V	600V	15A-125A	List
125 Amp Frame/ Series CBS-1H		240V	480V	600V	15A-125A	List
15A	400 A	100kA	65kA	14kA	CBS-1H-15A	\$625
20A	400A				CBS-1H-20A	\$625
30A	400A				CBS-1H-30A	\$625
40A	400A				CBS-1H-40A	\$625
50A	500 A				CBS-1H-50A	\$625
60A	600A				CBS-1H-60A	\$625
80A	800 A				CBS-1H-80A	\$657
100A	1000 A				CBS-1H-100A	\$657
125A	1250 A				CBS-1H-125A	\$960



CBS-1H

250 Amp Frame / Series CBS-2H		240V	480V	600V	150Amp - 250Amp	List
150A	1500 A	100kA	65kA	18kA	CBS-2H-150A	\$1,200
175A	1750 A				CBS-2H-175A	\$1,200
200A	2000A				CBS-2H-200A	\$1,200
225A	2250 A				CBS-2H-225A	\$1,200
250 A	2500 A				CBS-4H-250A	\$1,200



CBS-2H

400 Amp Frame / Series CBS-4H		240V	480V	600V	300Amp - 400Amp	List
300A	3000 A	100kA	65kA	20kA	CBS-4H-300A	\$2,169
350A	3500 A				CBS-4H-350A	\$2,169
400A	4000 A				CBS-4H-400A	\$2,169



CBS-4H

800 Amp Frame / Series CBS-8H		240V	480V	600V	500Amp - 800Amp	list
500A	5000A	100kA	65kA	25kA	CBS-8H-500A	\$3,860
600 A	6000A				CBS-8H-600A	\$3,860
700A	7000A				CBS-8H-700A	\$4,288
800A	8000A				CBS-8H-800A	\$4,288



CBS-8H

Discount Schedule CB

* - To order "Enclosed" Circuit Breakers see page for adder.
 - Dimensions see page 179 (Enclosed) 180-181 (Open)



**Adjustable Trip UL489
Molded Case Circuit Breaker
"Standard Interruption"
(32A - 800A)**

UL UL489
3Pole
Adjustable Trip



Order Information Standard Interruption Capacity

Standard Trip - 35kA, I.C. OPEN TYPE - Thermal Magnetic

3 Settings - (0.8, 0.9, 1.0) of the thermal current (adjustable)

Adjustable Amps, Max. (in Thermal)	Magnetic Instantaneous Trip - Amps	Interruption Capacity kA			Catalog No. Open Type	List
100 Amp Frame Series CBS-1S 3 Pole		240V	460V	600V	(40A-125 Amp)	List
32A, 36A, 40A	400A	50	35	10	CBS-1S-40 -ADJ	\$535
40A, 45A, 50A	500A	50	35	10	CBS-1S-50 -ADJ	\$535
48A, 54A, 60A	600A	50	35	10	CBS-1S-60 -ADJ	\$535
64A, 72A, 80A	800A	50	35	10	CBS-1S-80 -ADJ	\$580
80A, 90A, 100A	1000A	50	35	10	CBS-1S-100-ADJ	\$580
100A, 112.5A, 125A	1250A	50	35	10	CBS-1S-125-ADJ	\$810

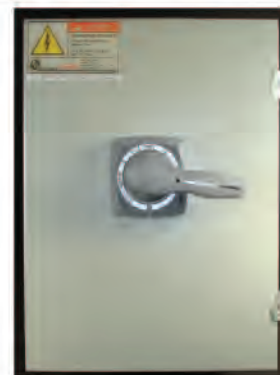
250 Amp Frame Series CBS-2S 3 Pole		240V	460V	600V	(150A-250 Amp)	List
128A, 144A, 160A	1600A	50	35	10	CBS-2S-160-ADJ	\$953
160A, 180A, 200A	2000A	50	35	10	CBS-2S-200-ADJ	\$953
200A, 225A, 250A	2500A	50	35	10	CBS-2S-250-ADJ	\$953

400 Amp Frame Series CBS-4S 3 Pole		240V	460V	600V	(300A-400 Amp)	List
240A, 270A, 300A	3000A	50	35	10	CBS-4S-300-ADJ	\$1,540
320A, 360A, 400A	4000A	50	35	10	CBS-4S-400-ADJ	\$1,540

800 Amp Frame Series CBS-8S 3 Pole		240V	460V	600V	(500A-800 Amp)	List
400A, 450A, 500A	5000A	50	35	10	CBS-8S-500-ADJ	\$3,015
480A, 540A, 600A	6000A	50	35	10	CBS-8S-600-ADJ	\$3,015
640A, 720A, 800A	8000A	50	35	10	CBS-8S-800-ADJ	\$3,015

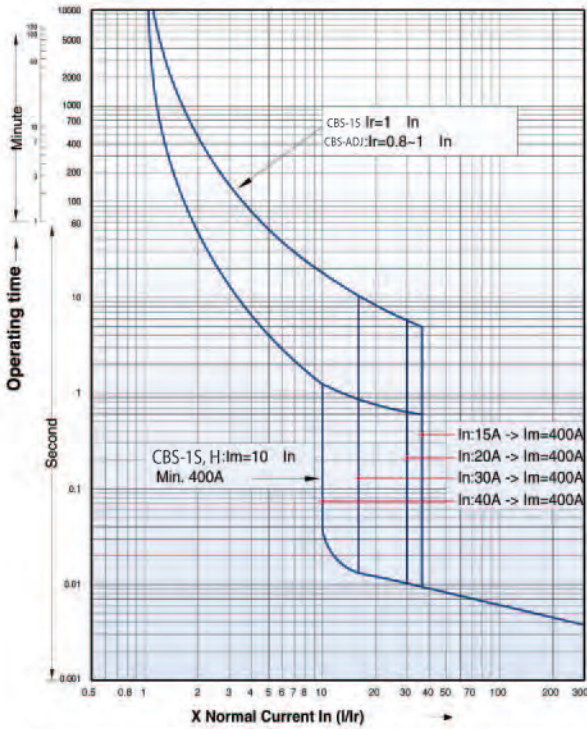
Enclosed Type Breakers

BREAKER Amp Rating	NEMA 1/3R		NEMA 4/12		NEMA 4X	
	Add Suffix*	Add Extra Cost	Add Suffix*	Add Extra Cost	Add Suffix*	Add Extra Cost
40 to 100 Amp	-3R	\$450	-4/12	\$490	-4X	\$520
125 to 160 Amp	-3R	\$800	-4/12	\$1,025	-4X	\$1,050
200 to 250 Amp	-3R	\$890	-4/12	\$1,200	-4X	\$1,760
300 to 400 Amp	-3R	\$1,650	-4/12	\$1,700	-4X	\$4,480
500 to 800 Amp	-3R	\$2,370	-4/12	\$2,500	-4X	\$6,150

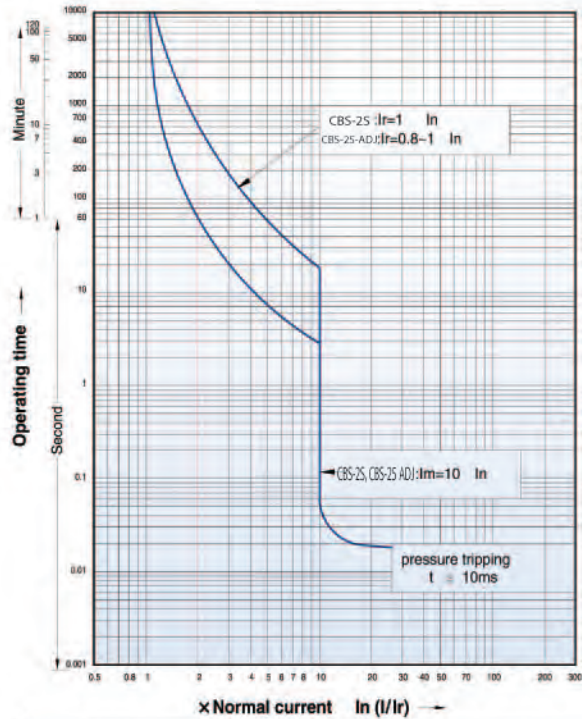


Nema 4/12 Enclosure shown

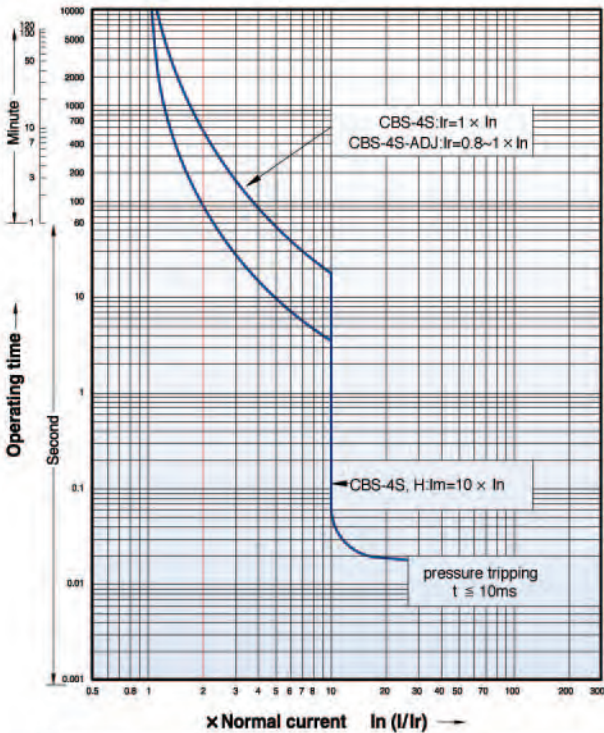
* If Enclosed desired add suffix to breaker part and add enclosure list price to that of breaker.



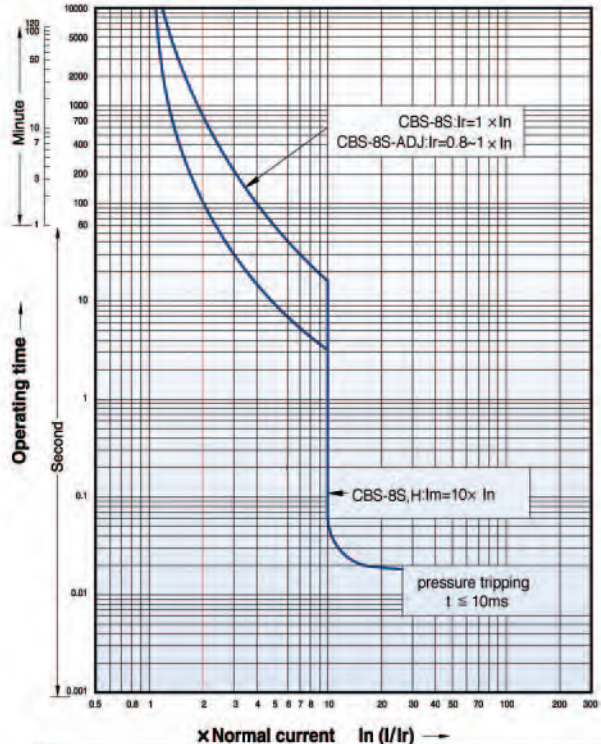
CBS-1S, CBS-1H, CBS-1S. ADJ. 15A - 125Amp



CBS-2S, CBS-2H, CBS-2S. ADJ. 150A - 250Amp



CBS-4S, CBS-4H, CBS-4S. ADJ. 300A - 400Amp



CBS-8S, CBS-8H, CBS-8S. ADJ. 500A - 800Amp

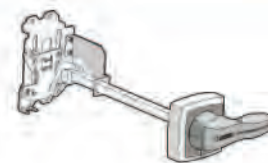
OPERATOR HANDLE KITS

125Amp Frame - 800Amp FRAME

Extended Handle Kits

Kits include -

- Rotary drive converter (converts toggle to rotary operation)
- Shaft extension (available 12" and 24")
- External operator handle (operator handle is also padlockable & safety door interlock type)



Type 1 - (indoor)

Type 4X - (outdoor)

12, 3R, 4, 4X

Catalog No.

Type 1

Type 4X (3R, 12, 4, 4X)

Circuit Breaker Frame		Part #	List Price	Part #	List Price
CBS-1S, 1H,ADJ	125AF 15A-125A	CBS-1RH-1	\$157	CBS-1RH-4X	\$190
CBS-2S, 2H,ADJ	250AF 150A-250A	CBS-2RH-1	\$172	CBS-2RH-4X	\$206
CBS-4S, 4H,ADJ	400AF 300A-400A	CBS-4RH-1	\$204	CBS-4RH-4X	\$237
CBS-8S, 8H,ADJ	800AF 500A-800A	CBS-8RH-1	\$314	CBS-8RH-4X	\$347

Flange Handle Kits

Kits include -

- External Flange handle operator
- Cable - (4 length options)
- Converter mechanism (mounts to breakers)

Type 1 - (indoor)



Circuit Breaker Frame		Part #	List Price* -36 (36" Cable)	List Price* -48 (48" Cable)	List Price* -60 (60" Cable)	List Price* -72 (60" Cable)
CBS-1S, 1H,ADJ (125AF)	15A-125A	CBS-1FHK-1-*	\$307	\$322	\$339	\$355
CBS-2S, 2H,ADJ (250AF)	150A-250A	CBS-2FHK-2-*	\$356	\$374	\$393	\$410
CBS-4S, 4H,ADJ (400AF)	300A-400A	CBS-4FHK-4-*	\$400	\$420	\$440	\$460
CBS-8S, 8H,ADJ (800AF)	500A-800A	CBS-8FHK-8-*	\$493	\$518	\$543	\$570

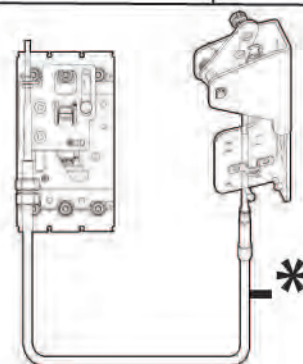
* = Cable length

To order place length required where astrick is shown.

Example : 125Amp Breaker 48" length needed.

Part# CBS-FHK-1-48

For details of "dimension requirement" on enclosed sizes see page.
enclosure cutouts see page 182



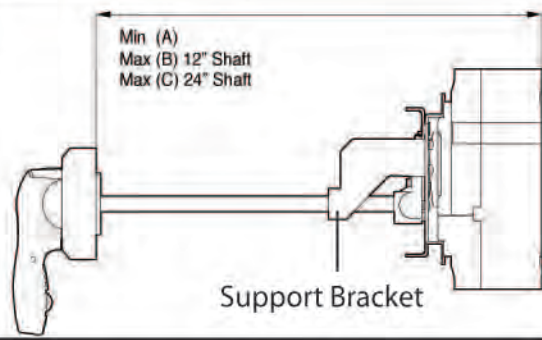
Dimensions

Extended Rotary Handle kit & Enclosed Breaker



Rotary Handle Kit / Minimum / Maximum Depth

Handle Part Number	12" Shaft		24" Shaft
	Minimum Depth (A)	Max Depth (B)	Max Depth (C)
CBS-1RH -1,-4X	6"	14.1/2"	26.1/2"
CBS-2RH -2,-4X	6"	14.1/2"	26.1/2"
CBS-4RH -4,-4X	6.1/2"	15.1/2"	27.1/2"
CBS-8RH -8,-4X	8"	17"	29"



To obtain 6" Min. support bracket would **NOT** be used in installation.

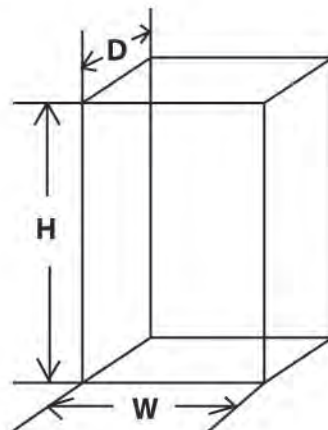
(A) Dimension is the same minimum on **BOTH** 12" and 24" length shafts.

Enclosed Circuit Breaker Dimensions

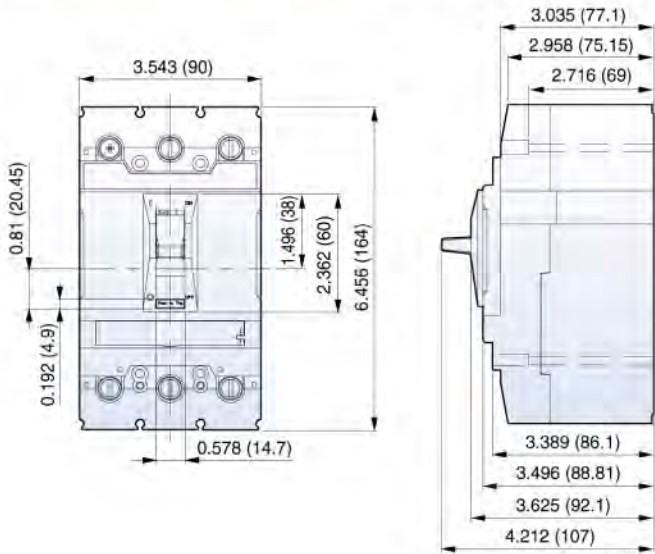
Breaker Type	Range in Amps	Enclosure Type					
		NEMA 1, 3R, 4/12			NEMA 4X (Non -Metal)		
		H	W	D	H	W	D
CBS-1*	15A-125A	12"	10"	8"	13.7"	11.9"	7.9"
CBS-2*	150A-250A	24"	20"	8"	25.6"	21.6"	9.9"
CBS-4*	300A-400A	36"	24"	8"	40.5"	30.5"	12"
CBS-8*	500A-800A	42"	24"	8"	52.5"	36.5"	12"

Above Enclosure dimensions are approx. (overall dimension)

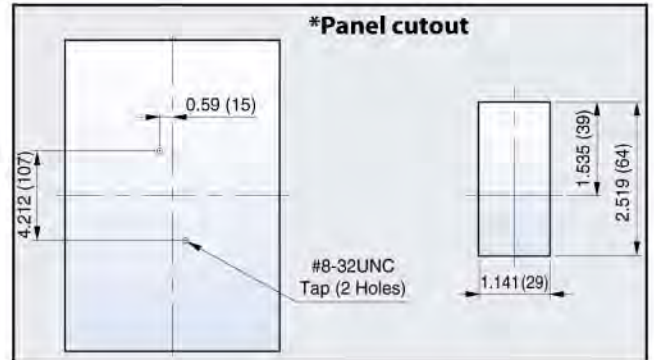
Enclosure Material
 NEMA 1, 3R, 12/4 - (Metallic)
 NEMA4X - (Non-Metallic)



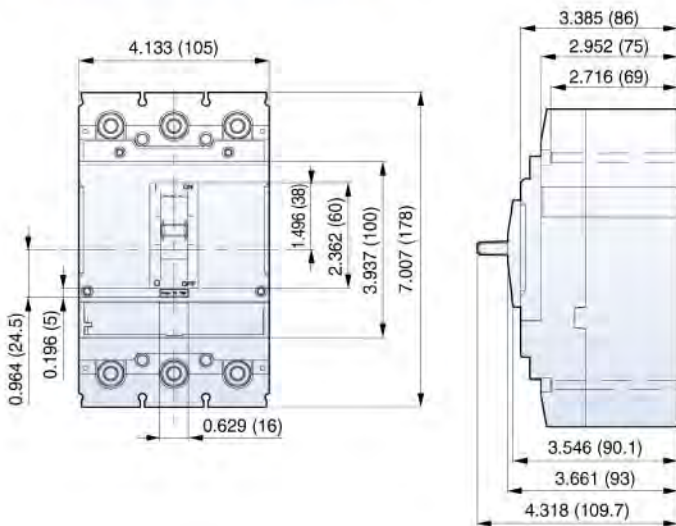
CBS - 1S, CBS-1H, ADJ (15-125Amps)



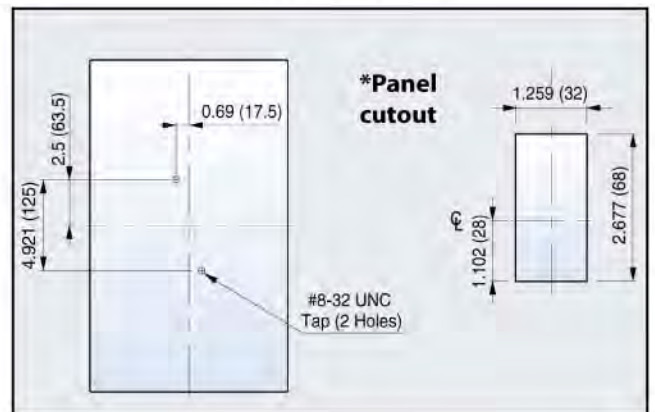
Mounting Holes



CBS - 2S, CBS-2H, ADJ (150-250Amps)

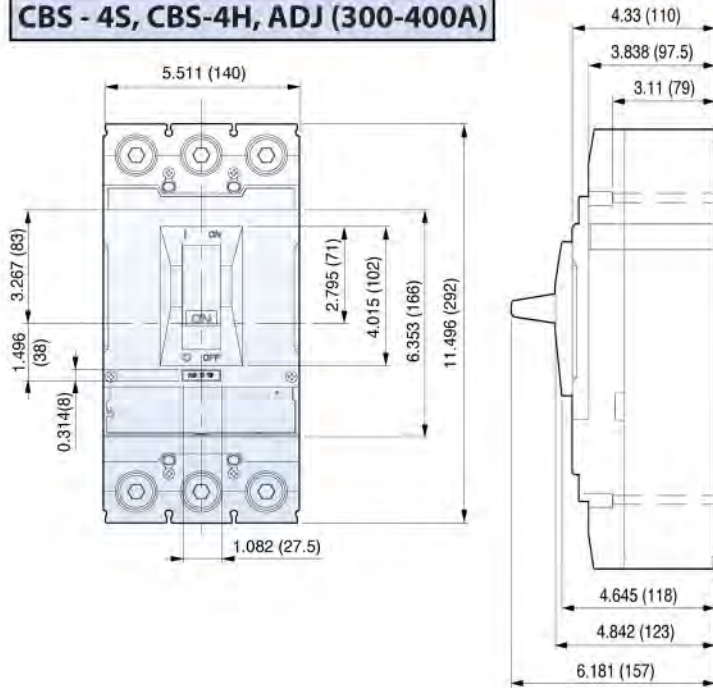


Mounting Holes

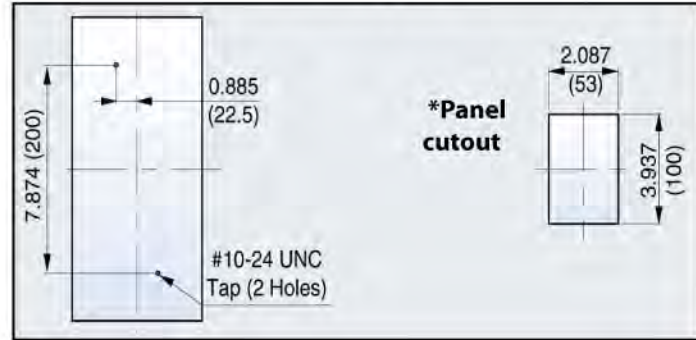


Dimensions CBS - 4S, H thru CBS - 8S

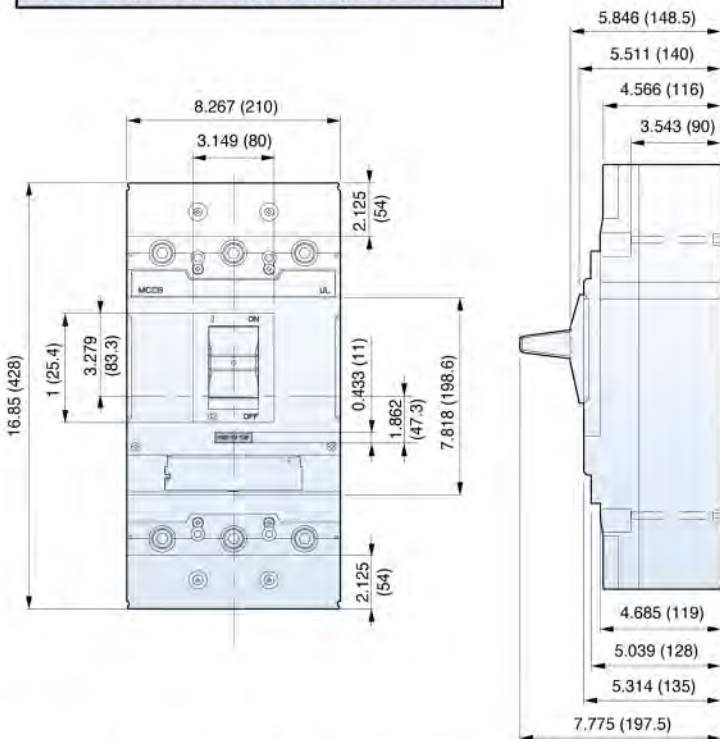
CBS - 4S, CBS-4H, ADJ (300-400A)



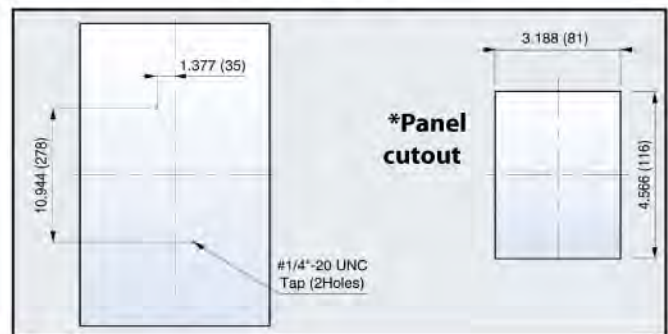
Mounting Holes



CBS - 8S, CBS-8H, ADJ (500-800A)



Mounting Holes

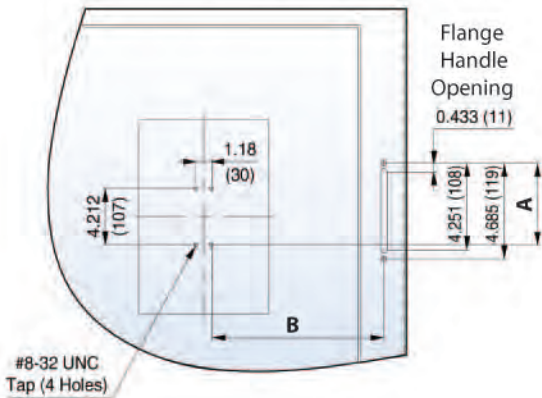


Dimensions Approx. (mm) inches

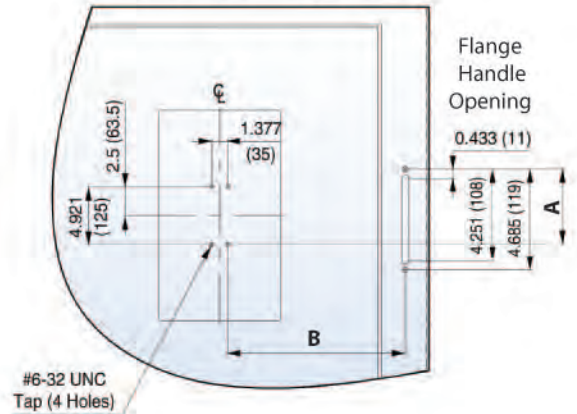
*Panel cutout for applications where the toggle protrudes thru enclosure cover.

Flange Mount Enclosure Detailed Drawings

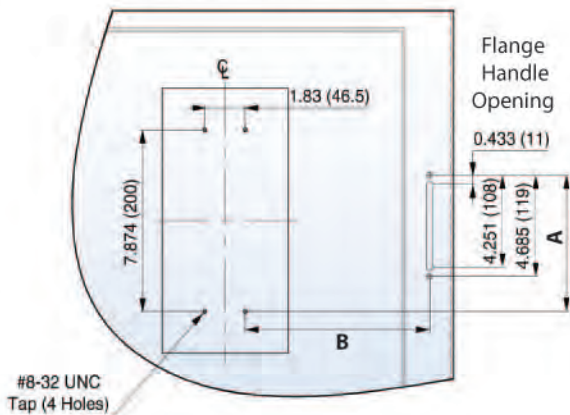
CBS - 15 - 125 Amp



CBS - 150 - 250 Amp



CBS - 300 - 400 Amp



CBS - 500 - 800 Amp

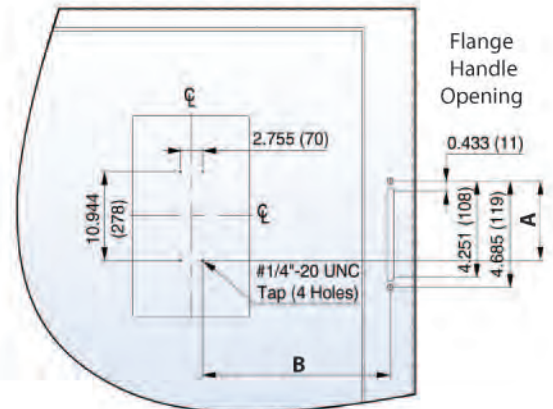
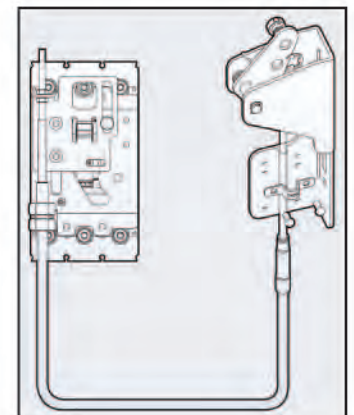
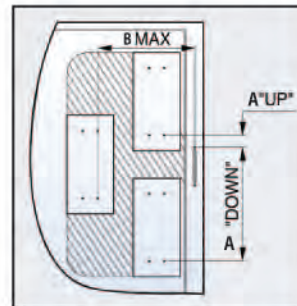


Table 1	Maximum "B" Dimension		Table 2	Maximum "A" Dimension			
	Enclosure Depth	CBS FHK-60		Enclosure Depth	60" cable		72" cable
		CBS FHK-72		Up	Down	Up	Down
10"	25"	30"	10"	17"	31"	20"	34"
12"	24"	29"	12"	17"	31"	19"	33"
16"	23"	28"	16"	17"	28"	19"	30"
18"	22"	27"	18"	17"	28"	19"	30"
20"	21"	26"	20"	16"	26"	18"	28"
24"	20"	25"	24"	14"	26"	16"	28"
30"	19"	24"	30"	11"	24"	13"	26"
36"	18"	23"	36"	6"	21"	8"	22"



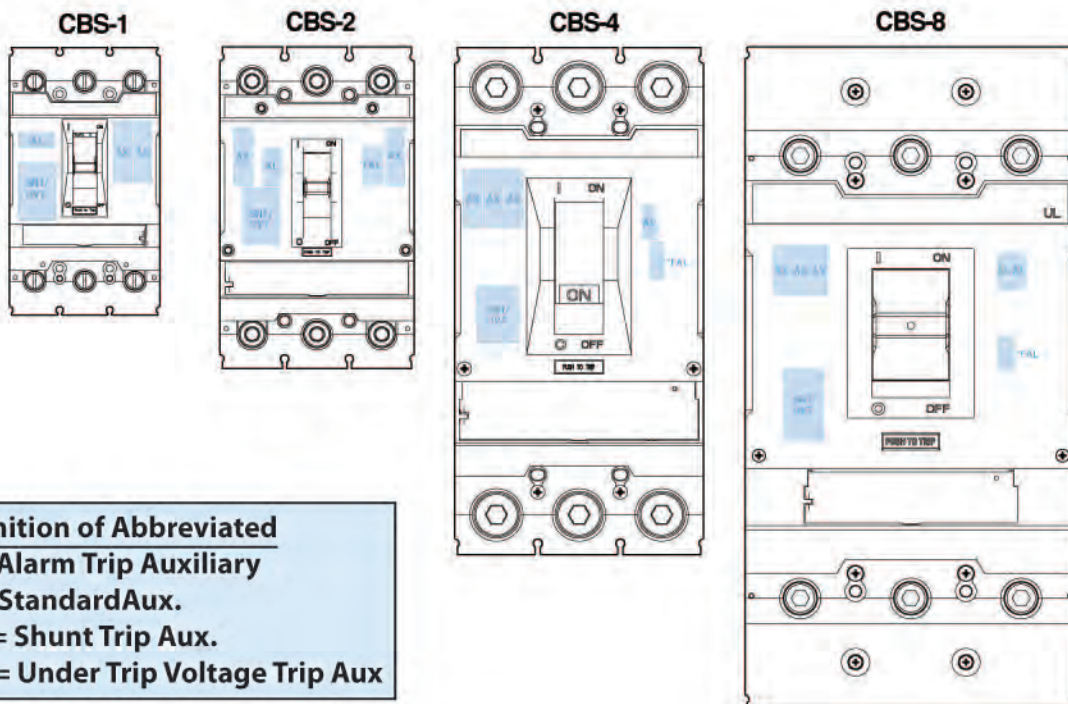
Above shows locations of the tapped holes required to mount the breakers as well as the flange mount opening for the enclosure. Detailed location of the breaker is listed in the chart above. Above Dimensions shown in inches (mm)

Electrical auxiliaries

Possible configuration of electrical auxiliaries

Maximum possibilities

Phase	Accessory	CBS-1	CBS-2	CBS-4	CBS-8
R (Left)	AX	-	1	3	3
	AL	1	1	-	-
	SNT or UVT	1	1	1	1
T (Right)	AX	2	1	-	-
	AL	-	-	1	2



Definition of Abbreviated

AL= Alarm Trip Auxiliary

AX= Standard Aux.

SNT= Shunt Trip Aux.

UVT= Under Trip Voltage Trip Aux


* The above possible accessory configurations are for all 3 modles. CBS*S, CBS* H, CBS * S ADJ


Accessory items are easy to install cassette type, and are designed to fit all four frame sizes. (125AF - 800AF)


Standard Options Include:


- Auxiliaries
- Trip Alarm
- Shunt Trip (remote trip)
- Undervoltage trip

*Accessories
Fit all 4 Frame
Sizes
(CBS-1,2, 3, 4 & 8)

	* Auxiliary Contacts		
	Catalog No.	Max Allowable Per unit	List
	CBS-AX (1NO / 1NC Form C)	2 - Form C	\$40

	* Alarm Trip Auxiliary		
	Catalog No.	Max Allowable Per unit	List
	CBS-AL (1NO / 1NC Form C)	1 - Form C	\$32

	* Undervoltage Trip Relay			
	Catalog No.	Volts	Max Allowable Per unit	List
	CBS-UVT - 24	24V AC/DC	1- Per Breaker	\$135
	CBS-UVT - 48	48V AC/DC	1- Per Breaker	\$135
	CBS-UVT - 120	120V AC/DC	1- Per Breaker	\$135
CBS-UVT - 200-240	200-240V AC/DC	1- Per Breaker	\$135	

	* Shunt Trip Relays			
	Catalog No.	Volts	Max Allowable Per unit	List
	CBS-SNT - 24	24AC/DC	1- Per Breaker	\$99
	CBS-SNT - 48	48AC/DC	1- Per Breaker	\$99
	CBS-SNT - 120	120AC/DC	1- Per Breaker	\$99
	CBS-SNT - 220-240	220-240AC	1- Per Breaker	\$99
CBS-SNT - 380-500	380-500AC	1- Per Breaker	\$99	


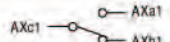
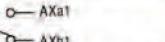
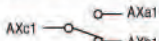
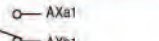
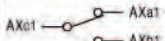


Auxiliary

Auxiliary Contact Description.

Auxiliary is for applications requiring remote "ON/OFF" indication. Each Auxiliary contains 2 contacts with common connection (Form "C") with one open and one closed.

Contact operation

CBS-AX	MCCB Position of AUX	ON	OFF	TRIP
				
CBS-AL	Position of Alarm trip Aux	ON	OFF	TRIP
				

Alarm Trip Auxiliary Description

Alarm trip auxiliary is designed for provision of immediate audio or visual indications of a tripped breaker due to overload, short circuit, or undervoltage release condition. This auxiliary will not switch while being operated by manual switching of toggle. (OFF/ON).

Technical data

Conventional thermal current I _{th}	5A		
Rated operational current I _e with rated operational voltage U _e	Voltage	I _e	
		Resistance	Inductance
- Alternating current 50/60Hz AC	125V	5	3
	250V	3	2
	500V	-	-
- Direct current DC	30V	4	3
	125V	0.4	0.4
	250V	0.2	0.2

Shunt Trip Relay Description

Shunt Trip relays function is to trip the circuit breaker from remote location by means of externally applied voltage range of operation voltage (0.7~1.1) frequency (only AC) 45HZ~65HZ

Control voltage (V)	Power Consumption		
	AC (VA)	DC (W)	mA
DC 12V	-	0.36	30
AC/DC 24V	0.58	0.58	24
AC/DC 48V	1.22	1.23	25
AC/DC 110~130	1.36	1.37	10.5
AC 220~240V/DC250	1.80	1.88	7.5
AC 380~500	1.15	-	2.3
Max. Opening Time	50(ms)		
Screw Torque	8.2kgf·cm		

Undervoltage Trip Relay Description

Under voltage release automatically opens a circuit breaker when voltage values drops to a range of 35% to 70% of line voltage. The operation is instantaneous and will not allow breaker to be turned on again until voltage returns to 85% of line voltage.

Control voltage (V)	Consumption		
	AC (VA)	DC (W)	mA
AC/DC 24V	0.64	0.65	27
AC/DC 48V	1.09	1.10	23
AC/DC 110~130V	0.73	0.75	5.8
AC 200~240V/DC 250V	1.21	1.35	5.4
AC 380~440V	1.67	-	3.8
AC 440~480V	1.68	-	3.5
-Drop (Circuit breaker trips)		0.7~1.35Vn	
-Rise (Circuit breaker can be switched on)		~0.85Vn	



Shunt Trip Relay



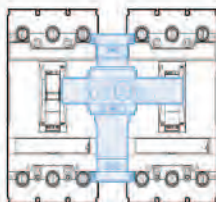
Undervoltage Trip Relay

Mechanical Interlock

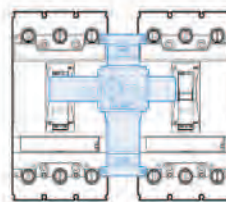
These interlocks are installed to prevent mechanically closing both breakers simultaneously.

Capable of three functions (also Padlockable provision)

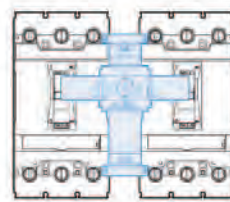
Catalog No.	Frame	List Each
CBS-MI-1S	125A (15-125A)	\$195
CBS-MI-2S	250A (150-250A)	\$219
CBS-MI-4S	400A (300-400A)	\$230
CBS-MI-8S	800A (500-800A)	\$235



1. Left MCCB: ON/OFF is possible
Right MCCB: Off lock



2. Left MCCB: Off lock
Right MCCB: ON/OFF is possible



3. Both MCCBs are locked

1.

2.

3.

Fixed Locking Devices

Locking devices are designed for toggle type operators. This device allows the toggle to be locked in "Off" position for guaranteed isolation according to IEC 60947-2. OSHA lockout - tagout.

Catalog No.	Frame	List Each
CBS-FLD-1S	125A (15-125A)	\$58
CBS-FLD-2S	250A (150-250A)	\$62
CBS-FLD-4S	400A (300-400A)	\$98
CBS-FLD-8S	800A (500-800A)	\$102



Padlock dimensions

Padlock Provision

(Padlock not supplied)

Removeable Locking Devices

Removable lockout devices are useful in lockout/tagout requirements. Guaranteed lockout in "off" position a maximum of 3 field installed padlock devices.

Catalog No.	Frame	List Each
CBS-RLD-1S	125A (15-125A)	\$35
CBS-RLD-2S	250A (150-250A)	\$39
CBS-RLD-4S	400A (300-400A)	\$50
CBS-RLD-8S	800A (500-800A)	\$58



Padlock dimensions

Padlock Provision

(Padlock not supplied)