

# Gladiator MCCB (Molded Case Circuit Breakers)



**Gladiator MCCBs thermal-magnetic circuit breakers are designed to protect low voltage electrical systems from damage caused by overloads and short circuits.**

**Wide Range of Applications**

- Branch and feeder circuits
- Industrial control panels
- Industrial machines
- Power distribution

## High Performance

- Ultimate breaking capacity (kA rms)
- Max 65kA@480VAC and 50kA@600V
- DC ratings
- Reverse feed capable
- HACR (Heating, Air Conditioning and Refrigeration) rated

## Simplified Product Range

- Seven frame sizes
- Three trip unit types
- Ampere range: 15A to 1200A
- Poles: 2P, 3P

## Wide Range of Accessories

- Electrical auxiliaries (AUX, ALX, ALM, UVT, SHT)
- Extended rotary handle
- Flange handle with flexible cable and linkage
- Locking devices
- LUG for CU/AL cable with UL486

## Variety of Trip Units

- AA: Adjustable thermal & magnetic unit
- FF: Fixed thermal & magnetic unit
- ES: Electronic self-powered

## STANDARDS

- World class with UL489
  - UL489
  - CSA C22.2 No. 5
- IEC60947-2
- Class 1E for Nuclear power plant
  - EQ : Environment Qualification
  - SQ : Seismic Qualification

**Seven Frame Sizes  
Up To 1200A**

**GCB100 Series 15-100 A**  
**GCB150 Series 125-150 A**  
**GCB250 Series 175-250 A**  
**GCB400 Series 300-400 A**  
**GCB600 Series 500-600 A**  
**GCB800 Series 800 A**  
**GCB1200 Series 1200 A**



UL file E503708 MCCB  
UL file E509077 Accessories

**FF**  
Fixed Thermal: 15A to 600A  
Fixed Magnetic: 400A to 6000A

**FF**

$I_i = 2500A$

**250A**  
**40°C**  
**3P**

**AA**  
Adjustable Thermal: 100A to 600A  
Adjustable Magnetic: 500A to 6000A

**AA**

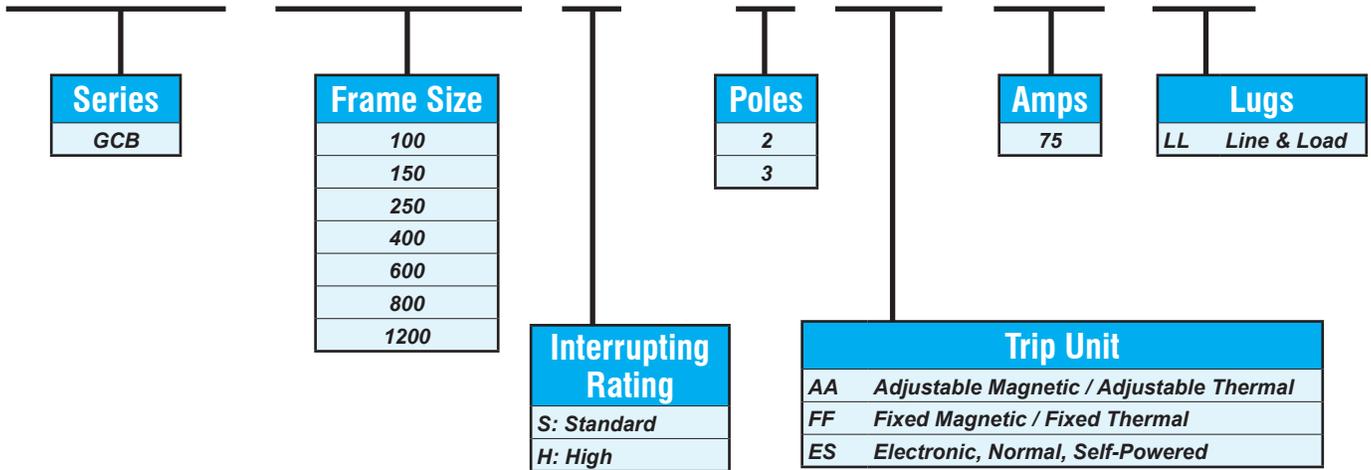
$I_r (xI_n)$       $I_i (xI_n)$

**250A**  
**40°C**  
**3P**

# Gladiator MCCB Part Number Nomenclature

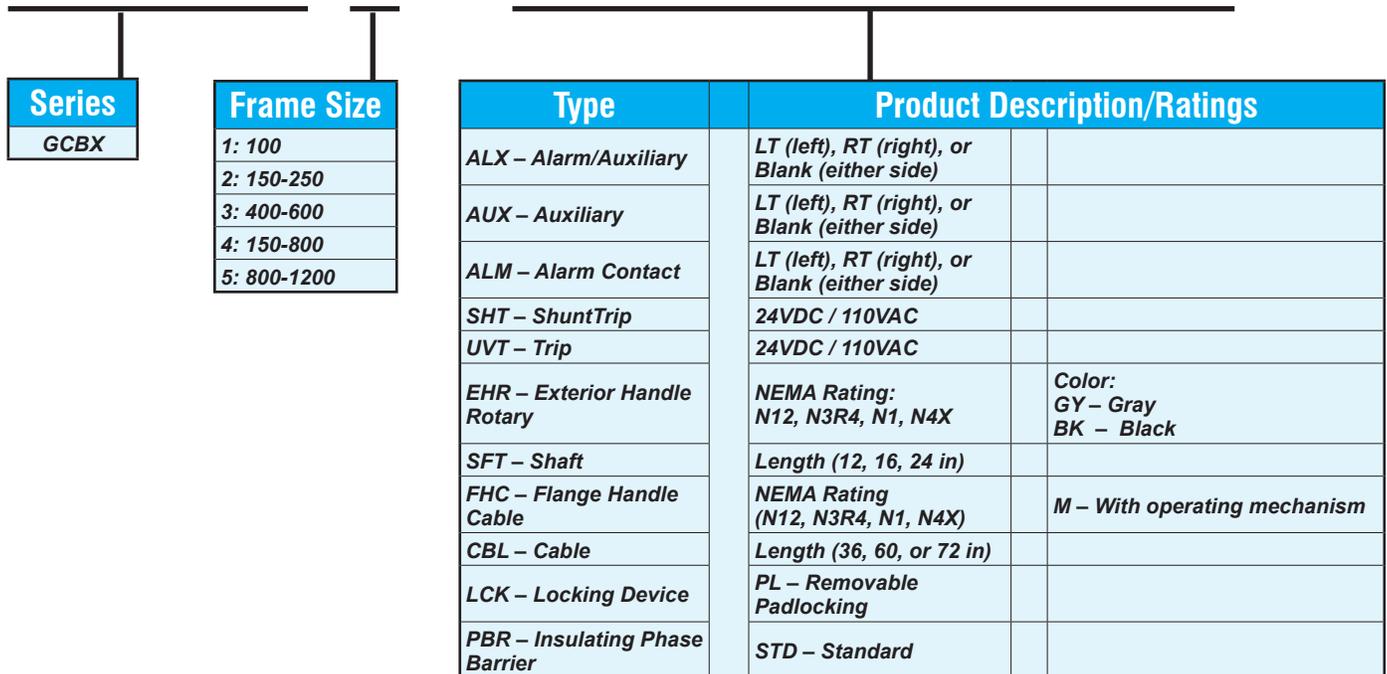
## Gladiator MCCB

# GCB 1200 S - 3 FF 75 LL



## Gladiator MCCB Accessories

# GCBX 1 - AUX - LT - BK



# Gladiator MCCB GCB100 (15-100 A) 2-Pole or 3-Pole



GCB100S-2FF15LL

- HACR rated
- SWD (lighting circuits) switch duty rating (applied only to 15 and 20A / 347VAC or less)
- HID high intensity discharge lighting rating (15-50A / 480VAC or less)
- 40°C [104°F]
- Reverse feed capable
- Includes line and loadside lugs

## Gladiator MCCB GCB100 2-Pole (15-100 A) Selection Guide

Part Number	Price	Frequency	Ampere Rating	Voltage (AC)	Interrupt Capacity (kA)	Voltage (DC)	Interrupt Capacity (kA)	Dimensional Drawing
<a href="#">GCB100S-2FF15LL</a>	\$160.00	50/60 Hz	15	120/240	65	250 (2P)	25	<a href="#">PDF</a>
<a href="#">GCB100S-2FF20LL</a>	\$160.00		20					<a href="#">PDF</a>
<a href="#">GCB100S-2FF25LL</a>	\$160.00		25					<a href="#">PDF</a>
<a href="#">GCB100S-2FF30LL</a>	\$160.00		30	240	65			<a href="#">PDF</a>
<a href="#">GCB100S-2FF40LL</a>	\$160.00		40	480	35			<a href="#">PDF</a>
<a href="#">GCB100S-2FF50LL</a>	\$160.00		50	600Y/347	18			<a href="#">PDF</a>
<a href="#">GCB100S-2FF60LL</a>	\$160.00		60					<a href="#">PDF</a>
<a href="#">GCB100S-2FF70LL</a>	\$160.00		70					<a href="#">PDF</a>
<a href="#">GCB100S-2FF80LL</a>	\$160.00		80	<a href="#">PDF</a>				
<a href="#">GCB100S-2FF90LL</a>	\$160.00		90	<a href="#">PDF</a>				
<a href="#">GCB100S-2FF100LL</a>	\$160.00		100	<a href="#">PDF</a>				

## Gladiator MCCB GCB100 3-Pole (15-100 A) Selection Guide

Part Number	Price	Frequency	Ampere Rating	Voltage (AC)	Interrupt Capacity (kA)	Voltage (DC)	Interrupt Capacity (kA)	Dimensional Drawing
<a href="#">GCB100S-3FF15LL</a>	\$191.00	50/60 Hz	15	120/240	65	250 (2P)	25	<a href="#">PDF</a>
<a href="#">GCB100S-3FF20LL</a>	\$191.00		20					<a href="#">PDF</a>
<a href="#">GCB100S-3FF25LL</a>	\$191.00		25					<a href="#">PDF</a>
<a href="#">GCB100S-3FF30LL</a>	\$191.00		30	240	65			<a href="#">PDF</a>
<a href="#">GCB100S-3FF40LL</a>	\$191.00		40	480	35			<a href="#">PDF</a>
<a href="#">GCB100S-3FF50LL</a>	\$191.00		50	600Y/347	18			<a href="#">PDF</a>
<a href="#">GCB100S-3FF60LL</a>	\$191.00		60					<a href="#">PDF</a>
<a href="#">GCB100S-3FF70LL</a>	\$191.00		70					<a href="#">PDF</a>
<a href="#">GCB100S-3FF80LL</a>	\$191.00		80	<a href="#">PDF</a>				
<a href="#">GCB100S-3FF90LL</a>	\$191.00		90	<a href="#">PDF</a>				
<a href="#">GCB100S-3FF100LL</a>	\$191.00		100	<a href="#">PDF</a>				

# Gladiator MCCB GCB100 (15-100 A)

## 2-Pole or 3-Pole

Gladiator MCCB GCB100 (15-100 A) Specifications			
<b>Maximum Rated Current</b>		100A	100A
<b>Number of Poles</b>		2	3
<b>Breaker Type</b>		S	S
<b>UL489/CSA C22.2</b>		GCB100	GCB100
<b>Interrupting capacity (kA rms) AC (50/60HZ) UL, CSA</b>	<b>120/240 V</b>	65	65
	<b>240VAC</b>	65	65
	<b>480VAC</b>	35	35
	<b>600VAC</b>	–	–
	<b>600Y/347 VAC</b>	18	18
<b>UL489 DC</b>		GCB100	GCB100
<b>Interrupting Capacity (kA) DC UL, CSA</b>	<b>250V DC-2P</b>	25	25
	<b>500V DC-3P</b>	–	35
	<b>600V DC-3P</b>	–	–
<b>IEC 60947-2</b>		GCB100	GCB100
<b>Ultimate Breaking Capacity, (kA rms) AC 50/60Hz, Icu</b>	<b>220/240V</b>	65	65
	<b>380/415V</b>	35	35
	<b>480/500V</b>	–	–
<b>Service Breaking Capacity, Ics (%Icu)</b>		100%	100%
<b>Insulation Voltage, Ui</b>		750VAC	750VAC
<b>Impulse Withstand Voltage, Uimp</b>		8KVAC	8KVAC
<b>Rated Short-Time Withstand Current (Icw)</b>		–	–
<b>Utilization Category</b>		A	A
<b>TRIP UNITS F : Fixed A : Adjustable T : Thermal E : Electronics</b>	<b>Amperes</b>	15-100 A	15-100 A
	<b>ATU</b>	–	–
	<b>FTU</b>	✓	✓
	<b>ETS</b>	–	–
<b>Trip Unit Mounted</b>		✓	✓
<b>Mechanical Lugs</b>		✓	✓
<b>Terminal Shields</b>		–	–
<b>Interphase Barriers</b>		✓	✓
<b>Shunt Trip</b>		✓	✓
<b>Undervoltage Trip</b>		✓	✓
<b>Auxiliary Switch</b>		✓	✓
<b>Alarm Switch</b>		✓	✓
<b>Flange Cable Handle</b>		✓	✓
<b>NEMA-Door-Mounted Operating Mechanisms</b>		✓	✓
<b>Handle Padlock Attachment</b>		✓	✓
<b>Weight (lb [kg])</b>		1.64 [0.74]	2.33 [1.06]

# Gladiator MCCB GCB100 (15-100 A) 2-Pole or 3-Pole – Accessories

Gladiator MCCB GCB100 (15-100 A) Accessories			
Part Number	Price	Description	Dimensional Drawing
<a href="#">GCBX1-ALX-LT</a>	\$12.00	Gladiator field installable alarm/auxiliary contact, left side mount, (2) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, 20in 24AWG lead wires, Auxiliary contact indicates if the MCCB is closed or open/tripped. Alarm contact indicates if the MCCB is tripped.	NA
<a href="#">GCBX1-ALX-RT</a>	\$12.00	Gladiator field installable alarm/auxiliary contact, right side mount, (2) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, 20in 24AWG lead wires, Auxiliary contact indicates if the MCCB is closed or open/tripped. Alarm contact indicates if the MCCB is tripped.	NA
<a href="#">GCBX1-AUX-LT</a>	\$12.00	Gladiator field installable auxiliary contact, left side mount, (1) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, 20in 24AWG lead wires, Auxiliary contact indicates if the MCCB is closed or open/tripped.	NA
<a href="#">GCBX1-AUX-RT</a>	\$12.00	Gladiator field installable auxiliary contact, right side mount, (1) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, 20in 24AWG lead wires, Auxiliary contact indicates if the MCCB is closed or open/tripped.	NA
<a href="#">GCBX1-LCK-PL</a>	\$21.50	Gladiator lockout attachment, 5-8mm (3/16-5/16in) diameter. For locking in the OFF position only. Accepts up to 3 locks.	<a href="#">PDF</a>
<a href="#">GCBX1-SHT-110VAC</a>	\$24.50	Gladiator field installable shunt trip, right side mount, 110-130 VAC/VDC coil voltage, screw terminals.	NA
<a href="#">GCBX1-SHT-24VDC</a>	\$21.50	Gladiator field installable shunt trip, right side mount, 24 VAC/VDC coil voltage, screw terminals.	NA
<a href="#">GCBX1-UVT-110VAC</a>	\$24.50	Gladiator field installable undervoltage trip, right side mount, 110-130 VAC/VDC sensing range, screw terminals.	NA
<a href="#">GCBX1-UVT-24VDC</a>	\$21.50	Gladiator field installable undervoltage trip, right side mount, 24 VAC/VDC sensing range, screw terminals.	NA

[GCBX1-AUX-LT](#)[GCBX1-SHT-24VDC](#)[GCBX1-UVT-24VDC](#)

Gladiator MCCB GCB100 (15-100 A) Flange Handles and Cables			
Part Number	Price	Description	Dimensional Drawing
<a href="#">GCBX1-FHC-N3R4-M</a>	\$233.00	Gladiator flange handle, lever, gray/chrome, external front mount, 2-position, lockable in OFF only, defeatable, NEMA 3/3R/4. Operating mechanism included.	<a href="#">PDF</a>
<a href="#">GCBX1-FHC-N4X-M</a>	\$252.00	Gladiator flange handle, lever, chrome, external front mount, 2-position, lockable in OFF only, defeatable, NEMA 3/4/4X. Operating mechanism included.	<a href="#">PDF</a>
<a href="#">GCBX2-CBL-36</a>	\$57.00	Gladiator cable assembly, 36in [0.91 m]	<a href="#">PDF</a>
<a href="#">GCBX2-CBL-60</a>	\$67.00	Gladiator cable assembly, 60in [1.52 m]	<a href="#">PDF</a>

[GCBX1-FHC-N3R4-M](#)

Gladiator MCCB GCB100 (15-100 A) Rotary Handles and Shafts			
Part Number	Price	Description	Dimensional Drawing
<a href="#">GCBX1-EHR-N12-GY</a>	\$57.00	Gladiator rotary handle, pistol, gray, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 1/12. Operating mechanism included.	<a href="#">PDF</a>
<a href="#">GCBX1-EHR-N3R4-BK</a>	\$63.00	Gladiator rotary handle, pistol, black, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 3/3R/4. Operating mechanism included.	<a href="#">PDF</a>
<a href="#">GCBX1-EHR-N4X-BK</a>	\$71.00	Gladiator rotary handle, pistol, black, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 3/4/4X. Operating mechanism included.	<a href="#">PDF</a>
<a href="#">GCBX1-SFT-12</a>	\$10.50	Gladiator shaft, 12in [0.30 m] length.	<a href="#">PDF</a>
<a href="#">GCBX1-SFT-16</a>	\$11.50	Gladiator shaft, 16in [0.41 m] length.	<a href="#">PDF</a>
<a href="#">GCBX1-SFT-24</a>	\$17.50	Gladiator shaft, 24in [0.61 m] length.	<a href="#">PDF</a>

[GCBX1-EHR-N12-GY](#)[GCBX1-SFT-12](#)[GCBX1-LCK-PL](#)

# Gladiator MCCB Derating Tables (80% Rating)

Gladiator MCCB GCB100 (15-100 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
15	13.1	12.7	12.5	12.4	12.0	11.2	10.3	9.5
20	17.4	17.0	16.7	16.5	16.0	14.9	13.8	12.6
25	21.8	21.2	20.9	20.6	20.0	18.6	17.2	15.8
30	26.2	25.4	25.1	24.7	24.0	22.3	20.6	19.0
35	30.5	29.7	29.3	28.8	28.0	26.0	24.1	22.1
40	34.9	33.9	33.4	33.0	32.0	29.8	27.5	25.3
45	39.2	38.2	37.6	37.1	36.0	33.5	31.0	28.4
50	43.6	42.4	41.8	41.2	40.0	37.2	34.4	31.6
60	52.3	50.9	50.2	49.4	48.0	44.6	41.3	37.9
70	61.0	59.4	58.5	57.7	56.0	52.1	48.2	44.2
80	69.8	67.8	66.9	65.9	64.0	59.5	55.0	50.6
90	78.5	76.3	75.2	74.2	72.0	67.0	61.9	56.9
100	87.2	84.8	83.6	82.4	80.0	74.4	68.8	63.2

Gladiator MCCB GCB150 (40-150 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
40	36.8	35.2	34.4	33.6	32.0	30.1	28.2	26.2
50	46.0	44.0	43.0	42.0	40.0	37.6	35.2	32.8
60	55.2	52.8	51.6	50.4	48.0	45.1	42.2	39.4
70	64.4	61.6	60.2	58.8	56.0	52.6	49.3	45.9
80	73.6	70.4	68.8	67.2	64.0	60.2	56.3	52.5
90	82.8	79.2	77.4	75.6	72.0	67.7	63.4	59.0
100	92.0	88.0	86.0	84.0	80.0	75.2	70.4	65.6
110	101.2	96.8	94.6	92.4	88.0	82.7	77.4	72.2
125	115.0	110.0	107.5	105.0	100.0	94.0	88.0	82.0
150	138.0	132.0	129.0	126.0	120.0	112.8	105.6	98.4

Gladiator MCCB GCB250 (150-250 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
150	138.0	132.0	129.0	126.0	120.0	106.8	93.6	80.4
160	147.2	140.8	137.6	134.4	128.0	113.9	99.8	85.8
175	161.0	154.0	150.5	147.0	140.0	124.6	109.2	93.8
200	184.0	176.0	172.0	168.0	160.0	142.4	124.8	107.2
225	207.0	198.0	193.5	189.0	180.0	160.2	140.4	120.6
250	230.0	220.0	215.0	210.0	200.0	178.0	156.0	134.0

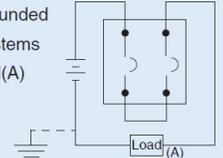
Gladiator MCCB GCB400 (250-400 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
250	218.0	212.0	209.0	206.0	200.0	172.0	144.0	116.0
300	261.6	254.4	250.8	247.2	240.0	206.4	172.8	139.2
350	305.2	296.8	292.6	288.4	280.0	240.8	201.6	162.4
400	348.8	339.2	334.4	329.6	320.0	275.2	230.4	185.6

Gladiator MCCB GCB600 (500-600 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
500	436.0	424.0	418.0	412.0	400.0	344.0	288.0	232.0
600	523.2	508.8	501.6	494.4	480.0	412.8	345.6	278.4

## Circuit Diagrams For DC Applications

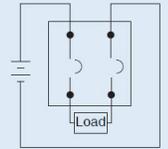
### 250VDC, 2P in Series

Suitable for use on ungrounded systems, or grounded systems that have one end of load(A) connected to grounded terminal, opposite poles in series connection.



A. Grounded System

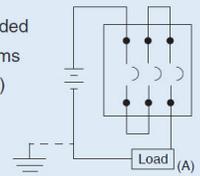
Suitable for use on ungrounded systems only



B. Ungrounded System

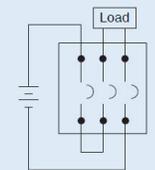
### 500VDC or 600VDC, 3P in Series

Suitable for use on ungrounded systems, or grounded systems that have one end of load(A) connected to grounded terminal, opposite poles in series connection.



A. Grounded System

Suitable for use on ungrounded systems only



B. Ungrounded System

**NOTE:** GCB800 and GCB1200 models have an electronic trip unit, so derating is not necessary.

# Gladiator MCCB Mechanical Lugs

Gladiator MCCB circuit breakers come standard with mechanical line and load side lugs. All lugs are UL/cUL Listed Certified for their proper application and marked for use with aluminum and copper (Al/Cu) or copper only (Cu) conductors. Lugs suitable for copper and aluminum conductors are made of tin-plated aluminum. Mechanical lugs are sold factory-installed only. Lugs are rated for 60/75°C [140/167°F] wire.



- Lug type (catalog number)
- Cable size
- Standard mark

## Mechanical Lug Kits For GCB100 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
100TE	Aluminum	Cu 60°C [140°F]	15-30	14-10	3.6 [31.9]
			40	8	4.5 [39.8]
			50-80	6-3	5.4 [47.8]
			90-100	2-1	6.3 [55.8]
		Cu 75°C [167°F]	15-30	14-10	3.6 [31.9]
			40-50	8	4.5 [39.8]
			60-100	6-3	5.4 [47.8]
			Al 60°C [140°F]	40-60	6-3
		Al 75°C [167°F]	70-80	2-1	6.3 [55.8]
			50-70	6-3	5.4 [47.8]
			80-100	2-1/0	6.3 [55.8]



## Mechanical Lug Kits For GCB400 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
400TS	Aluminum	Cu/Al	250	1/0 AWG - 300kcmil	40.5 [358.5]
			300		
		Cu/Al	350	350-600 kcmil	54 [478]
			Al	400	700-750 kcmil



## Mechanical Lug Kits For GCB600 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
600TS	Aluminum	Cu	500 600	2/0 - 350kcmil	40.5 [358.5]
				3/0 - 500kcmil	
		Al*	500 600	3/0 - 500kcmil	40.5 [358.5]



\* Compact wire only (400-500 kcmil)

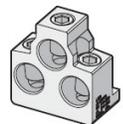
## Mechanical Lug Kits For GCB150 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
150TS	Aluminum	Cu	1.6-15	14	4.1 [36.2]
			20-30	12-10	5.4 [47.8]
			40-175	8-2/0	15.1 [133.6]
		Al	50-70	6-3	5.4 [47.8]
			90-150	2-3/0	15.7 [138.6]



## Mechanical Lug Kits For GCB800 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
800TS	Aluminum	Cu	400 600 630 800	3/0 - 300kcmil	45 [398.3]
				3/0 - 400kcmil	
		Al*	400 600 630 800	3/0 - 400kcmil	45 [398.3]



\* Compact wire only (350-400 kcmil)

## Mechanical Lug Kits For GCB250 Circuit Breakers

Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
250TS	Aluminum	Cu	150-175	1/0-2/0	32 [283.2]
				3/0-4/0	
		Cu/Al	200-225	250-300 kcmil	44 [389.4]
				250 (Cu)	
		Al	250	350 kcmil	44 [389.4]



## Mechanical Lug Kits For GCB1200 Circuit Breakers

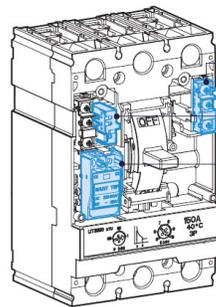
Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
1200TS	Aluminum	Cu	800 1000 1200	3/0 - 350kcmil	45 [398.3]
				3/0 - 500kcmil	
		Al*	800 1000 1200	3/0 - 500kcmil	45 [398.3]



\* Compact wire only (400-500 kcmil)

# Gladiator MCCB Internal Accessories

Field-installable accessories provide flexibility for installation at the point of use. Auxiliary switches, alarm switches, shunt trip, and undervoltage release accessories are easy to install, reliable, and common to all Gladiator molded case circuit breakers. The internal accessories comply with requirements of Underwriters Laboratories® Inc. UL 489 Standards.



- Auxiliary Switch (AX)
- Alarm Switch (AL)
- Undervoltage trip (UVT) or Shunt Trip (SHT)

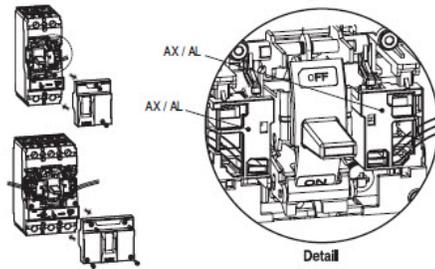
Gladiator MCCB Internal Accessories				
Frame	Internal Accessories Locations	Type	Left (R)	Right (T)
GCB100	<p>* 2P : Right only</p> <ul style="list-style-type: none"> <li>• AX or AL or AX+AL</li> <li>• UVT or SHT or AX or AL or AX+AL</li> </ul>	AX	1*	1*
		AL	1*	1*
		AX+AL	1*	1*
		SHT	-	1*
		UVT	-	1*
GCB150 GCB250	<ul style="list-style-type: none"> <li>• AX</li> <li>• AX</li> <li>• AL</li> <li>• UVT or SHT</li> </ul>	AX	1	1
		AL	1	-
		SHT	1*	-
		UVT	1*	-
GCB400 GCB600	<ul style="list-style-type: none"> <li>• AX</li> <li>• AL</li> <li>• UVT or SHT</li> </ul>	AX	3	-
		AL	-	1
		SHT	1*	-
		UVT	1*	-
GCB800 GCB1200	<ul style="list-style-type: none"> <li>• AX</li> <li>• AL</li> <li>• UVT or SHT</li> </ul>	AX	-	3
		AL	-	1
		SHT	-	1*
		UVT	-	1*

\* Only one part can be installed in a designated place.

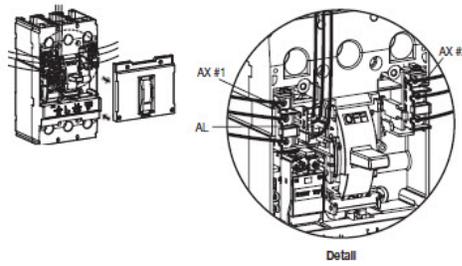
# Gladiator MCCB Internal Accessories

Electrical accessories are fitted with numbered terminal blocks for wires. Auxiliary circuit wiring exits fixed mounted devices through a knock-out in the front cover. The internal accessories comply with requirements of Underwriters Laboratories® Inc.

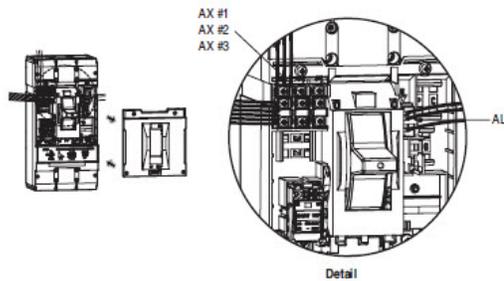
UL 489 Standards



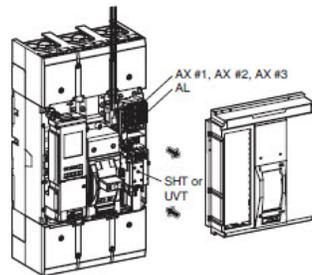
**GCB100**



**GCB150 / 250**



**GCB400 / 600**



**GCB800 / 1200**



**GCBX1-AUX-LT**



**GCBX4-AUX**



**GCBX4-ALM**



**GCBX5-ALM**

### Auxiliary Switch (AX) and Alarm Switch (AL)

Auxiliary switches provide remote information of the circuit breaker status and can be used for indications, electrical locking, relays, etc. Includes both an Auxiliary switch (AX) and an Alarm Switch (AL). See definitions of each below.

#### Auxiliary Switch (AX)

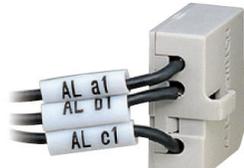
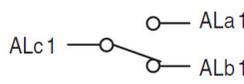
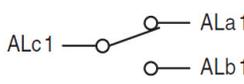
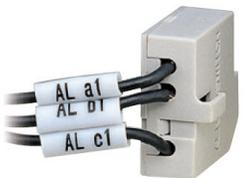
Indicates the position of the circuit breaker contacts (Open/Closed Auxiliary switch is for applications requiring remote "ON" and "OFF" indication). Each switch contains two contacts having a common connection. One is open and the other closed when the circuit breaker is open, and vice-versa.

Gladiator MCCB Auxiliary Switch AX Connections				
AX	Frame	Wire Size	On	Off / Trip
	GCB100	24 AWG (0.2 mm <sup>2</sup> )		
	GCB150 GCB250 GCB400 GCB600	20 AWG (0.52 mm <sup>2</sup> )		
	GCB800 GCB1200	19-16 AWG (0.65 - 1.31 mm <sup>2</sup> )		

# Gladiator MCCB Internal Accessories

## Alarm Switch (AL)

Alarm switches indicate that the circuit breaker has tripped due to an overload, short circuit, shunt trip, undervoltage trip, or the “push-to-trip” button. They are particularly useful in automated plants where operators must be signaled about changes in the electrical distribution system. This switch features a closed contact when the circuit breaker is tripped automatically. In other words, this switch does not function when the breaker is operated manually. Its contact is open when the circuit breaker is reset.

Gladiator MCCB Alarm Switch (AL) Connections				
AL	Frame	Wire Size	On / Off	Trip
	GCB100	24 AWG (0.2 mm <sup>2</sup> ) 75°C [167°F]		
	GCB150 GCB250 GCB400 GCB600	26 AWG (0.13 mm <sup>2</sup> ) 75°C [167°F]		
	GCB800 GCB1200	19-16 AWG (0.65 - 1.31 mm <sup>2</sup> ) 90°C [194°F]		

UL Technical Specs				
Part Number	UL Max. Voltage	Frequency (Hz)	UL Max Current (DC)	UL Max Current (AC)
<a href="#">GCBX1-AUX-LT</a>	250V	60	0.2 A	3A (resistive load) / 2A (inductive load)
<a href="#">GCBX1-AUX-RT</a>				
<a href="#">GCBX1-ALX-LT</a>				
<a href="#">GCBX1-ALX-RT</a>				
<a href="#">GCBX4-AUX</a>				
<a href="#">GCBX4-ALM</a>				
<a href="#">GCBX5-AUX</a>				
<a href="#">GCBX5-ALM</a>				

## Trip Unit Replacement Battery

Gladiator Trip Unit Replacement Battery			
Part Number	Price	Description	Drawing
<a href="#">GCBX5-BATT</a>	\$18.00	Gladiator trip unit replacement battery, for use with GCB800 and GCB1200 molded case circuit breakers.	NA



[GCBX5-BATT](#)

Gladiator Trip Unit Replacement Battery	
<b>Nominal Capacity (at 1mA, 20°C [68°F], 2.0 V cut-off)</b>	1.2 Ah
<b>Nominal Voltage</b>	3.6 V
<b>Maximum Recommended Continuous Current</b>	30mA
<b>Maximum Pulse Current Capability</b>	60mA
<b>Operating Temperature Range</b>	-55 to +85°C [-67 to 185°F]
<b>Lithium Metal Content</b>	Approx. 0.3 g
<b>Weight</b>	9g [0.32 oz]
<b>Volume</b>	4.3 cm <sup>3</sup>

Note: Maximum Pulse Capability reading over 3.0 V at 60mA: 0.1 sec every 2 min at 20°C [68°F], 10uA/cm<sup>2</sup> base current with fresh batteries. The pulse capability can be different depending on the cell status and environment. For maximum pulse coverage, capacitor support is recommended.

# Gladiator MCCB Internal Accessories

## Shunt Trip (SHT) and Undervoltage Trip (UVT) Switches

A voltage release can be used to trip the circuit breaker via a control signal.

### Shunt Trip (SHT)

The shunt trip opens the mechanism in response to an externally applied voltage signal. The releases include coil clearing contacts that automatically clear the signal circuit when the mechanism has tripped.

Gladiator MCCB GCB100 SHT Technical Specifications				
Control Voltage $U_e$		Power Consumption		
		AC (VA)	DC (W)	mA
Voltage	AC/DC 12V	0.35	0.36	30
	AC/DC 24V	0.64	0.65	27
	AC/DC 48V	1.09	1.1	23
	AC/DC 60V	1.2	1.22	20
	AC/DC 100-130V	0.73	0.75	5.8
	AC/DC 200-250V	1.21	1.35	5.4
	AC 380-450V	1.67	-	3.8
	AC 440~500V	1.68	-	3.5
Maximum Opening Time		50ms maximum		
Terminal Screw Tightening Torque		7.12 lb•in [0.8 N•m]		
Operating Voltage Range		AC : 0.7-1.1 (rated voltage), DC : 0.8-1.1 (rated voltage)		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		20 AWG (0.52 mm <sup>2</sup> )		



Gladiator MCCB GCB150/250/400/600 SHT Technical Specifications				
Control Voltage $U_e$		Power Consumption		
		AC (VA)	DC (W)	mA
Voltage	DC 12V	-	0.36	30
	AC/DC 24V	0.58	0.58	24
	AC/DC 48V	1.22	1.23	25
	AC/DC 100-130V	1.36	1.37	10.5
	AC 220-240 V	1.8	1.88	7.5
	DC 250V			
	AC 380-500 V	1.15	-	2.3
Maximum Opening Time		50ms maximum		
Terminal Screw Tightening Torque		7.12 lb•in [0.8 N•m]		
Operating Voltage Range		AC : 0.7-1.1 (rated voltage), DC : 0.8-1.1 (rated voltage)		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		20 AWG (0.52 mm <sup>2</sup> )		



Gladiator MCCB GCB800/1200 SHT Technical Specifications				
Control Voltage $U_e$		Operating Voltage Range	Power Consumption (VA or W)	
			Inrush	Steady-State
Voltage	DC 24-30 V	0.6 - 1.1 $V_n$	200	5
	AC 48V DC 48-60 V			
	AC/DC 100-130 V	0.56 - 1.1 $V_n$		
	AC/DC 200-250 V			
	AC 380-480V			
Maximum Opening Time		40ms maximum		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		16 AWG (1.31mm <sup>2</sup> ) - 14 AWG (2.08mm <sup>2</sup> )		



# Gladiator MCCB Internal Accessories

## Undervoltage Trip (UVT)

The undervoltage release automatically opens a circuit breaker when voltage drops to a value less than the line voltage. The operation is instantaneous, and after tripping, the circuit breaker cannot be re-closed again until the voltage returns to a recover value of line voltage. Continuously energized, the undervoltage release must be operating before the circuit breaker can be closed.

Gladiator MCCB GCB100 UVT Technical Specifications				
Control Voltage $U_e$		Power Consumption		
		AC (VA)	DC (W)	mA
Voltage	AC/DC 24V	0.64	0.65	27
	AC/DC 48V	1.09	1.1	23
	AC/DC 100-110 V	0.73	0.75	5.8
	AC/DC 200-220 V	1.21	1.35	5.4
	AC 380-440 V	1.67	-	3.8
	AC 440~480 V	1.68	-	3.5
Maximum Opening Time		50ms maximum		
Terminal Screw Tightening Torque		7.12 lb•in [0.8 N•m]		
Operating Voltage Range	Trip	0.2 - 0.7 (rated voltage)		
	Reset/Closing	≥ 0.85 (rated voltage)		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		20 AWG (0.52 mm <sup>2</sup> )		



Gladiator MCCB GCB150/250/400/600 UVT Technical Specifications				
Control Voltage $U_e$		Power Consumption		
		AC (VA)	DC (W)	mA
Voltage	AC/DC 24V	0.64	0.65	27
	AC/DC 48V	1.09	1.1	23
	AC/DC 110-130 V	0.73	0.75	5.8
	AC 220-240 V DC 250V	1.21	1.35	5.4
	AC 380-440 V	1.67	-	3.8
	AC 440~480 V	1.68	-	3.5
Maximum Opening Time		50ms maximum		
Terminal Screw Tightening Torque		7.12 lb•in [0.8 N•m]		
Operating Voltage Range	Trip	0.35 - 0.7 (rated voltage)		
	Reset/Closing	≥ 0.85 (rated voltage)		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		20 AWG (0.52 mm <sup>2</sup> )		



Gladiator MCCB GCB800/1200 UVT Technical Specifications				
Control Voltage $U_e$		Power Consumption (VA or W)		
		Inrush	Steady-State	Maximum Opening Time
Voltage	DC 24-30 V	200	5	50ms
	AC 48V DC 48-60 V			
	AC/DC 100-130 V			
	AC/DC 200-250 V			
	AC 380-480 V			
Operating Voltage Range	Trip	0.44-0.6 (rated voltage)		
	Reset/Closing	0.65-0.85 (rated voltage)		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		16 AWG (1.31 mm <sup>2</sup> ) - 14 AWG (2.08 mm <sup>2</sup> )		

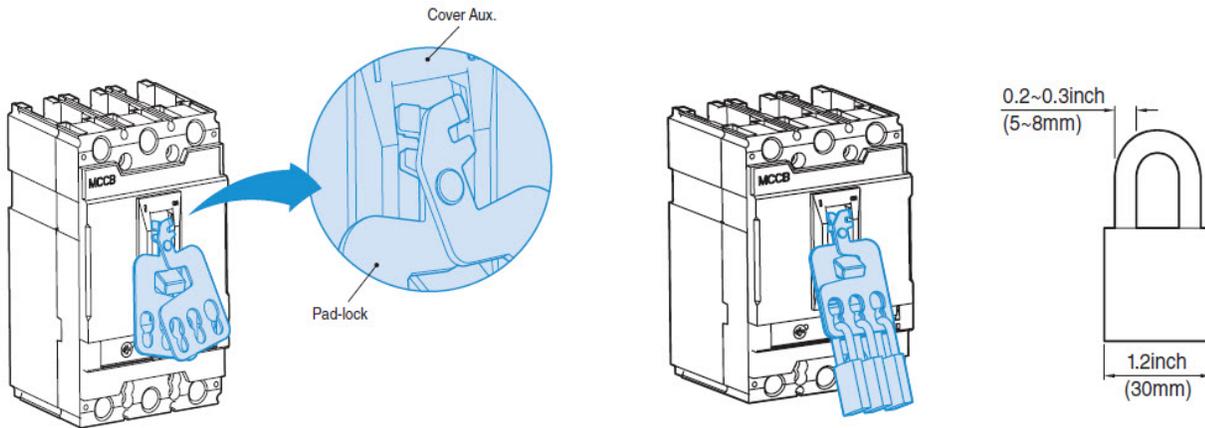


# Gladiator MCCB Locking Systems Overview

## Padlocking Device

A padlocking device is available for GCB100 to GCB1200 circuit breakers. The locking device is designed to be easily attached to the circuit breaker. This device allows the handle to be locked in the "OFF" position. A maximum of three (3) padlocks with shackle diameters of 0.19 to 0.31 in (5 to 8mm) may be used. Padlocks are not included.

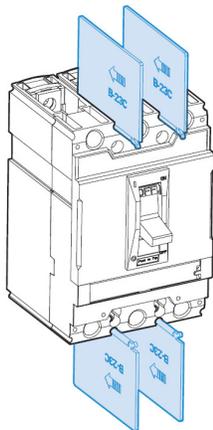
Gladiator MCCB Padlocking Device Technical Specifications		
Description	Use With	Function
<a href="#"><u>GCBX1-LCK-PL</u></a>	GCB100	Lock in "OFF" position
<a href="#"><u>GCBX2-LCK-PL</u></a>	GCB150/250	
<a href="#"><u>GCBX3-LCK-PL</u></a>	GCB400/600	
<a href="#"><u>GCBX5-LCK-PL</u></a>	GCB800/1200	



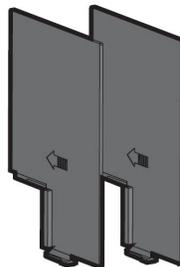
## Insulation Barrier

These barriers are insulated between the phases for an increased insulation level. The barriers can be easily installed, even on breakers that are already mounted, by inserting them into the corresponding slots. They are incompatible with the insulating terminal covers. It is possible to mount the phase separating partitions between two side-by-side circuit breakers.

Gladiator MCCB Insulation Barrier Technical Specifications		
Description	Use With	Poles
<a href="#"><u>GCBX2-PBR-STD</u></a>	GCB150/250	3P
<a href="#"><u>GCBX3-PBR-STD</u></a>	GCB400/600	3P
<a href="#"><u>GCBX5-PBR-STD</u></a>	GCB800/1200	3P



Standard Type



Standard Type [GCBX5-PBR-STD](#)

# Gladiator MCCB Door-Mounted Rotary Handles

## NEMA Door-Mounted Rotary Handles

The extended rotary operating handle consists of the following:

- A mounting plate that provides a rotary actuator for a standard toggle circuit breaker
- Handle assemblies available for NEMA Type 1, 12, 3, 3R, 4, 4X
- Available in standard or long (12-24 in) handle assemblies

The door mounted operating handle makes it possible to operate circuit breakers installed in enclosure from the front.

- Indication of three positions: I (ON), Tripped and O (OFF): NEMA Type 1, 12
- Provides ON (I) and OFF (O) indication : NEMA Type 3, 3R, 4, 4X
- The circuit breaker may be locked in either the ON or OFF position

## Models

- Standard with dark gray handle (NEMA Type 1, 12)
- Outdoor with black handle (NEMA Type 3, 3R, 4, 4X)
- Field-installable (secured by screws)

GCB100	GCB150/250	GCB400/600	GCB800/1200
<a href="#">GCBX1-EHR-N12-GY</a>	<a href="#">GCBX2-EHR-N12-GY</a>	<a href="#">GCBX3-EHR-N12-GY</a>	<a href="#">GCBX5-EHR-N12-GY</a>
<a href="#">GCBX1-EHR-N3R4-BK</a>	<a href="#">GCBX2-EHR-N3R4-BK</a>	<a href="#">GCBX3-EHR-N3R4-BK</a>	<a href="#">GCBX5-EHR-N3R4-BK</a>
<a href="#">GCBX1-EHR-N4X-BK</a>	<a href="#">GCBX2-EHR-N4X-BK</a>	<a href="#">GCBX3-EHR-N4X-BK</a>	<a href="#">GCBX5-EHR-N4X-BK</a>

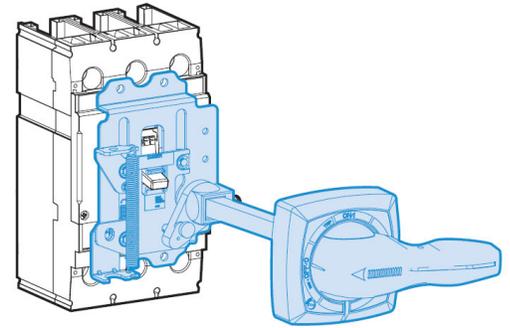
The shaft length is the distance between the back of the circuit breaker and door:

- Minimum mounting depth is 5.51 in [140mm] in GCB100
- Minimum shaft length is 12 in. [305mm] with long shaft
- Minimum shaft length is 24 in. [600mm] with long shaft
- Extended shaft length must be adjusted

*Note: Rotary handles (EHR) include external operating handle and internal operating mechanism. Shafts (SFT) are sold separately.*

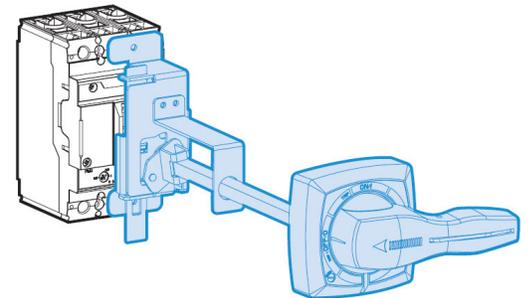
## Standards

- The door-mounted rotary operating handle is UL Listed under file E509077
- Degree of protection NEMA Type 1, 12, 3, 3R, 4, 4X



**Door-Mounted Rotary Operating Handle**

- [GCBX2-EHR-N12-GY](#)
- [GCBX3-EHR-N12-GY](#)
- [GCBX5-EHR-N12-GY](#)
- [GCBX2-EHR-N3R4-BK](#)
- [GCBX3-EHR-N3R4-BK](#)
- [GCBX5-EHR-N3R4-BK](#)
- [GCBX2-EHR-N4X-BK](#)
- [GCBX3-EHR-N4X-BK](#)
- [GCBX5-EHR-N4X-BK](#)



**Door-Mounted Rotary Operating Handle**

- [GCBX1-EHR-N12-GY](#)
- [GCBX1-EHR-N3R4-BK](#)
- [GCBX1-EHR-N4X-BK](#)

# Gladiator MCCB Flange Handles With Sliding Operating Mechanism

## Flange Handle With Sliding Operating Mechanism

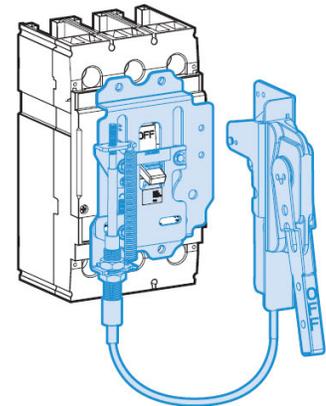
Flange handle with sliding operating mechanism is for use with a cable assembly.

The cable operator maintains:

- Suitability for isolation
- Indication of two positions: O (OFF) and I (ON)
- The circuit breaker can be locked in the off position by one to three padlocks
- Door can be locked closed due to interlocking features of the handle operator

Handle is mounted on flange of enclosure using specified mounting dimensions while circuit breaker and operating mechanism are mounted to inside of enclosure using screws.

- Handles are available in NEMA Type 1, 12, 3, 3R, 4 and NEMA Type 4, 4x
- All circuit breaker operating mechanisms are suitable for right-hand flange mounting on the job



**Flange Handle With Sliding Operating Mechanism**

GCBX2-FHC-N3R4-M  
GCBX2-FHC-N4X-M

## Models

- Standard with painted handle (NEMA Type 1, 12, 3, 3R, 4)
- Outdoor with nickel-plated handle (NEMA Type 4, 4X)
- Field installable (secured by screws)

GCB100	GCB150/250	GCB400/600	GCB800/1200
-	<u>GCBX2-FHC-N3R4-M</u> <u>GCBX2-FHC-N4X-M</u>	<u>GCBX3-FHC-N3R4-M</u> <u>GCBX3-FHC-N4X-M</u>	-

Standard type handle (NEMA Type 1, 12, 3, 3R, 4) with sliding mechanism and without cable

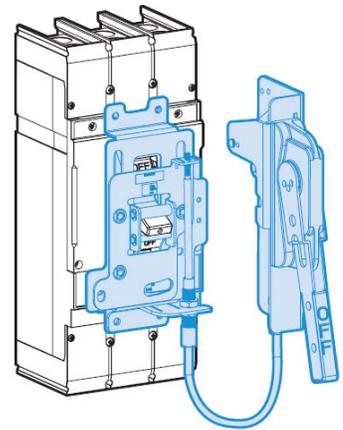
Outdoor type handle (NEMA Type 4, 4X) with sliding mechanism and without cable

- Cable lengths available in 36in to 60in

*Note: Flange handles (FHC) include external operating handle and internal operating mechanism. Cables (CBL) are sold separately.*

## Standards

- Flange cable operating handle is UL Listed under file E509077
- Degree of protection NEMA Type 1, 12, 3, 3R, 4, 4X



**Flange Handle With Sliding Operating Mechanism**

GCBX3-FHC-N3R4-M  
GCBX3-FHC-N4X-M

# Gladiator MCCB Flange Handles With Flange-Mounted Cable Operating Mechanism

## Flange-Mounted Cable Operating Mechanism

Flange-mounted handle cable operating mechanism is for use with FH or COM Type handle operators especially designed for tall, deep enclosures where placement flexibility is required.

The cable operator maintains:

- Suitability for isolation
- Indication of two positions: O (OFF) and I (ON)
- The circuit breaker may be locked in the off position by one to three padlocks
- Door can be locked closed due to interlocking features of the handle operator

Handle is mounted on flange of enclosure using specified mounting dimensions while circuit breaker and operating mechanism are mounted to inside of enclosure using screws.

- Handles are available in COM and FHU NEMA Type 1,12, 3, 3R, 4 and FHX NEMA Type 4, 4x
- All circuit breaker operating mechanisms are suitable for right-hand flange mounting on the job.

## Models

- Standard with painted handle (NEMA Type 1,12, 3, 3R, 4): FHU
- Outdoor with nickel-plated handle (NEMA Type 4, 4X): FHX
- Field installable (secured by screws)

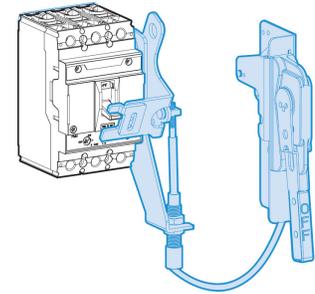
GCB100	GCB150/250	GCB400/600	GCB800/1200
<a href="#">GCBX1-FHC-N3R4-M</a> <a href="#">GCBX1-FHC-N4X-M</a>	<a href="#">GCBX1-FHC-N3R4-M</a> <a href="#">GCBX1-FHC-N4X-M</a>	<a href="#">GCBX5-FHC-N3R4-M</a> <a href="#">GCBX5-FHC-N4X-M</a>	<a href="#">GCBX5-FHC-N3R4-M</a> <a href="#">GCBX5-FHC-N4X-M</a>

Cable Length (in [m])	GCB100/150/250	GCB400/600	GCB800/1200
36 [0.91]	<a href="#">GCBX2-CBL-36</a>	<a href="#">GCBX3-CBL-36</a>	-
60 [1.52]	<a href="#">GCBX2-CBL-60</a>	<a href="#">GCBX3-CBL-60</a>	<a href="#">GCBX5-CBL-60</a>

Note: Flange handles (FHC) include external operating handle and internal operating mechanism. Cables (CBL) are sold separately.

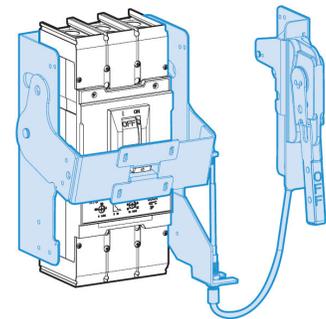
## Standards

- Flange cable operating handle is UL Listed under file E509077
- NEMA Type 1, 12, 3, 3R, 4, 4X



**Flange Handle With Cable Operating Mechanism**

[GCBX1-FHC-N3R4-M](#)  
[GCBX1-FHC-N4X-M](#)



**Handle With Cable and Cable Operating Mechanism**

[GCBX5-FHC-N3R4-M](#)  
[GCBX5-FHC-N4X-M](#)

## Cable

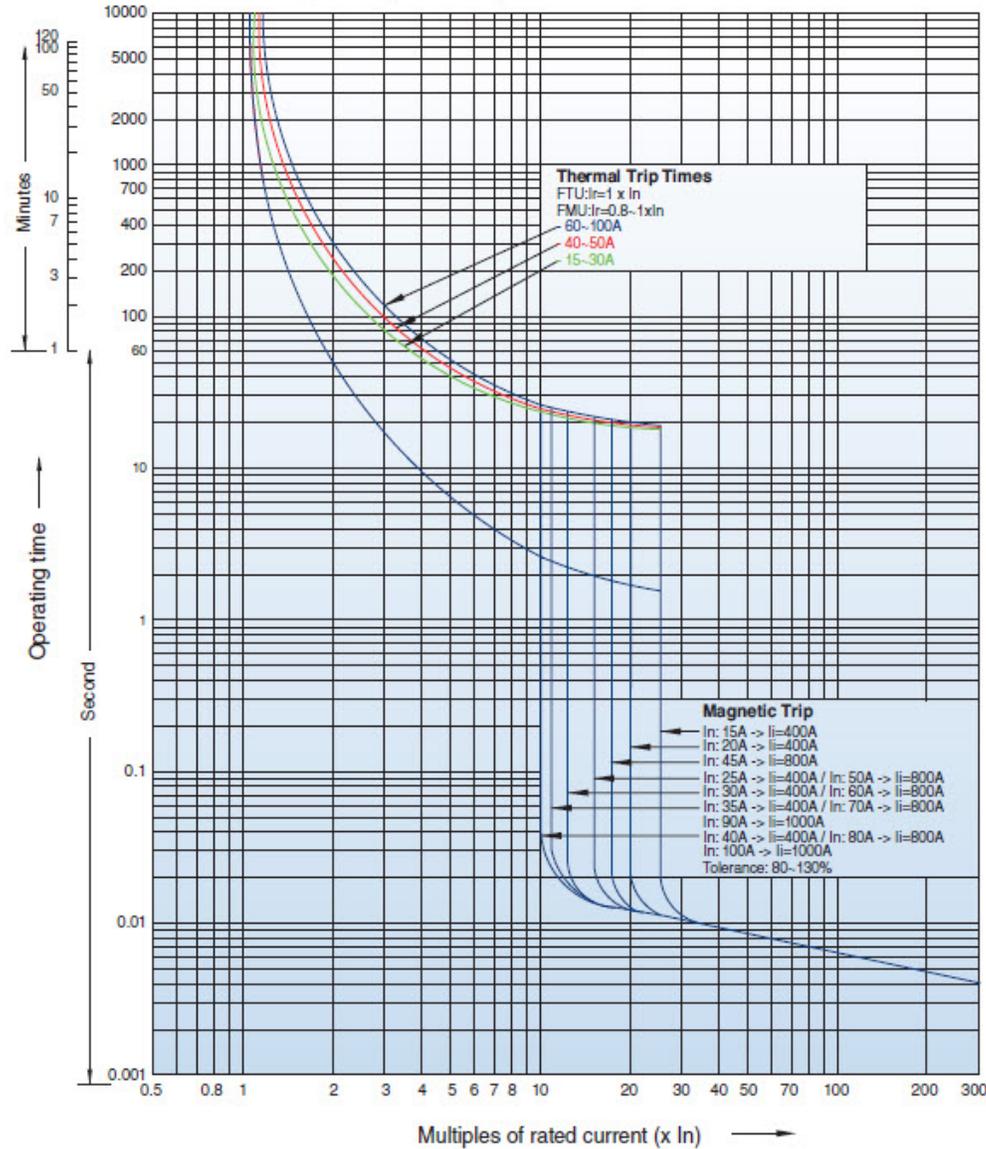


[GCBX2-CBL-36](#)  
[GCBX2-CBL-60](#)  
[GCBX3-CBL-36](#)  
[GCBX3-CBL-60](#)  
[GCBX5-CBL-60](#)

# Gladiator MCCB Characteristic Curves

## GCB100 (FTU – Fixed Trip Units)

All time/current characteristic curve data is based on 40°C ambient cold start.



Rating	FTU	
	2P/3P	Mag Trip (80% - 130%) (A)
15	✓ / ✓	400
20	✓ / ✓	
25	✓ / ✓	
30	✓ / ✓	
35	✓ / ✓	
40	✓ / ✓	
45	✓ / ✓	800
50	✓ / ✓	
60	✓ / ✓	
70	✓ / ✓	
80	✓ / ✓	1000
90	✓ / ✓	
100	✓ / ✓	