

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

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

Wide Range of Accessories

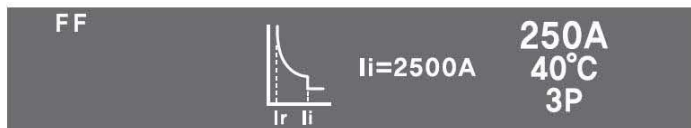
- Electrical auxiliaries (AUX, ALX, ALM, UVT, SHT)
- Extended rotary handle
- Flange handle with flexible cable and linkage
- Locking devices
- LUG for CU/AL cable with UL486



UL file E503708 MCCB
UL file E509077 Accessories

FF

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



AA

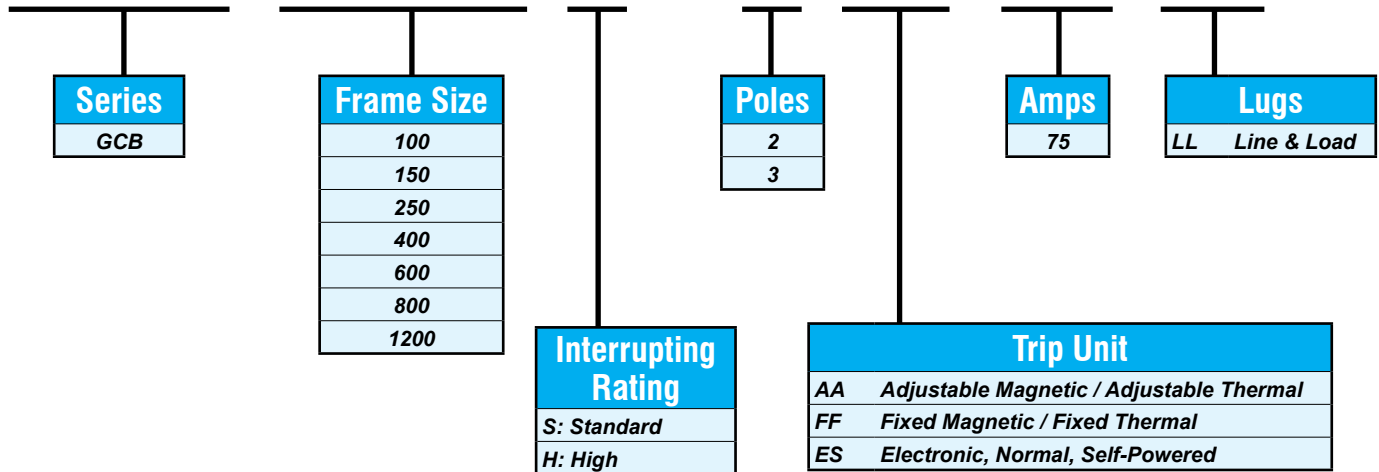
Adjustable Thermal: 100A to 600A
Adjustable Magnetic: 500A to 6000A



Gladiator MCCB Part Number Nomenclature

Gladiator MCCB

GCB 1200 S - 3 FF 75 LL



Gladiator MCCB Accessories

GCBX 1 - AUX - LT - BK

Series	Frame Size	Type	Product Description/Ratings		
GCBX	1: 100 2: 150-250 3: 400-600 4: 150-800 5: 800-1200	ALX – Alarm/Auxiliary	LT (left), RT (right), or Blank (either side)		
		AUX – Auxiliary	LT (left), RT (right), or Blank (either side)		
		ALM – Alarm Contact	LT (left), RT (right), or Blank (either side)		
		SHT – Shunt Trip	24VDC / 110VAC		
		UVT – Trip	24VDC / 110VAC		
		EHR – Exterior Handle Rotary	NEMA Rating: N12, N3R4, N1, N4X	Color: GY – Gray BK – Black	
		SFT – Shaft	Length (12, 16, 24 in)		
		FHC – Flange Handle Cable	NEMA Rating (N12, N3R4, N1, N4X)	M – With operating mechanism	
		CBL – Cable	Length (36, 60, or 72 in)		
		LCK – Locking Device	PL – Removable Padlocking		
		PBR – Insulating Phase Barrier	STD – Standard		

Gladiator MCCB GCB1200 (1200A) 3-Pole



GCB1200S-3ES1200LL



GCB1200H-3ES1200LL

- HACR rated
- 40°C [104°F]
- Self-powered electronic trip unit
- Reverse feed capable
- Includes line and loadside lugs

Gladiator MCCB GCB1200 3-Pole (1200A) Selection Guide								
Part Number	Price	Frequency	Ampere Rating	Voltage (AC)	Interrupt Capacity (kA)	Voltage (DC)	Interrupt Capacity (kA)	Dimensional Drawing
<u>GCB1200S-3ES1200LL</u>	\$2,489.00	50/60 Hz	1200	240	50	—	—	PDF
				480	35			
				600	18			
<u>GCB1200H-3ES1200LL</u>	\$2,985.00		1200	240	100	—	—	PDF
				480	65			
				600	25			

Gladiator MCCB GCB1200 (1200A)

3-Pole

Gladiator MCCB GCB1200 3-Pole (1200A) Specifications				
Maximum Rated Current		1200A		
Number of Poles		3		3
Breaker Type		S		H
UL489/CSA C22.2		GCB1200		
Interrupting capacity (kA rms) AC(50/60HZ) UL, CSA	120/240 V	–		–
	240VAC	50		100
	480VAC	35		65
	600VAC	18		25
	600Y/347 VAC	–		–
UL489 DC		GCB1200		
Interrupting Capacity (kA) DC UL, CSA	250V DC-2P	–		–
	500V DC-3P	–		–
	600V DC-3P	–		–
IEC 60947-2		GCB1200		
Ultimate Breaking Capacity, (kA rms) AC 50/60Hz, Icu	220/240V	50		100
	380/415V	35		65
	480/500V	25		35
Service Breaking Capacity, Ics (%Icu)		100%		100%
Insulation Voltage, Ui		1000VAC		1000VAC
Impulse Withstand Voltage, Uimp		8KVAC		8KVAC
Rated Short-Time Withstand Current (Icw)		25KA		–
Utilization Category		B		A
TRIP UNITS F : Fixed A : Adjustable T : Thermal E : Electronics	Amperes	1200A		1200A
	ATU	–		–
	FTU	–		–
	ETS	✓		✓
Trip Unit Mounted		✓		✓
Mechanical Lugs		✓		✓
Terminal Shields		✓		✓
Interphase Barriers		✓		✓
Shunt Trip		✓		✓
Undervoltage Trip		✓		✓
Auxiliary Switch		✓		✓
Alarm Switch		✓		✓
Flange Cable Handle		✓		✓
NEMA-Door-Mounted Operating Mechanisms		✓		✓
Handle Padlock Attachment		✓		✓
Weight (lb [kg])		40.28 [18.27]		40.28 [18.27]

Gladiator MCCB GCB1200 (1200A)

3-Pole – Accessories

Gladiator MCCB GCB1200 3-Pole (1200A) Accessories			
Part Number	Price	Description	Dimensional Drawing
<u>GCBX5-ALM</u>	\$12.50	Gladiator field installable alarm contact, right side mount, (1) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, 20in 26AWG lead wires, Alarm contacts indicate when the MCCB is tripped.	NA
<u>GCBX5-AUX</u>	\$12.50	Gladiator field installable auxiliary contact, right side mount, (1) SPDT contact(s), 3A @ 250VAC/0.2A @ 250VDC, screw terminals, Auxiliary contact indicates if the MCCB is closed or open/tripped.	NA
<u>GCBX5-LCK-PL</u>	\$48.50	Gladiator lockout attachment, 5-8mm (3/16-5/16in) diameter. For locking in the OFF position only. Accepts up to 3 locks.	PDF
<u>GCBX5-PBR-STD</u>	\$29.50	Gladiator phase barrier, package of 2.	PDF
<u>GCBX5-SHT-110VAC</u>	\$60.00	Gladiator field installable shunt trip, right side mount, 110-130 VAC/VDC coil voltage, screw terminals.	NA
<u>GCBX5-SHT-24VDC</u>	\$60.00	Gladiator field installable shunt trip, right side mount, 24 VAC/VDC coil voltage, screw terminals.	NA
<u>GCBX5-UVT-110VAC</u>	\$71.00	Gladiator field installable undervoltage trip, right side mount, 110-130 VAC/VDC sensing range, screw terminals.	NA
<u>GCBX5-UVT-24VDC</u>	\$66.00	Gladiator field installable undervoltage trip, right side mount, 24 VAC/VDC sensing range, screw terminals.	NA

Gladiator MCCB GCB1200 3-Pole (1200A) Flange Handles and Cables			
Part Number	Price	Description	Dimensional Drawing
<u>GCBX5-FHC-N3R4-M</u>	\$397.00	Gladiator flange handle, lever, gray/chrome, external front mount, 2-position, lockable in OFF only, defeatable, NEMA 3/3R/4. Operating mechanism included.	PDF
<u>GCBX5-FHC-N4X-M</u>	\$420.00	Gladiator flange handle, lever, chrome, external front mount, 2-position, lockable in OFF only, defeatable, NEMA 3/4/4X. Operating mechanism included.	PDF
<u>GCBX5-CBL-60</u>	\$88.00	Gladiator cable assembly, 60in [1.52 m]	PDF

[GCBX5-ALM](#)[GCBX5-SHT-24VDC](#)[GCBX5-UVT-24VDC](#)

Gladiator MCCB GCB1200 3-Pole (1200A) Rotary Handles and Shafts			
Part Number	Price	Description	Dimensional Drawing
<u>GCBX5-EHR-N12-GY</u>	\$181.00	Gladiator rotary handle, tee, gray, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 1/12. Operating mechanism included.	PDF
<u>GCBX5-EHR-N3R4-BK</u>	\$195.00	Gladiator rotary handle, tee, black, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 3/3R/4. Operating mechanism included.	PDF
<u>GCBX5-EHR-N4X-BK</u>	\$214.00	Gladiator rotary handle, tee, black, external front mount, 2-position, lockable in ON-OFF, defeatable, NEMA 3/4/4X. Operating mechanism included.	PDF
<u>GCBX5-SFT-12</u>	\$28.50	Gladiator shaft, 12in [0.30 m] length.	PDF
<u>GCBX5-SFT-16</u>	\$30.50	Gladiator shaft, 16in [0.41 m] length.	PDF
<u>GCBX5-SFT-24</u>	\$45.00	Gladiator shaft, 24in [0.61 m] length.	PDF

[GCBX5-EHR-N12-GY](#)[GCBX5-PBR-STD](#)[GCBX5-CBL-60](#)[GCBX5-LCK-PL](#)[GCBX5-FHC-N3R4-M](#)

Trip Unit Replacement Battery

Gladiator Trip Unit Replacement Battery			
Part Number	Price	Description	Drawing
<u>GCBX5-BATT</u>	\$19.00	Gladiator trip unit replacement battery, for use with GCB800 and GCB1200 molded case circuit breakers.	NA

[GCBX5-BATT](#)[GCBX5-SFT-12](#)

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

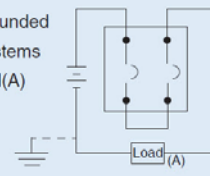
Gladiator MCCB GCB400 (250-400 A)								
Temperature	50°F [10°C]	68°F [20°C]	77°F [25°C]	86°F [30°C]	104°F [40°C]	122°F [50°C]	140°F [60°C]	158°F [70°C]
Rating (A)	Modification of Current (A)							
250	218.0	212.0	209.0	206.0	200.0	172.0	144.0	116.0
300	261.6	254.4	250.8	247.2	240.0	206.4	172.8	139.2
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

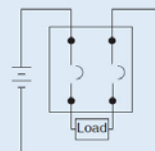
250VDC, 2P in Series

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

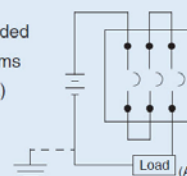
Suitable for use on ungrounded systems only



B. Ungrounded System

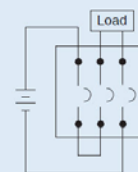
500VDC or 600VDC, 3P in Series

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

Ambient Air Temperature Considerations

Operation	-20 to 70°C [-4 to 158°F]
Storage	-40 to 70°C [-40 to 158°F]

NOTE: MCCB can be used without derating up to -20°C [-4°F]. However, if the ambient temperature exceeds 40°C [104°F], then the rated current must be derated.

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	5.4 [47.8]
			70-80	2-1	6.3 [55.8]
		Al 75°C [167°F]	50-70	6-3	5.4 [47.8]
			80-100	2-1/0	6.3 [55.8]



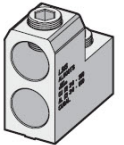
Mechanical Lug Kits For GCB400 Circuit Breakers

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	350-600 kcmil	
		Al	350	700-750 kcmil	54 [478]
			400		



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	2/0 - 350kcmil	40.5 [358.5]
			600	3/0 - 500kcmil	
		Al*	500	3/0 - 500kcmil	40.5 [358.5]
			600		



* Compact wire only (400-500 kcmil)

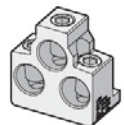
Mechanical Lug Kits For GCB150 Circuit Breakers

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	3/0 - 300kcmil	45 [398.3]
			600		
		Al*	630	3/0 - 400kcmil	45 [398.3]
			800		



* Compact wire only (350-400 kcmil)

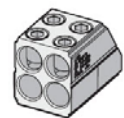
Mechanical Lug Kits For GCB250 Circuit Breakers

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]
		Cu/Al	150-175	3/0-4/0	
		Cu/Al	200-225		
		Cu/Al	200-225	250-300 kcmil	44 [389.4]
			250 (Cu)		
		Al	250	350 kcmil	



Mechanical Lug Kits For GCB1200 Circuit Breakers

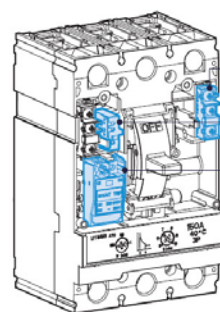
Lug Type	Terminal Body Material	Wire Type	Breaker Amp Range (A)	Wire (AWG)	Torque (N•m [lb•in])
1200TS	Aluminum	Cu	800	3/0 - 350kcmil	45 [398.3]
			1000		
		Al*	1200	3/0 - 500kcmil	45 [398.3]



* 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)

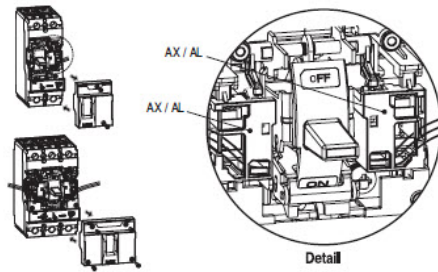
Gladiator MCCB Internal Accessories				
Frame	Internal Accessories Locations	Type	Left (R)	Right (T)
GCB100	* 2P : Right only	AX	1*	1*
		AL	1*	1*
		AX+AL	1*	1*
		SHT	–	1*
		UVT	–	1*
GCB150 GCB250		AX	1	1
		AL	1	–
		SHT	1*	–
		UVT	1*	–
GCB400 GCB600		AX	3	–
		AL	–	1
		SHT	1*	–
		UVT	1*	–
GCB800 GCB1200		AX	–	3
		AL	–	1
		SHT	–	1*
		UVT	–	1*

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

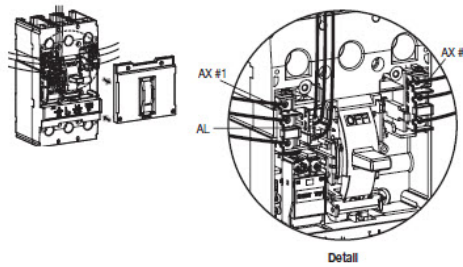
Gladiator MCCB Internal Accessories

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.

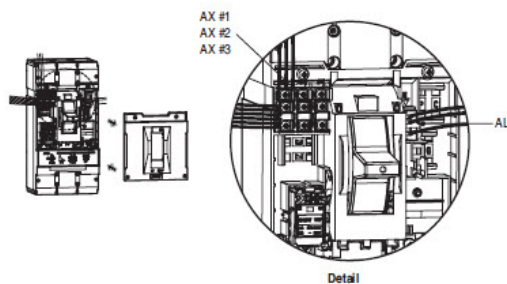
UL 489 Standards



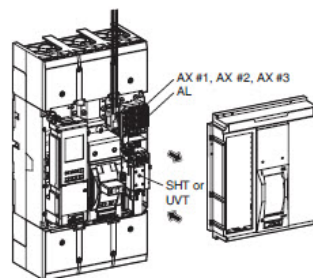
GCB100



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.

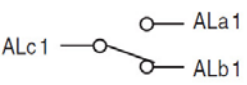
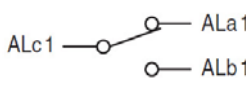
Gladiator MCCB Auxiliary Switch AX Connections

AX	Frame	Wire Size	On	Off / Trip
	GCB100	24 AWG (0.2 mm ²)		
	GCB150 GCB250 GCB400 GCB600	20 AWG (0.52 mm ²)		
	GCB800 GCB1200	19-16 AWG (0.65 - 1.31 mm ²)		

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 ²) 75°C [167°F]		
	GCB150 GCB250 GCB400 GCB600	26 AWG (0.13 mm ²) 75°C [167°F]		
	GCB800 GCB1200	19-16 AWG (0.65 - 1.31 mm ²) 90°C [194°F]		

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

Trip Unit Replacement Battery

Gladiator Trip Unit Replacement Battery			
Part Number	Price	Description	Drawing
GCBX5-BATT	\$19.00	Gladiator trip unit replacement battery, for use with GCB800 and GCB1200 molded case circuit breakers.	NA



[GCBX5-BATT](#)

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

Note: Maximum Pulse Capability reading over 3.0 V at 60mA: 0.1 sec every 2 min at 20°C [68°F], 10uA/cm² 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 ²)		



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
	AC 440-500 V	—	—	—
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 ²)		



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	0.6 - 1.1 V_n		
	AC/DC 100-130 V	0.56 - 1.1 V_n		
	AC/DC 200-250 V	0.56 - 1.1 V_n		
	AC 380-480V	0.56 - 1.1 V_n		
Maximum Opening Time		40ms maximum		
Frequency		45Hz - 65 Hz (AC only)		
Wire Size		16 AWG (1.31mm ²) – 14 AWG (2.08mm ²)		



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 ²)		



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 ²)		



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 ²) - 14 AWG (2.08 mm ²)		

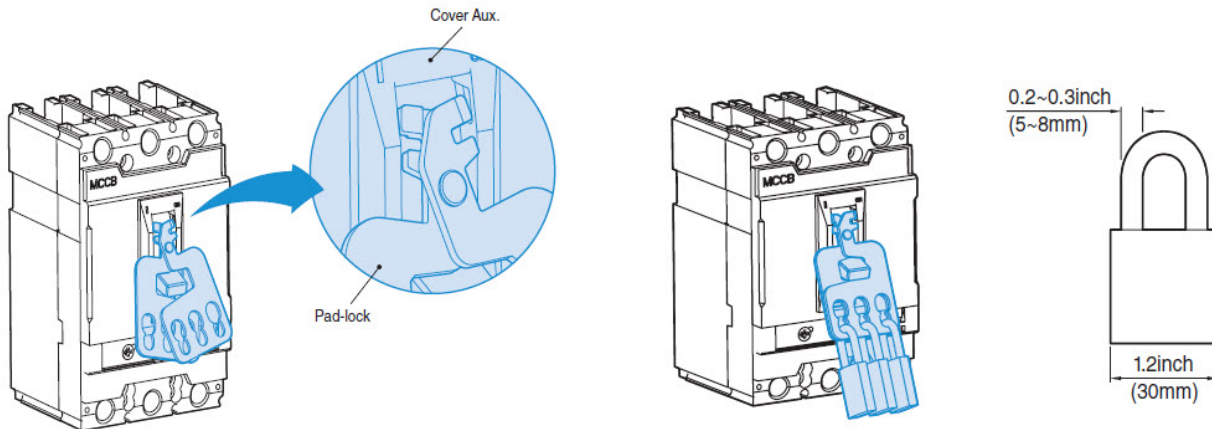


Gladiator MCCB Locking Systems Overview

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.

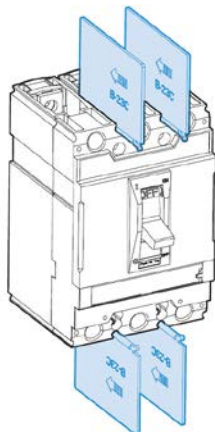
Gladiator MCCB Padlocking Device Technical Specifications		
Description	Use With	Function
<u>GCBX1-LCK-PL</u>	GCB100	Lock in "OFF" position
<u>GCBX2-LCK-PL</u>	GCB150/250	
<u>GCBX3-LCK-PL</u>	GCB400/600	
<u>GCBX5-LCK-PL</u>	GCB800/1200	



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
<u>GCBX2-PBR-STD</u>	GCB150/250	3P
<u>GCBX3-PBR-STD</u>	GCB400/600	3P
<u>GCBX5-PBR-STD</u>	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
GCBX1-EHR-N12-GY	GCBX2-EHR-N12-GY	GCBX3-EHR-N12-GY	GCBX5-EHR-N12-GY
GCBX1-EHR-N3R4-BK	GCBX2-EHR-N3R4-BK	GCBX3-EHR-N3R4-BK	GCBX5-EHR-N3R4-BK
GCBX1-EHR-N4X-BK	GCBX2-EHR-N4X-BK	GCBX3-EHR-N4X-BK	GCBX5-EHR-N4X-BK

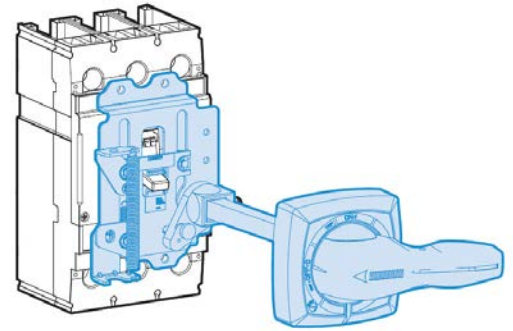
The shaft length is the distance between the back of the circuit breaker and door:

- 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

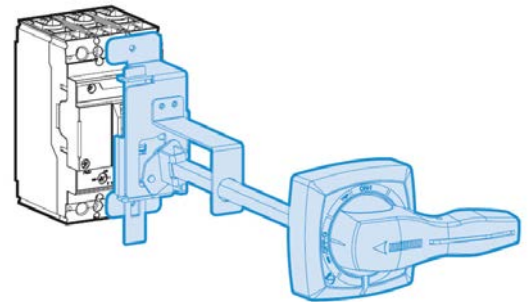


Door-Mounted Rotary Operating Handle

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

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

[GCBX5-EHR-N12-GY](#)
[GCBX5-EHR-N3R4-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

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
-	GCBX2-FHC-N3R4-M GCBX2-FHC-N4X-M	GCBX3-FHC-N3R4-M GCBX3-FHC-N4X-M	-

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

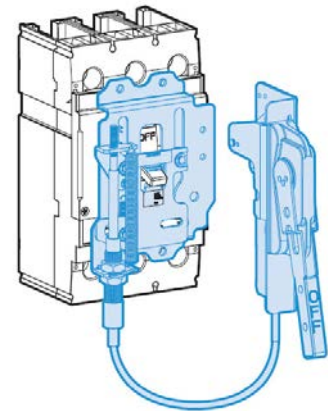
Outdoor type handle (NEMA Type 4, 4X) with sliding mechanism and without cable

- Cable lengths available in 36in to 60in

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

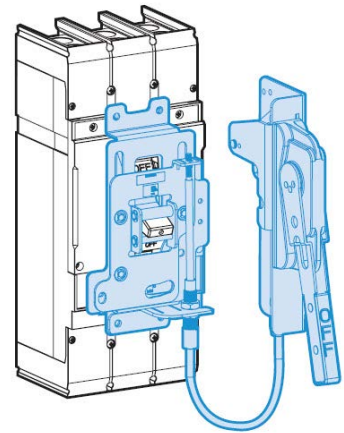
Standards

- 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**

[GCBX2-FHC-N3R4-M](#)
[GCBX2-FHC-N4X-M](#)



**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)

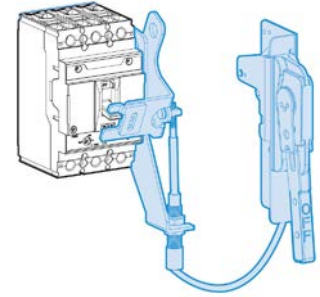
GCB100	GCB150/250	GCB400/600	GCB800/1200
GCBX1-FHC-N3R4-M GCBX1-FHC-N4X-M	GCBX1-FHC-N3R4-M GCBX1-FHC-N4X-M	GCBX5-FHC-N3R4-M GCBX5-FHC-N4X-M	GCBX5-FHC-N3R4-M GCBX5-FHC-N4X-M

Cable Length (in [m])	GCB100/150/250	GCB400/600	GCB800/1200
36 [0.91]	GCBX2-CBL-36	GCBX3-CBL-36	—
60 [1.52]	GCBX2-CBL-60	GCBX3-CBL-60	GCBX5-CBL-60

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

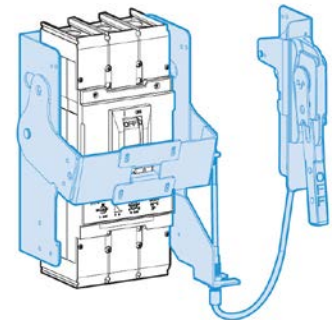
Standards

- 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



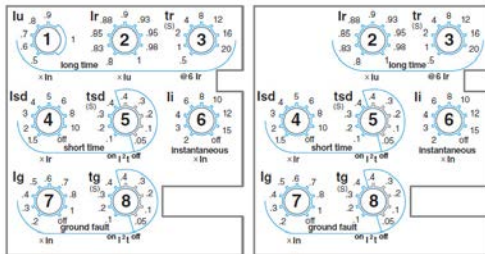
[GCBX2-CBL-36](#)
[GCBX2-CBL-60](#)
[GCBX3-CBL-36](#)
[GCBX3-CBL-60](#)
[GCBX5-CBL-60](#)

Gladiator MCCB Characteristic Curves

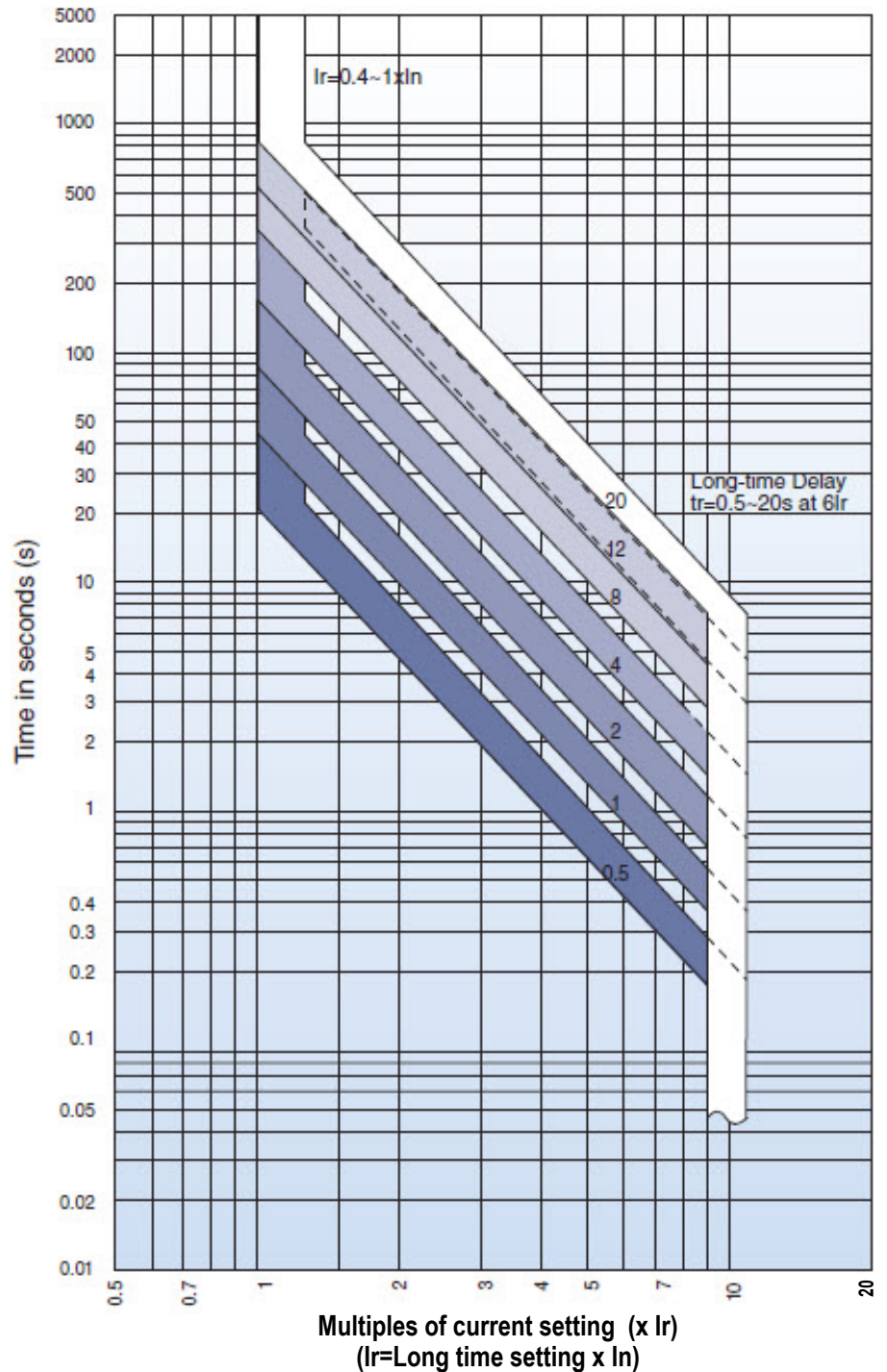
GCB800/1200

Long-Time Delay (800-1200 A)

Long-time pickup $0.4-1 \times I_r$ and delay $0.5-20 \text{ s}$



①, ②, ③ – Long-time setting



Notes :

1. There is a thermal-imaging effect that can act to shorten the long-time delay. The thermal imaging effect comes into play if a current above the long-time delay pickup value exists for a time and then is cleared by the tripping of a downstream device or the circuit breaker itself. A subsequent overload will cause the circuit breaker to trip in a shorter time than normal. The amount of time delay reduction is inverse to the amount of time that has elapsed since the previous overload.

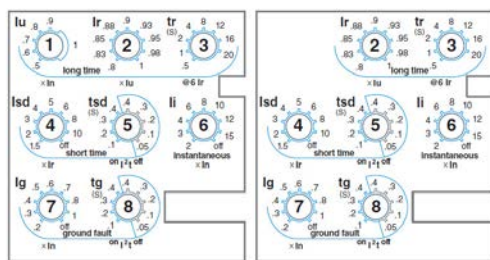
2. Total clearing times shown include the response times of the trip unit, the circuit breaker opening, and the extinction of the current.

Gladiator MCCB Characteristic Curves

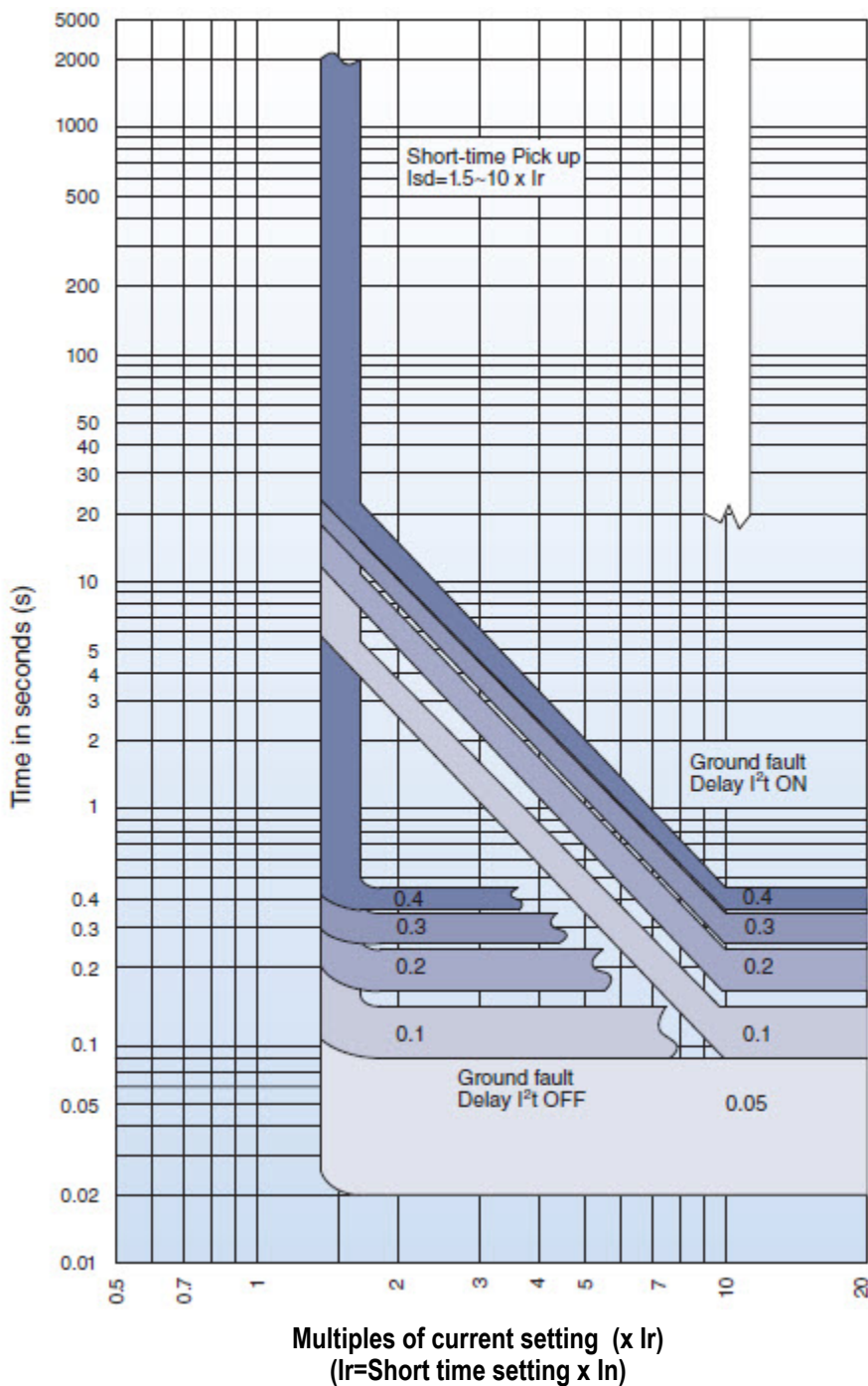
GCB800/1200

Short-Time Delay (800-1200 A)

Short-time pickup $1.5-10 \times I_r$ and delay $0.1-0.4$ s



④, ⑤ – Short-time setting

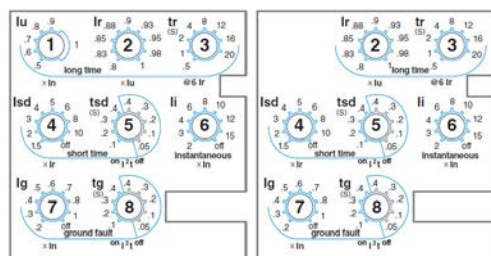
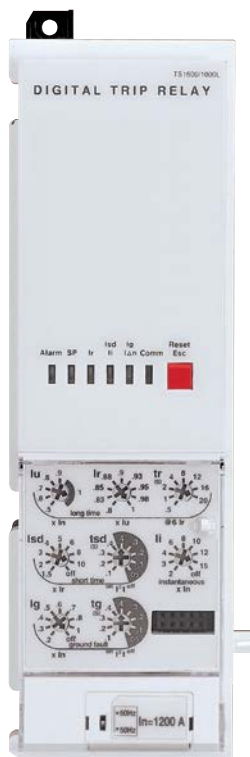


Gladiator MCCB Characteristic Curves

GCB800/1200

Instantaneous and Ground Fault (800-1200 A)

Instantaneous pickup $2-15 \times I_n$ and Ground Fault pickup $0.2-1 \times I_n$ and delay $0.1-0.4$ s



⑥, ⑦, ⑧ - Instantaneous and Ground fault setting

