

Handle Mechanisms

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Handle Mechanisms

Product Overview

Handle mechanisms are used to operate molded case circuit breakers, molded case switches and motor circuit protectors. They are available in three basic configurations—Flange Mounted, Through-the-Door and Direct (Close-Coupled)—providing safe, dependable operation and ease of installation.

Flange Mounted

- Flex Shaft™

Through-the-Door

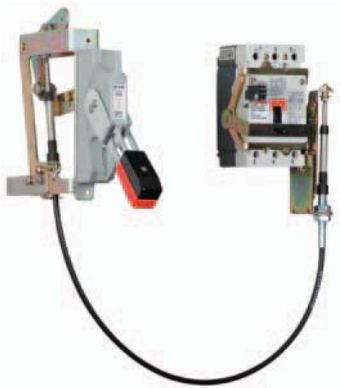
- High performance rotary
- Universal rotary

Direct (Close-Coupled)

- Universal direct

Handle mechanisms are used on enclosed circuit breakers, control panels and motor control centers in many different applications. Eaton has a handle mechanism for virtually any need.

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Flex Shaft

Product Description

Flange-Mounted Handle Mechanisms

Flange-mounted handle mechanisms mount on the flange of an enclosure door. The Flex Shaft is an extra heavy-duty mechanism that includes a flexible shaft in various lengths, 3 feet (0.9m) through 10 feet (3m) for use with various size enclosures.

The Flex Shaft handle will accept up to three padlock shackles, each with a maximum diameter of 3/8 inch (9.5 mm). It can be used with Type12 fabricated enclosures. An optional handle is available for Flex Shaft that is suitable for use with Type 4 environments.

Flex Shaft comes preset from the factory, requiring only minor field adjustments on installation, which takes about 10 minutes—a significant time savings compared to installation of other types of flange handle mechanisms. The Flex Shaft mechanism also takes up less interior enclosure space than competitive designs, and the handle fits standard flange cutouts. Flex Shaft handle can be remotely mounted from breaker, where an operator can use it by “funneling” the cable through conduit.

Standards and Certifications

Flex Shaft is UL® listed under File E64893 and meets CSA® requirements.



Product Selection

Note 1: Type 4X handle mechanisms are available. Add Suffix X to the complete Catalog Number.

Note 2: When selecting the length of shaft, ensure minimum bending radius of 4 inches (101.6 mm) is maintained to operate properly.

Note 3: The standard method of shipment includes the mechanism preset at the factory; however, minor field adjustments may be required.

Flex Shaft

Flex Shaft Flange-Mounted Handle Mechanisms ^{①②}

Breaker Frame	Flexible Shaft Length in Feet (m)				
	2 (0.6) Catalog Number	3 (0.9) Catalog Number	4 (1.2) Catalog Number	5 (1.3) Catalog Number	6 (1.8) Catalog Number
EG	EHMFS02	EHMFS03	EHMFS04	EHMFS05	EHMFS06
JG	N/A	JHMFS03	JHMFS04	JHMFS05	JHMFS06
LG	N/A	—	LHMFS04	—	—
NG	N/A	N/A	F5S04C	F5S05C	F5S06C
RG	N/A	N/A	F6S04	F6S05	F6S06

Breaker Frame	Flexible Shaft Length in Feet (m)			
	7 (2.1) Catalog Number	8 (2.4) Catalog Number	9 (2.7) Catalog Number	10 (3.1) Catalog Number
EG	EHMFS07	EHMFS08	EHMFS09	EHMFS10
JG	JHMFS07	JHMFS08	JHMFS09	JHMFS10
LG	LHMFS07	—	—	LHMFS10
NG	N/A	N/A	N/A	F5S10C
RG	N/A	N/A	N/A	N/A

Notes

- ① Three-pole only for EG-; three- and four-pole for JG- and LG-Frame.
 ② EG-, JG- and LG-Frame can be left- or right-hand mounted.

Accessories

Handle Auxiliary Switch—Early Break Design, 1A–1B Contact for Flex Shaft

Breaker Frame	Catalog Number
EG	AUX1EBFSEG
JG	AUX1EBFSJG
LG	AUX1EBFSLG

Auxiliary contact changes state prior to parting of breaker contacts to allow for shutdown of equipment. Contacts mounted on breaker mechanism customer supplied wiring.

Type 12 Safety Door Hardware for Flex Shaft (E- through R-Frame) ^①

Catalog Number ^②
C361KJ4
C361KJ6
C361KR

UL Type—IP Crossover

UL Type	IP Type
1	IP20
3R	IP55
12	IP54
4/4X	IP66

Dimensions

Type 12 Safety Door Hardware for Flex Shaft (E- through R-Frame) ^①

Catalog Number ^②	Handle Length in Inches (mm)
C361KJ4	4.00 (101.6)
C361KJ6	6.00 (152.4)
C361KR	Roller latch ^③

Notes

- ^① Customer: Consult with box manufacturer for correct door hardware and any adapters required for assembly.
- ^② The 1/4-inch x 1/2-inch (6.35 x 12.7 mm) standard mill rectangular locking bar is not supplied with these kits.
- ^③ Third roller latch for use with 4.00- or 6.00-inch (101.6 or 152.4 mm) handle when three-point latching is required.

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High Performance Rotary Handle Mechanisms**Product Description**

The high performance rotary handle mechanism uses a simple, yet robust design to make installation and operation easy. The external handle's key functional components are all metallic, ensuring reliability. The metal-on-metal defeater between the handle and shaft prevents contaminant buildup that could impede operation, while UV and chemical agent resistant materials protect the handle from heat and fading in direct sunlight, as well as chemicals that may be introduced in harsh environments.

In addition to its robust design features, the handle mechanism has stand-off support that allows for easy operation with a gloved hand. With a shallow profile, the handle can easily be used in applications where an internal or double door is required.

The high performance external handle can accept padlocks or multi-hasps locks. The door is interlocked when padlocked and cannot be bypassed.

Features

- Type 1, 12, 3R, 4 and 4X ratings
- Black/Blue or Red/Yellow external handle colors
- Three shaft lengths: 6, 12 and 24 inches
- Conveniently packaged as kit containing handle, shaft and mechanism
- Replacement parts are available separately

Standards and Certifications

The mechanisms for EG, JG and LG breakers have an internal handle that can be operated independent of door position, and locked-out to meet NFPA® 79 and UL 508A disconnect requirements.



Product Selection

Handle Mechanisms for Series G Frames

External Handle in the Vertical Position



External Handle with Padlocks



Internal Handle Mechanism



Complete Kits

Color	Rating Type		EG-Frame ^① Catalog Number	JG-Frame Catalog Number	LG-Frame Catalog Number	NG-Frame Catalog Number
	UL	IP				
Black/Blue	1/12/3R	20/54/55	EGHMVD06B	JGHMVD06B	LGHMVD06B	NGHMVD08B
			EGHMVD12B	JGHMVD12B	LGHMVD12B	—
			EGHMVD24B	JGHMVD24B	LGHMVD24B	—
Red/Yellow	1/12/3R	20/54/55	EGHMVD06R	JGHMVD06R	LGHMVD06R	NGHMVD08R
			EGHMVD12R	JGHMVD12R	LGHMVD12R	—
			EGHMVD24R	JGHMVD24R	LGHMVD24R	—
Black/Blue	4/4X	65	EGHMVD06BX	JGHMVD06BX	LGHMVD06BX	NGHMVD08BX
			EGHMVD12BX	JGHMVD12BX	LGHMVD12BX	—
			EGHMVD24BX	JGHMVD24BX	LGHMVD24BX	—
Red/Yellow	4/4X	65	EGHMVD06RX	JGHMVD06RX	LGHMVD06RX	NGHMVD08RX
			EGHMVD12RX	JGHMVD12RX	LGHMVD12RX	—
			EGHMVD24RX	JGHMVD24RX	LGHMVD24RX	—

Note

^① Compatible with three-pole and four-pole EG breakers only.

EG-Frame Handle Mechanism Components ^{①②}

Color	Rating Type		Shaft Length Inches (mm)	External Handle Catalog Number	Shaft Catalog Number	Mechanism Catalog Number
	UL	IP				
Black/Blue	1/12/3R	20/54/55	6.00 (152.4)	68C6048G01	66A6010G95	1498D66G17
			12.00 (304.8)	68C6048G01	66A6010G96	1498D66G17
			24.00 (609.6)	68C6048G01	66A6010G97 ^③	1498D66G17
Red/Yellow	1/12/3R	20/54/55	6.00 (152.4)	68C6048G02	66A6010G95	1498D66G17
			12.00 (304.8)	68C6048G02	66A6010G96	1498D66G17
			24.00 (609.6)	68C6048G02	66A6010G97 ^③	1498D66G17
Black/Blue	4/4X	65	6.00 (152.4)	68C6048G03	66A6010G95	1498D66G17
			12.00 (304.8)	68C6048G03	66A6010G96	1498D66G17
			24.00 (609.6)	68C6048G03	66A6010G97 ^③	1498D66G17
Red/Yellow	4/4X	65	6.00 (152.4)	68C6048G04	66A6010G95	1498D66G17
			12.00 (304.8)	68C6048G04	66A6010G96	1498D66G17
			24.00 (609.6)	68C6048G04	66A6010G97 ^③	1498D66G17

JG-Frame Handle Mechanism Components ^②

Color	Rating Type		Shaft Length Inches (mm)	External Handle Catalog Number	Shaft Catalog Number	Mechanism Catalog Number
	UL	IP				
Black/Blue	1/12/3R	20/54/55	6.00 (152.4)	68C6048G01	66A6010G95	69D6020G17
			12.00 (304.8)	68C6048G01	66A6010G96	69D6020G17
			24.00 (609.6)	68C6048G01	66A6010G98 ^③	69D6020G17
Red/Yellow	1/12/3R	20/54/55	6.00 (152.4)	68C6048G02	66A6010G95	69D6020G17
			12.00 (304.8)	68C6048G02	66A6010G96	69D6020G17
			24.00 (609.6)	68C6048G02	66A6010G98 ^③	69D6020G17
Black/Blue	4/4X	65	6.00 (152.4)	68C6048G03	66A6010G95	69D6020G17
			12.00 (304.8)	68C6048G03	66A6010G96	69D6020G17
			24.00 (609.6)	68C6048G03	66A6010G98 ^③	69D6020G17
Red/Yellow	4/4X	65	6.00 (152.4)	68C6048G04	66A6010G95	69D6020G17
			12.00 (304.8)	68C6048G04	66A6010G96	69D6020G17
			24.00 (609.6)	68C6048G04	66A6010G98 ^③	69D6020G17

Notes

- ① Compatible with three-pole and four-pole EG breakers only.
 ② For replacement purposes.
 ③ 24.00 inches (609.6 mm) includes support bracket.

LG-Frame Handle Mechanism Components ①

Color	Rating Type		Shaft Length Inches (mm)	External Handle Catalog Number	Shaft Catalog Number	Mechanism Catalog Number
	UL	IP				
Black/Blue	1/12/3R	20/54/55	6.00 (152.4)	68C6048G01	66A6010G95	69D6051G30
			12.00 (304.8)	68C6048G01	66A6010G96	69D6051G30
			24.00 (609.6)	68C6048G01	66A6010G99 ②	69D6051G30
Red/Yellow	1/12/3R	20/54/55	6.00 (152.4)	68C6048G02	66A6010G95	69D6051G30
			12.00 (304.8)	68C6048G02	66A6010G96	69D6051G30
			24.00 (609.6)	68C6048G02	66A6010G99 ②	69D6051G30
Black/Blue	4/4X	65	6.00 (152.4)	68C6048G03	66A6010G95	69D6051G30
			12.00 (304.8)	68C6048G03	66A6010G96	69D6051G30
			24.00 (609.6)	68C6048G03	66A6010G99 ②	69D6051G30
Red/Yellow	4/4X	65	6.00 (152.4)	68C6048G04	66A6010G95	69D6051G30
			12.00 (304.8)	68C6048G04	66A6010G96	69D6051G30
			24.00 (609.6)	68C6048G04	66A6010G99 ②	69D6051G30

NG-Frame Handle Mechanism Components ①

Color	Rating Type		Shaft Length Inches (mm)	External Handle Catalog Number	Shaft Catalog Number	Mechanism Catalog Number
	UL	IP				
Black/Blue	1/12/3R	20/54/55	8.00 (203.2)	68C6048G05	66A6013H01	69D9101G30
Red/Yellow	1/12/3R	20/54/55	8.00 (203.2)	68C6048G06	66A6013H01	69D9101G30
Black/Blue	4/4X	65	8.00 (203.2)	68C6048G07	66A6013H01	69D9101G30
Red/Yellow	4/4X	65	8.00 (203.2)	68C6048G08	66A6013H01	69D9101G30

Notes

① For replacement purposes.

② 24.00 inches (609.6 mm) includes support bracket.

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Universal Rotary

Product Description

Eaton’s Universal Rotary is suitable for use with Type 1 or 12 enclosure types. All rotary handle mechanisms include a handle “lock off” to prevent turning the breaker ON while in the OFF position, and indicate ON/OFF/Tripped/Reset positions. The Universal Rotary has the added feature of international markings for ON (I) and OFF (O). The Universal Rotary is made of molded material.

The Universal Rotary mechanisms for EG-, JG- and LG-Frame MCCBs can be operated by hand with the door open or “locked off” to prevent operation with the door open.

Product Selection

Universal Rotary



Universal Rotary Through-the-Door Handle Mechanisms

Handle Color	UL Rating	Shaft Length in Inches (mm)	Complete Catalog Number ①
EG-Frame			
Black	1, 12	6.00 (152.4)	EHMVD06B
		12.00 (304.8)	EHMVD12B
		24.00 (609.6)	EHMVD24B
Red	1, 12	6.00 (152.4)	EHMVD06R
		12.00 (304.8)	EHMVD12R
		24.00 (609.6)	EHMVD24R
JG-Frame			
Black	1, 12	6.00 (152.4)	FJHMVD06B
		12.00 (304.8)	FJHMVD12B
		24.00 (609.6)	FJHMVD24B
Red	1, 12	6.00 (152.4)	FJHMVD06R
		12.00 (304.8)	FJHMVD12R
		24.00 (609.6)	FJHMVD24R
LG-Frame			
Black	1, 12	6.00 (152.4)	KLHMVD06B
		12.00 (304.8)	KLHMVD12B
		24.00 (609.6)	KLHMVD24B
Red	1, 12	6.00 (152.4)	KLHMVD06R
		12.00 (304.8)	KLHMVD12R
		24.00 (609.6)	KLHMVD24R
NG-Frame			
Black	1	6.00 (152.4)	HMVD5B
		6.00 (152.4)	HMVD5BT ②
RG-Frame			
Black	1	9.00 (228.6)	HMVD6B

Notes

① Complete catalog number includes handle, mechanism, shaft and mounting hardware.

② Same as HMVD5B, except uses T handle.

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Direct (Close-Coupled) Handle Mechanisms

Product Description

Direct (close-coupled) handle mechanisms mount directly to the circuit breaker. They are used in shallow enclosures where the standard variable depth Through-the-door type mechanism is not practical or cannot be used.

The Universal Direct handle mechanisms are rated Type 1 and Type 12.

The Universal Direct handle mechanism is available as standard with a door interlock to prevent opening the enclosure while the circuit breaker is in the ON position. It is also available without a door interlock.

Application Description

Direct (close-coupled) handle mechanisms are typically used for applications where high volume, standardized enclosures are being fabricated.

Standards and Certifications

The Universal Direct handle mechanism is UL listed, IEC 60947-1/2 compliant and meets CSA requirements.



Product Selection

Universal Direct
(EG – LG)



Universal Direct Handle Mechanisms

Frame	Black Handle Color		Red Handle Color	
	With Interlock Catalog Number	Without Interlock Catalog Number	With Interlock Catalog Number	Without Interlock Catalog Number
EG	EHMCCBI	EHMCCB	EHMCCRI	EHMCCR
JG	JHMCCBI	JHMCCB	JHMCCRI	JHMCCR
LG	LHMCCBI	LHMCCB	LHMCCRI	LHMCCR