

# FUSIBLE DISCONNECT SWITCHES (UL98)



GM SERIES

 **Lovato**  
**electric**

ENERGY AND AUTOMATION

# Fusible disconnect switches (UL98)

GM series 30A to 800A

## Three-pole disconnect switches with fuse holder (UL98)



GMF...030 C12



GMFJ 100 C03



GMFJ 400 C03



GMFJ 800 C03

Order code	General purpose current	UL fuse type	Command pole position	Qty per pkg	Wt
	[A]	[A]		n°	[kg]

Supplied without handle.  
Complete the disconnect switch by selecting shaft extension and handle for door coupling version or the handle for direct operating version.

<b>GMF C030 C12</b>	30	CC	Central	1	0.700
<b>GMF J030 C12</b>	30	J	Central	1	0.700
<b>GMF J060 C12</b>	60	J	Central	1	1.135
<b>GMF J060 C03</b>	60	J	Left	1	1.135
<b>GMF J100 C03</b>	100	J	Left	1	1.815
<b>GMF J200 C03</b>	200	J	Left	1	3.000
<b>GMF J400 C03</b>	400	J	Left	1	6.800
<b>GMF J600 C03</b>	600	J	Left	1	13.00
<b>GMF L800 C03</b>	800	L	Left	1	13.00

**new**

### UL/CSA ratings

Type	1 phase [HP]		3 phase [HP]			Short-circuit rating at 600VAC [kA]	Fuse type	
	120V	240V	240V	480V	600V		[A]	[class]
GMF C030 C12	2	3	7.5	15	20	200	30	CC
GMF J030 C12	2	3	7.5	15	20	200	30	J
GMF J060 C12	-	-	15	30	50	200	60	J
GMF J060 C03	-	-	15	30	50	200	60	J
GMF J100 C03	-	-	30	60	75	200	100	J
GMF J200 C03	-	-	60	125	150	200	200	J
GMF J400 C03	-	-	125	250	350	200	400	J
GMF J600 C03	-	-	200	400	500	200	600	J
GMF L800 C03	-	-	250	500	500	200	800	L

## Add-on blocks



GMX10 10



GMX3...



GMX8 00  
GMX8 01



GMX8 02  
GMX8 03  
GMX8 04

**new**

Order code	Description	Qty per pkg	Wt
		n°	[kg]

Auxiliary contacts, mounting to the switch mechanism.

<b>GMX10 11</b>	1NO/NC changeover	1	0.020
<b>GMX10 10</b>	1NO	1	0.030
<b>GMX10 01</b>	1NC	1	0.030

Module for auxiliary contacts mounting on the side of the switch mechanism.

**new**

<b>GMX3 3</b>	For GMF...030 types	1	0.060
<b>GMX3 4</b>	For GMF...60 to GMF...800 types	1	0.065

Terminal covers.

<b>GMX8 00</b>	3-piece set, each covers 1 pole for GMF J100 C03	1	0.080
<b>GMX8 01</b>	3-piece set, each covers 1 pole for GMF J200 C03	1	0.090
<b>GMX8 02</b>	1-piece set, covers 3 poles for GMF J400 C03	1	0.080
<b>GMX8 03</b>	1-piece set, covers 3 poles for GMF J600 C03	1	0.080
<b>GMX8 04</b>	1-piece set, covers 3 poles for GMF L800 C03	1	0.080

Terminal clamp sets for rigid and flexible cables.

**new**

<b>GMX5 00</b>	6-piece set for GMF J100 C03	1	0.200
<b>GMX5 01</b>	6-piece set for GMF J200 C03	1	0.200
<b>GMX5 02</b>	6-piece set for GMF J400 C03	1	0.500
<b>GMX5 03</b>	6-piece set for GMF J400 C03	1	1.000
<b>GMX5 04</b>	6-piece set for GMF J600 C03 and GMF L800 C03	1	1.600

Fuse monitor modules

**new**

<b>GMXF M1</b>	Rated voltage 120...240V	1	0.145
<b>GMXF M2</b>	Rated voltage 380...600V	1	0.140

Crimp terminals for fuse monitor GMXF... cables.

<b>GMX5 05</b>	6-piece set. Terminal size 2.8-0.8mm/0.11-0.03in.	1	0.004
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- Only for GMF...030 types.
- For all GM switch disconnectors. Suitable for 1 or 3 phase circuits. Includes 1 NO and 1 NC auxiliary contacts and red/green LED lights for indication.

### General characteristics

- General purpose current according to UL98: 30A to 800A
- Compact dimensions
- Available versions: direct operating and door coupling
- Screw or 35mm DIN rail fixing for GMF...030 types
- Possibility to adjust the position of the clips for fixing screw on plate for GMF..060 to GMFL800 types.

### Operational characteristics

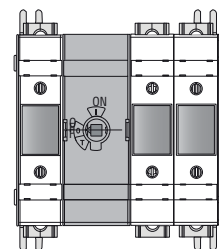
- IEC rated insulation voltage  $U_i$ : 1000V
- UL max operating voltage: 600V
- IEC rated impulse withstand  $U_{imp}$ : 12kV
- Mechanical life:
  - 10,000 cycles for GMF..030 and GMF..060
  - 8,000 cycles for GMF J100 C03 and GMF J200 C03
  - 5,000 cycles for GMF J400 C03 and GMF J600 C03
  - 3,000 cycles for GMF L800 C03.

### Certifications and compliance

Certifications obtained: cULus according to UL98 / CSA C22.2 n°4.  
Compliant with standards: IEC/EN 60947-3, IEC/EN 60947-1.

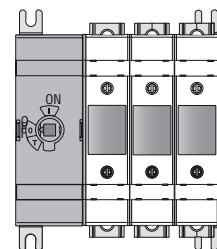
### GMF...C12 type

Central command pole



### GMF...C03 type

Left command pole



### Operational characteristics of auxiliary contacts GMX10 11

- IEC conventional free air thermal current  $I_{th}$ : 10A
- IEC rated insulation voltage: 400V
- Conductivity: 12V, 25mA
- Tightening torque: 0.8Nm/7.1lb.in
- Maximum 6 contacts for GMF..030 disconnect switches.

### Operational characteristics of auxiliary contacts GMX10 10/01

- IEC/UL conventional free air thermal current  $I_{th}$ : 16A/10A
- IEC/UL rated insulation voltage: 690V/600V
- Conductivity: 24V, 10mA
- UL/CSA and IEC/EN 60947-5-1 designation: A600 R300
- Tightening torque: 0.8Nm/7.1lb.in
- Maximum 8 contacts for GMF...060 to GMF L800 disconnect switches.

### Operational characteristics for terminal clamps

- Minimum and maximum conductor cross section:
  - GMX5 00: 2.5...70mm<sup>2</sup> / 14-2AWG
  - GMX5 01: 25...150mm<sup>2</sup> / 4-300Kcmil
  - GMX5 02: 35...300mm<sup>2</sup> / 2-600Kcmil
  - GMX5 03: (2)x 35...600mm<sup>2</sup> / (2x) 4-300Kcmil
  - GMX5 04: (2)x 35...600mm<sup>2</sup> / (2x) 2-600Kcmil
- Tightening torque:
  - GMX5 00: 5.5Nm / 50lb.in.
  - GMX5 01: 8Nm / 72lb.in
  - GMX5 02: 27Nm / 240lb.in
  - GMX5 03: 8Nm / 72lb.in
  - GMX5 04: 54Nm / 480lb.in

### Operational characteristics for terminal covers

- Snap on mounting.

### Certifications and compliance

Certifications obtained: cULus for GMX10 10, GMX10 01, GMXF M1 and GMXF M2.  
Compliant with standards: IEC/EN 60947-3, IEC/EN 60947-1.

# Fusible disconnect switches (UL98)

GM series 30A to 800A  
Accessories

## Handles and shafts



GMX62 DB

**new**



GMX62

**new**



GLX00

**new**



GMX7...S06

**new**

## NFPA handle



GMX61 NFPA

**new**



GMXC L...

**new**



GMX3 0

**new**

Order code	Characteristics	Qty per pkg	Wt
		n°	[kg]
Direct operating handles.			
<b>GMX61 DB</b>	For GMF...030. Black	1	0.050
<b>GMX62 DB</b>	For GMF J060...GMF J200. Black	1	0.150
<b>GMX63 DB</b>	For GMF J400. Black	1	0.350
<b>GMX64 DB</b>	For GMF J600...GMF L800. Black	1	1.100
Door coupling handles.			
<b>GAX66N</b>	For GMF...030...GMF J200. Screw fixing. 65mm lever length pistol handle - defeatable (req. UL508A). Red/yellow. □ 6mm	1	0.050
<b>GAX66N B</b>	For GMF...030...GMF J200. Screw fixing. 65mm lever length pistol handle - defeatable (req. UL508A). Black. □ 6mm	1	0.050
<b>GMX61</b>	For GMF J400. Screw fixing. 125mm lever length pistol handle - defeatable (req. UL508A). Red/yellow. □ 12mm	1	0.050
<b>GMX61 B</b>	For GMF400. Screw fixing. 125mm lever length pistol handle - defeatable (req. UL508A). Black. □ 12mm	1	0.200
<b>GMX62</b>	For GMF J600...GMF L800. Screw fixing. 175mm lever length pistol handle - defeatable (req. UL508A). Red/yellow. □ 12mm	1	0.200
<b>GMX62 B</b>	For GMF J600...GMF L800. Screw fixing. 175mm lever length pistol handle - defeatable (req. UL508A). Black. □ 12mm	1	0.200
Accessories for door coupling handles.			
<b>GLX00</b>	Shaft alignment ring	1	0.040
Shaft extensions for door coupling handles GAX66N and GAX66N B types.			
<b>GMX7150 S06</b>	150mm long, □ 6mm	1	0.120
<b>GMX7300 S06</b>	300mm long, □ 6mm	1	0.155
Shaft extensions for door coupling handles GMX61, GMX61 B, GMX62 and GMX62 B types.			
<b>GMX7150 S12</b>	150mm long, □ 12mm	1	0.240
<b>GMX7300 S12</b>	300mm long, □ 12mm	1	0.280
<b>GMX7500 S12</b>	500mm long, □ 12mm	1	0.310

### Operational characteristics for direct operating handles

- Screw fixing on disconnect switches
- 1 to 3 padlocks in the Ø5...6.2mm/0.2...0.24in.

### Operational characteristics for door coupling handles

- Fixing handles interaxis: 28x40mm/1.1x1.57in.
- 1 to 3 padlocks in the Ø4...8mm/0.16...0.31in. for all handles
- Tightening torque: 1.5Nm/13.3lbin
- Degree of protection: IP66 and NEMA 4X per UL.

NOTE: the handles type GAX66N, GAX66N B, GMX61, GMX61 B, GMX62, GMX62 B are in accordance with UL/CSA Type 1, 2, 3R, 12, 12K, 4, 4X for external use.

### Certifications and compliance

Certifications obtained: cULus for GMX62 DB, GMX63 DB, GMX64 DB, GAX66 N, GAX66 NB, GMX61, GMX61 B, GMX62, GMX62 B, GLX00, GMX7...

Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3.

Order code	Characteristics	Qty per pkg	Wt
		n°	[kg]
Flange handle.			
<b>GMX61 NFPA</b>	For GMF...030...GMF J200. NEMA 4, 4X. Black	1	1.850
Flexible connection cables for GMX61 NFPA.			
<b>GMXC L36</b>	Cable length 914mm/36in.	1	0.400
<b>GMXC L48</b>	Cable length 1220mm/48in.	1	0.500
<b>GMXC L60</b>	Cable length 1520mm/60in.	1	0.550
<b>GMXC L72</b>	Cable length 1828mm/72in.	1	0.650
Support and operating mechanism for GMX61 NFPA.			
<b>GMX3 0</b>	For GMF...030	1	0.830
<b>GMX3 1</b>	For GMF J060 C12	1	1.180
<b>GMX3 2</b>	For GMF...060...GMF J200	1	1.520

### General characteristics for NFPA handle

The GMX61 NFPA lever handle complies with the requirements of the North American NFPA79 standard. This standard requires that the switch disconnect can be operated without accessories or tools whether the door is closed or open. In case of operation with an open door, a device is integrated into the GMX61 NFPA handle to prevent it from being activated unless a voluntary action is taken to unlock it.

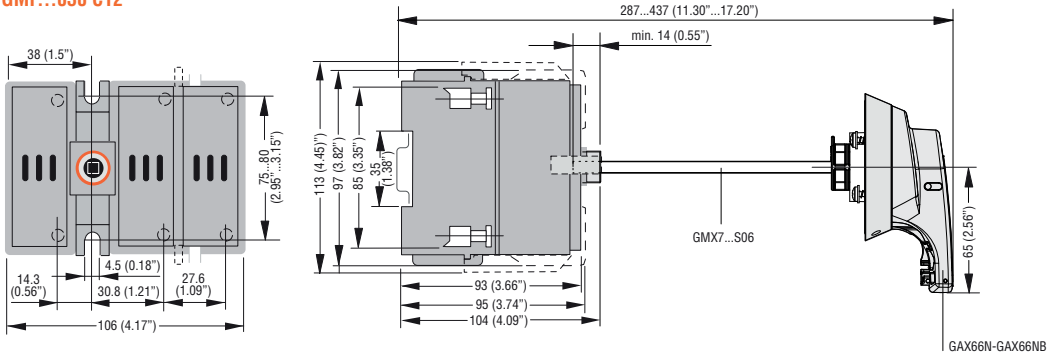
### Certifications and compliance

Certifications obtained: cURus for GMX61 NFPA. Compliant with standards: IEC/EN 60947-1, IEC/EN 60947-3.

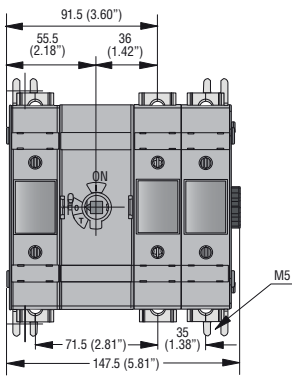
# Fusible disconnect switches (UL98)

GM series 30A to 800A  
Dimensions [mm(in)]

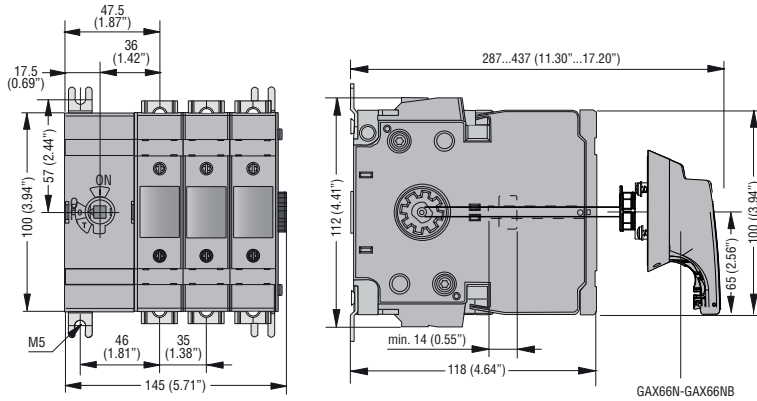
## GMF...030 C12



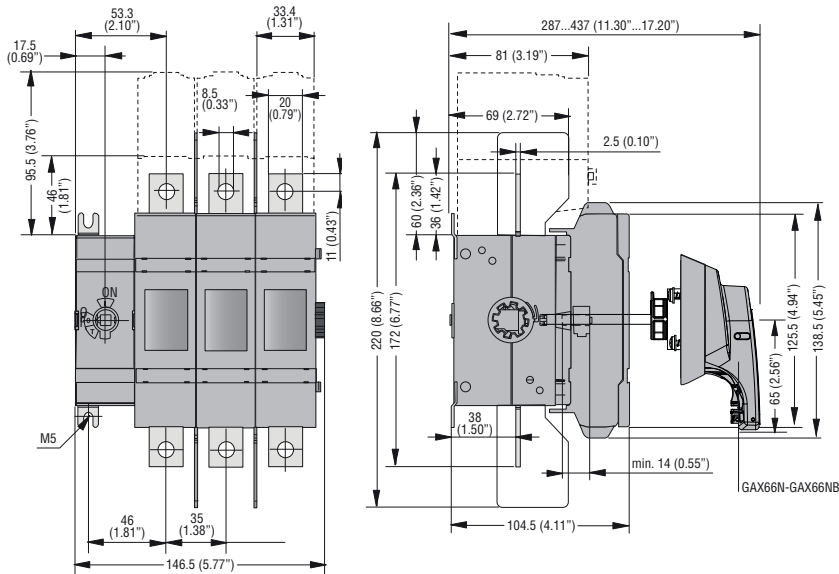
## GMF J060 C12



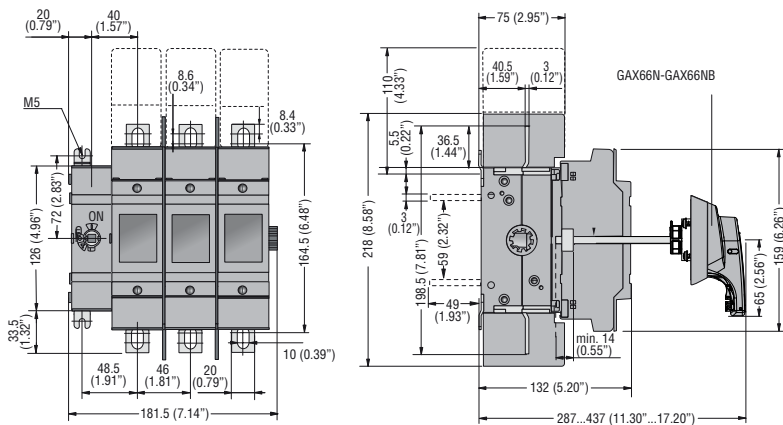
## GMF J060 C03



## GMF J100 C03



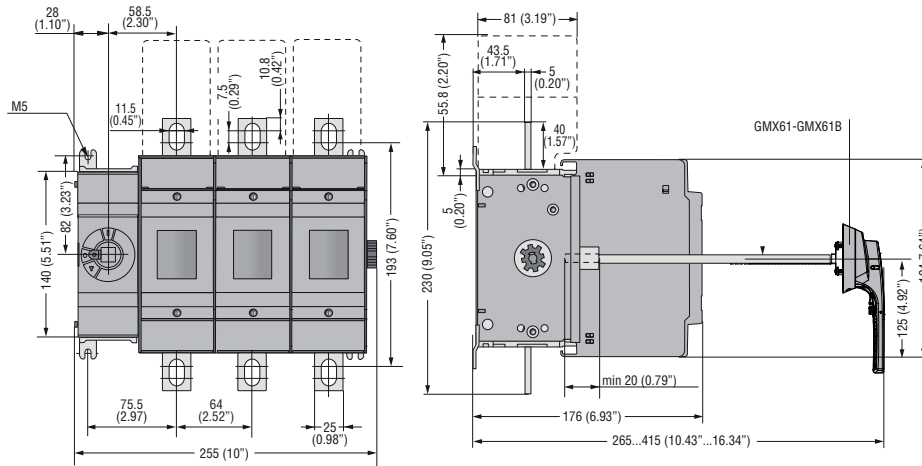
## GMF J200 C03



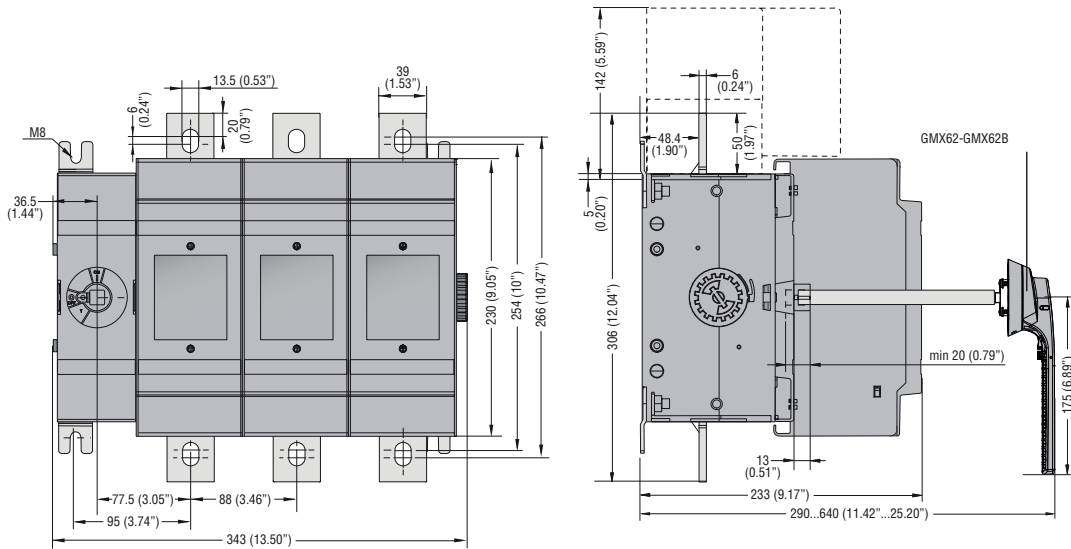
# Fusible disconnect switches (UL98)

GM series 30A to 800A  
Dimensions [mm(in)]

## GMF J400 C03

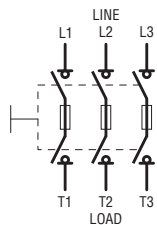


## GMF J600 C03 - GMF L800 C03



## Wiring diagrams

### GM..030 .. GMF L800

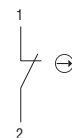


### Auxiliary contacts

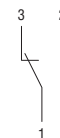
#### GMX10 10



#### GMX10 01



#### GMX10 11



# Fusible disconnect switches (UL98)

GM series 30A to 800A  
Technical characteristics



## TECHNICAL DATA ACCORDING TO IEC/EN 60947

TYPE	3-pole	GMF...030...	GMFJ060...	GMFJ100C03	GMFJ200C03	GMFJ400C03	GMFJ600C03	GMFL800C03	
<b>CONTACT CHARACTERISTICS</b>									
IEC conventional free air thermal current I <sub>th</sub> (≤40°C)	A	32	63	160	200	400	630	800	
IEC rated insulation voltage U <sub>i</sub>	V	1000							
IEC rated impulse voltage withstand U <sub>imp</sub>	kV	12							
IEC rated operational current I <sub>e</sub>									
AC21A	400V	A	32	63	160	200	400	630	800
	500V	A	32	63	160	200	400	630	800
	690V	A	32	63	160	200	400	630	800
AC22A	400V	A	32	63	160	200	400	630	800
	500V	A	32	63	160	200	400	630	800
	690V	A	32	63	160	200	400	630	800
AC23A	400V	A	32	63	160	200	400	630	800
	500V	A	32	63	160	200	400	630	800
	690V	A	32	63	160	200	400	630	800
Power dissipation (without fuse)	W/pole	2	4	9	8	30	46	75	
Max fuse power dissipation	in open air	W	3.5	7.5	12	17	45	60	65
	in enclosure	W	3.5	7.5	12	15	30	50	55
IEC rated operational power									
AC23A	400V	kW	15	30	75	110	220	355	450
	690V	kW	22	55	132	200	400	630	710
IEC short circuit protection									
Rated short-time current (1s) I <sub>cw</sub>	kA rms	1	2.5	5	8	14	20	20	
Conditional short circuit current	kA rms	200							
With fuse	A/class	30/J-CC	60/J	100/J	200/J	400/J	600/J	800/L	
Making capacity AC23A 690V	A	320	630	1600	2000	4000	6300	8000	
Breaking capacity AC23A 690V	A	256	504	1280	1600	3200	6400	6400	
Mechanical life	cycles	10.000		8.000		5.000		3.000	
Min. electrical endurance (pf=0.75...0.8)	cycles	6000				1000	1000	500	
Fuse-links bolts tightening torque	Nm	-	-	4	4	20	40	40	
Terminal lug kits		Built-in		GMX5 00	GMX5 01	GMX5 02	GMX5 04	GMX5 04	
Conductor section min...max	mm <sup>2</sup>	1...10	2.5...25	2.5...70	25...150	35...300	2X35...600	2X35...600	
	AWG	18-8	14-4	14-2/0	4-300MCM	2-600MCM	(2)x2-600MCM	(2)x2-600MCM	
Conductor tightening torque	Nm	2	3.5	13.5	31	42.5	56.5	56.5	
	ib.in	17	30	120	275	375	500	500	
Terminal lugs tightening torque	Nm	-	-	5.5	8	27	54	54	
	ib.in	-	-	50	72	240	480	480	
<b>AMBIENT CONDITIONS</b>									
Temperature	operating	°C	-25...+55						
	storage	°C	-40...+70						
Maximum altitude		m	3000						
Mounting position	normal		Vertical						
	admissible		Any						
Fixing		Screw or on 35mm DIN rail (IEC/EN 60715)	Screw						

# Fusible disconnect switches (UL98)

GM series 30A to 800A  
Technical characteristics

## TECHNICAL DATA ACCORDING TO UL/CSA RATINGS

TYPE	3-pole	GMF...030...	GMFJ060...	GMFJ100C03	GMFJ200C03	GMFJ400C03	GMFJ600C03	GMFL800C03
CHARACTERISTICS								
Compliance		UL98						
General purpose rating (≤40°C)	A	30	60	100	200	400	600	800
Max operating voltage Ui	V	600						
Horsepower ratings/motor FLA current three-phase	240V HP/A	7.5/22	15/42	30/80	60/154	125/312	200/480	250/602
	480V HP/A	15/21	30/40	60/77	125/156	250/302	400/477	500/590
	600V HP/A	20/22	50/52	75/77	150/144	350/336	500/472	600/472
Short circuit ratings	KA rms	200						
With fuse	A/class	30/J-CC	60/J	100/J	200/J	400/J	600/J	800/L
Terminal lug kits		Built-in		GMX5 00	GMX5 01	GMX5 02	GMX5 04	GMX5 04

■ **LOVATO ELECTRIC S.P. A.**

via Don E. Mazza, 12  
24020 Gorle (Bergamo) Italy  
Tel. +39 035 4282111  
info@LovatoElectric.com  
[www.LovatoElectric.com](http://www.LovatoElectric.com)

■ **LOVATO ELECTRIC INC**

2017 Georgetown Blvd.  
CHESAPEAKE, VA 23325  
UNITED STATES  
Tel. +1 757 545-4700  
info@LovatoUsa.com  
[www.LovatoUsa.com](http://www.LovatoUsa.com)

■ **LOVATO ELECTRIC CORPORATION**

4500, rue Garand Street  
Laval, Quebec CANADA  
H7L 5Z6  
Tel. +579-641-1253  
info@Lovato.ca  
[www.Lovato.ca](http://www.Lovato.ca)



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[www.LovatoElectric.com](http://www.LovatoElectric.com)

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