

# SWITCH DISCONNECTORS




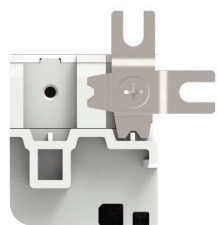
GL SERIES

 **Lovato**  
**electric**

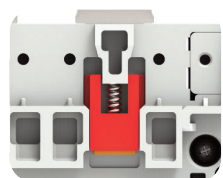
ENERGY AND AUTOMATION

## SWITCH DISCONNECTORS

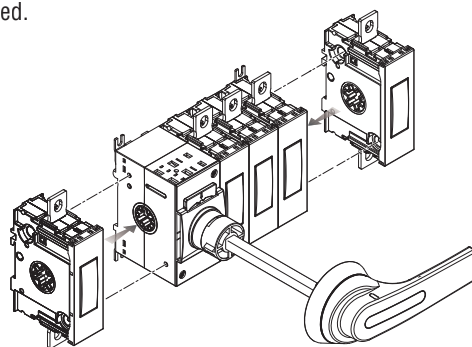
- COMPACT SIZE**  
 The three-pole 160A to 315A AC21 switch disconnectors are made up of a body, merely 162mm wide.
- EASY INSTALLATION ON DIN RAIL**  
 Switch disconnectors are mounted on DIN rail or on mounting plate by screw fixing.
- UL98 VERSION**  
 Switch disconnectors are listed for USA and Canada, certified according to UL98/GSA C22.2 n° 4.
 
- FOUR POLE VERSION AVAILABLE**  
 Switch disconnectors are supplied with three-pole configuration. To realise the four-pole version, a fourth-pole add-on can be purchased.



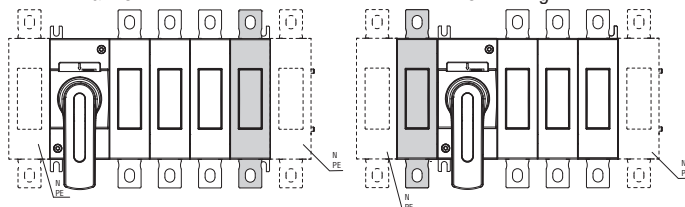
- FLEXIBLE INSTALLATION ORIENTATION**  
 Switch disconnectors can be installed in all directions. The clips for screw fixing can be adjusted both in rotation and position (flexible fixing interaxis).



- ANTI-SLIDE INSERT FOR DIN RAIL**  
 Two rubber pad inserts prevent the sliding of switch disconnectors on the DIN rail.



- COMPONENT FLEXIBILITY**  
 It is possible to mount the fourth pole, neutral and earth/ground terminals on both sides of the switch disconnectors using 2 screws.



## CHANGEOVER SWITCHES

- COMPACT SIZE**  
 The four-pole 160A to 315A AC21 changeover switches are made up of a body, merely 221mm wide.
- EASY INSTALLATION**  
 The changeover switches can be mounted on plate by screws.
- UL1008 VERSION**  
 The changeover switches are listed for USA and Canada, certified according to UL1008/GSA C22.2 n° 178.
- FOUR POLE VERSION AVAILABLE**  
 Changeover switches are already supplied assembled in three-pole and four-pole configuration.



# Switch disconnectors

GL series 160A to 315A

- **WIDE RANGE OF ACCESSORIES**

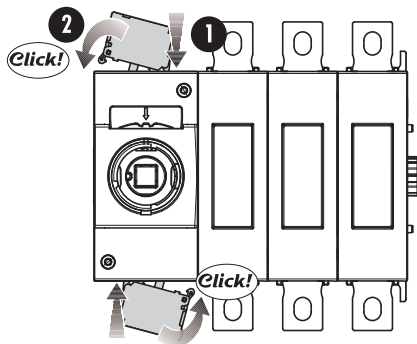
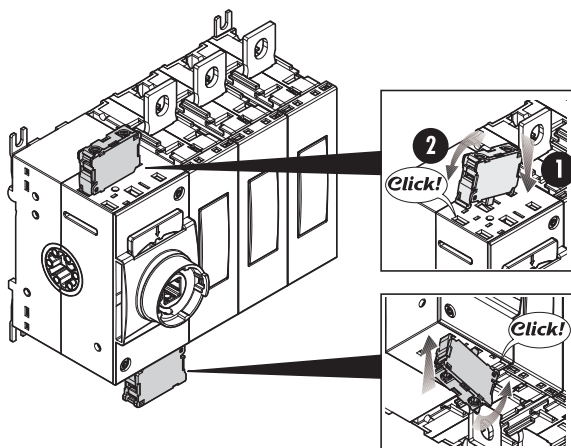
A wide choice of auxiliary contacts, terminal covers, phase barriers, terminal clamps, bridging bars, shafts and handles are available to satisfy every installation need.

- **HIGH IEC ELECTRICAL CAPABILITY**

The rated currents in AC23 up to 250A - 690VAC are the highest of the category.

- **ADD-ON AUXILIARY CONTACTS**

The same add-on block is suitable for all the switch disconnectors and changeover switches. Contacts are mounted on main switching actuator (max 8 contacts).



- **VISIBLE CONTACTS**

Thanks to the window on the individual power poles the open or closed switch status is clearly visible at a distance.



- **UL508A HANDLE VERSION**

In compliance with UL508A standards, which require internal panel inspection by authorized personnel with power applied, pistol handles are available with defeatable feature of the door coupling when the switch disconnector or the changeover switch is closed, i.e. in ON position.

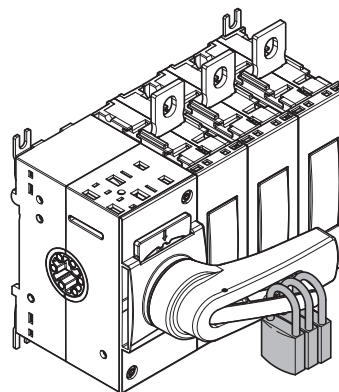
- **IP66 AND NEMA 4X HANDLES**

A wide range of screw fixing pistol grip handles is available with the maximum degree of protection on the market.



- **PADLOCKABLE HANDLES**

All direct and door coupling handles are equipped with integrated padlock mechanism.



- **HANDLES**

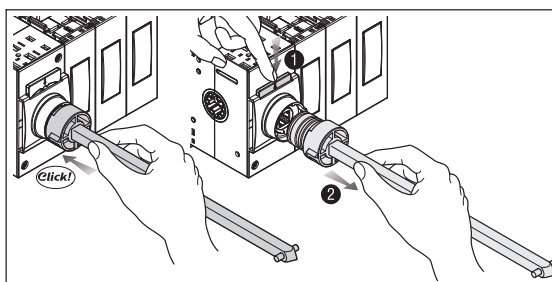
Switch disconnectors and changeover switches are standard supplied without any handles.

By purchasing the direct handle separately it is possible to realise the direct operating version.

By purchasing a shaft extension and a door coupling handle separately it is possible to realise the door coupling version.

- **SHAFT MOUNTING**

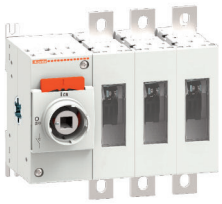
Shafts can be mounted and removed very easily by snapping on the front of the switch. This feature allows fast installation and easy accessibility to the panel in case of maintenance.



# Switch disconnectors

GL series 160A to 315A

## IEC/EN three-pole switch disconnectors



GL...C1

Order code	IEC conventional free air thermal current I <sub>th</sub> AC21A (690V)	IEC rated operational current I <sub>e</sub> AC22A (690V) AC23A (415V)	Qty per pkg	Wt
[A]	[A]	[A]	n°	[kg]

Supplied without handle.

Complete the switch disconnector by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GL0160 C1</b>	160	160	1	1.500
<b>GL0200 C1</b>	200	200	1	1.500
<b>GL0250 C1</b>	250	250	1	1.500
<b>GL0315 C1</b>	315	250	1	1.500

## UL98 three-pole switch disconnectors



GL0200 C1UL

Order code	General purpose current	Max. 3-phase horsepower rating	Qty per pkg	Wt
[A]	[HP/V]	[HP/V]	n°	[kg]

Supplied without handle.

Complete the switch disconnector by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GL0200 C1UL</b>	200	75/240 150/480 200/600	1	1.600
--------------------	-----	------------------------------	---	-------

## IEC/EN fourth pole add-on



GLX42 0315

Order code	IEC conventional free air thermal current I <sub>th</sub> AC21A (690V)	IEC rated operational current I <sub>e</sub> AC22A (690V) AC23A (415V)	Qty per pkg	Wt
[A]	[A]	[A]	n°	[kg]

Simultaneous closing operation as switch disconnector poles. For GL0160 C1...GL0315 C1 versions.

<b>GLX42 0315</b>	315	250	1	0.200
-------------------	-----	-----	---	-------

## UL98 fourth pole add-on



GLX42 0200UL

Order code	General purpose current	Max. 3-phase horsepower rating	Qty per pkg	Wt
[A]	[HP/V]	[HP/V]	n°	[kg]

Simultaneous closing operation as switch disconnector poles. For GL0200 C1UL version.

<b>GLX42 0200UL</b>	200	75/240 150/480 200/600	1	0.200
---------------------	-----	------------------------------	---	-------

## General characteristics

- 160 to 315A AC21 versions
- 200A general purpose according to UL98
- Compact dimensions and add-on fourth-pole
- Screw or 35mm DIN rail fixing
- Possibility to adjust the position of the clips for screw fixing on plate
- Visible contacts
- Maximum number of power poles: 4.

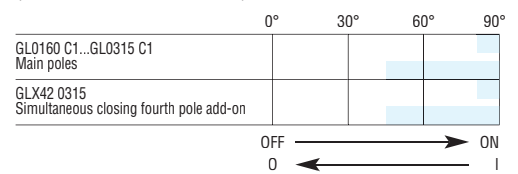
## Operational characteristics

- Rated insulation voltage U<sub>i</sub>: 1,000V
- Rated impulse withstand U<sub>imp</sub>: 12kV
- Mechanical life:
  - 20,000 cycles.

## Certifications and compliance

Certifications obtained: cULus according to UL98 / CSA C22.2 n°4 for GL...UL and GLX42...UL types.  
Compliant with standards: IEC/EN 60947-3, IEC/EN 60947-1.

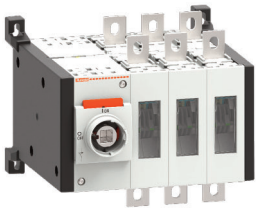
Strokes of GL poles  
(main poles and add-on pole)



# Switch disconnectors

GL series 160A to 315A

## IEC/EN three-pole changeover switches



GLC...C1

Order code	IEC conventional free air thermal current Ith AC21A (690V)	IEC rated operational current Ie AC22A (690V) AC23A (415V)	Qty per pkg	Wt
[A]	[A]	n°	[kg]	

Supplied without handle.

Complete the changeover switch by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GLC0160 C1</b>	160	160	1	3.500
<b>GLC0200 C1</b>	200	200	1	3.500
<b>GLC0250 C1</b>	250	250	1	3.500
<b>GLC0315 C1</b>	315	250	1	3.500

## IEC four-pole changeover switches



GLC...T4C1

Order code	IEC conventional free air thermal current Ith AC21A (690V)	IEC rated operational current Ie AC22A (690V) AC23A (415V)	Qty per pkg	Wt
[A]	[A]	n°	[kg]	

Supplied without handle.

Complete the changeover switch by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GLC0160 T4C1</b>	160	160	1	3.500
<b>GLC0200 T4C1</b>	200	200	1	3.500
<b>GLC0250 T4C1</b>	250	250	1	3.500
<b>GLC0315 T4C1</b>	315	250	1	3.500

## UL1008 three-pole changeover switches



GLC0200 C1UL

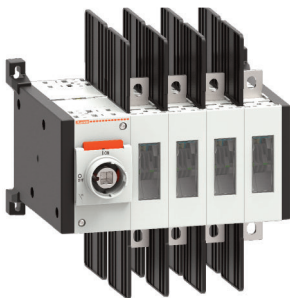
Order code	General purpose current	Max. 3-phase horsepower rating	Qty per pkg	Wt
[A]	[HP/V]	n°	[kg]	

Supplied without handle.

Complete the changeover switch by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GLC0200 C1UL</b>	200	75/240 150/480 200/600	1	3.600
---------------------	-----	------------------------------	---	-------

## UL1008 four-pole changeover switches



GLC0200 T4C1UL

Order code	General purpose current	Max. 3-phase horsepower rating	Qty per pkg	Wt
[A]	[HP/V]	n°	[kg]	

Supplied without handle.

Complete the changeover switch by selecting shaft extension and handle for door coupling version or the handle for direct operating version (see page 7).

<b>GLC0200 T4C1UL</b>	200	75/240 150/480 200/600	1	3.600
-----------------------	-----	------------------------------	---	-------

### General characteristics

- 160 to 315A AC21A versions
- 200A general purpose according to UL1008
- Screw fixing on plate
- Visible contacts.

### Operational characteristics

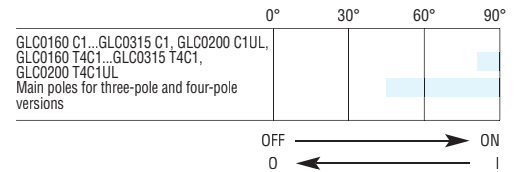
- Rated insulation voltage Ui: 1,000V
- Rated impulse withstand Uimp: 12kV
- Mechanical life:
  - 20,000 cycles.

### Certifications and compliance

Certifications pending: cULus according to UL1008 for GLC...UL types.

Compliant with standards: IEC/EN 60947-6-1, IEC/EN 60947-3.

### Strokes of GLC poles



# Switch disconnectors

GL series 160A to 315A  
Accessories

## Add-on blocks



GLX10 10EA



GLX10 01



GLX3 00



GLX3 01



GLX8...



GLX9...



GLX5...



GLX2...

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

Auxiliary contacts.

GLX10 01	1NC with screw terminals	1	0.011
GLX10 10EA	1EB with screw terminals	1	0.011

Neutral terminal.

GLX3 00	For GL0160...GL0315	1	0.200
---------	---------------------	---	-------

Earth/ground terminal.

GLX3 01	For GL0160...GL0315	1	0.200
---------	---------------------	---	-------

One-pole terminal covers.

GLX8 00	3-piece set, each covers 1 pole	1	0.011
GLX8 01	4-piece set, each covers 1 pole	1	0.011

One-pole phase barrier (needed for voltages > 500V).

GLX9 00	6-piece set, each covers 1 pole	1	0.011
GLX9 01	8-piece set, each covers 1 pole	1	0.011

Terminal clamp sets for rigid and flexible cables.

GLX5 00	1-piece set, each covers 1 pole	1	0.011
GLX5 01	3-piece set, each covers 1 pole	1	0.011

One-pole bridging bars for changeover parallel connection GLC0160...GLC0315.

GLX2 01	3-piece set, each covers 1 pole	1	0.011
GLX2 02	4-piece set, each covers 1 pole	1	0.011

## Operational characteristics of auxiliary contacts GLX10...

- Conventional free air thermal current I<sub>th</sub>: 10A
- Rated insulation voltage: 690V
- Conductivity: 5V, 1mA
- UL/CSA and IEC/EN 60947-5-1 designation: A600 Q600
- Tightening torque: 0.8Nm/7.1lb.in
- Maximum 8 contacts for GL0160...GL0315 switch disconnectors
- Maximum 4 contacts for GLC0160...GLC0315 changeover switches.

## Operational characteristics of neutral and earth/ground terminals GLX3...

- Add-on only on GL0160...GL0315 switch disconnectors
- Tightening torque: 15...22Nm/132.7...194.7lb.in.

## Operational characteristics for terminal covers and phase barriers GLX8..., GLX9...

- Snap on mounting.

## Operational characteristics for terminal clamps GLX5...

- Maximum conductor cross section: 120mm<sup>2</sup>/250kcmil
- Minimum conductor cross section: 16mm<sup>2</sup>/6AWG
- Tightening torque: 35Nm/309.7lb.in.

## Certifications and compliance

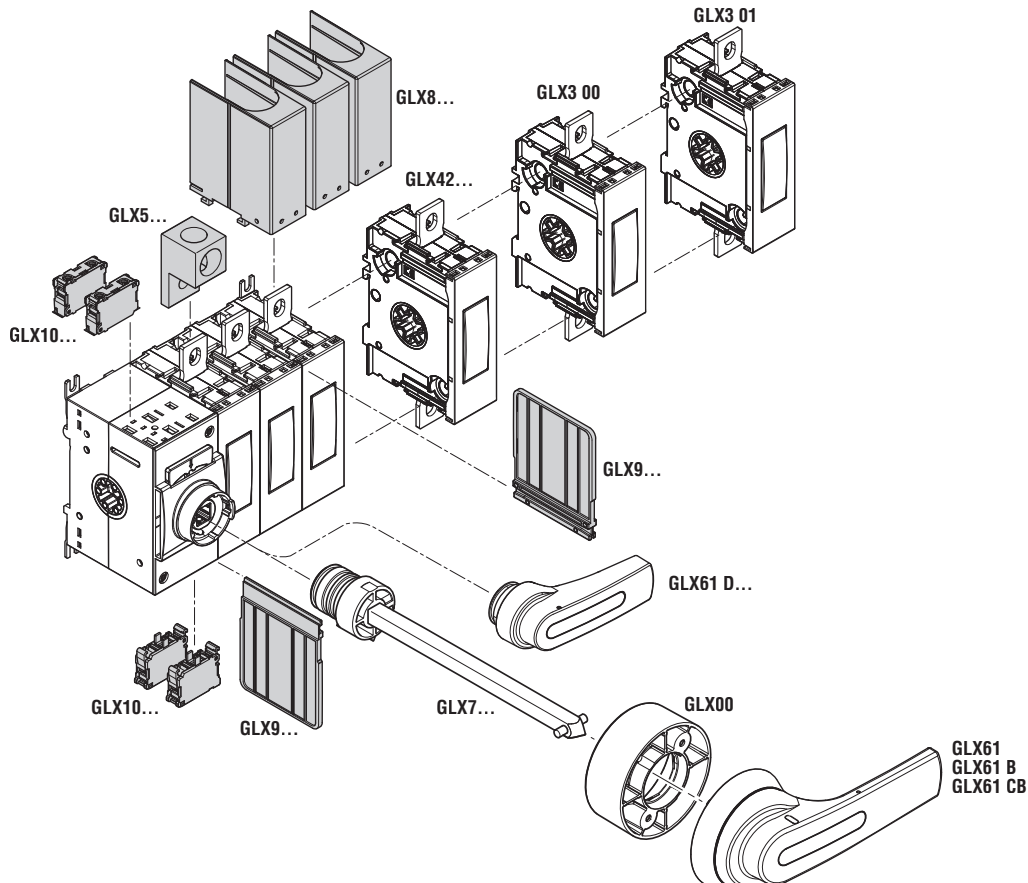
Certifications obtained: cULus

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

Strokes of GL poles  
(main poles with add-on pole)

	0°	30°	60°	90°
GL0160 C1...GL0315 C1, GL0200 C1UL Main poles				
GLX10 10EA Auxiliary contacts (1EB NO with early-break with respect to main poles)				
GLX10 01 Auxiliary contact (1NC)				

OFF ← → ON  
0 ← → I



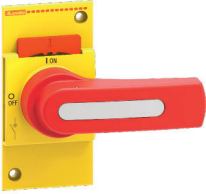
# Switch disconnectors

GL series 160A to 315A  
Accessories

## Handles and shafts



GLX61 DB



GLX61 D



GLX61



GLX61 B



GLX61 CB



GLX00



GLX7...

Order code	Characteristics	Qty per pkg n°	Wt [kg]
------------	-----------------	-------------------	------------

Direct operating handles.

<b>GLX61 DB</b>	For GL0160...GL0315 and GLC0160...GLC0315. Black	1	0.075
<b>GLX61 D</b>	For GL0160...GL0315. Red/yellow	1	0.075

Door coupling handles.

<b>GLX61</b>	For GL0160...GL0315. Screw fixing. 125mm lever length pistol handle - defeatable (req. UL508A). Red/yellow. □10mm	1	0.200
<b>GLX61 B</b>	For GL0160...GL0315. Screw fixing. 125mm lever length pistol handle - defeatable (req. UL508A). Black. □10mm	1	0.200
<b>GLX61 CB</b>	For GLC0160...GLC0315. Screw fixing. 125mm lever length pistol handle - defeatable (req. UL508A). Black. □10mm	1	0.200

Accessories for door coupling handles.

<b>GLX00</b>	Shaft alignment ring	1	0.040
--------------	----------------------	---	-------

Shaft extensions for door coupling handles GLX61, GLX61 B, GLX61 CB type.

<b>GLX7 150 S10</b>	150mm long. □10mm	1	0.120
<b>GLX7 200 S10</b>	200mm long. □10mm	1	0.155
<b>GLX7 300 S10</b>	300mm long. □10mm	1	0.240
<b>GLX7 400 S10</b>	400mm long. □10mm	1	0.280
<b>GLX7 500 S10</b>	500mm long. □10mm	1	0.310

### Operational characteristics for direct operating handles

- Snap on mounting on switch disconnectors and changeover switches
- 1 to 3 padlocks in the Ø4...6mm.

### Operational characteristics for door coupling handles

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

NOTE: Types GLX61, GLX61 B, GLX61 CB are UL/CSA Type 1, 2, 3R, 12, 12K, 4, 4X external use.

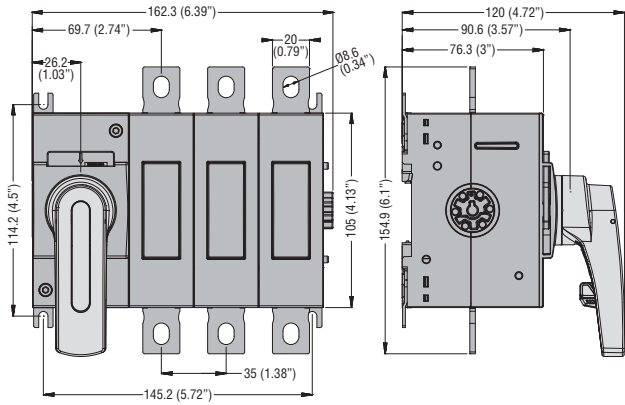
### Certifications and compliance

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

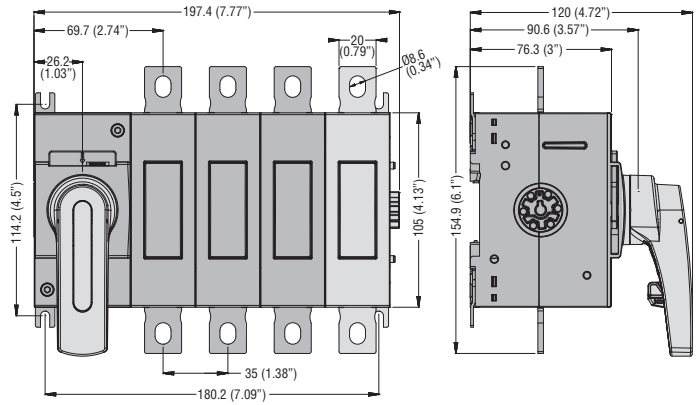
# Switch disconnectors

Dimensions [mm]

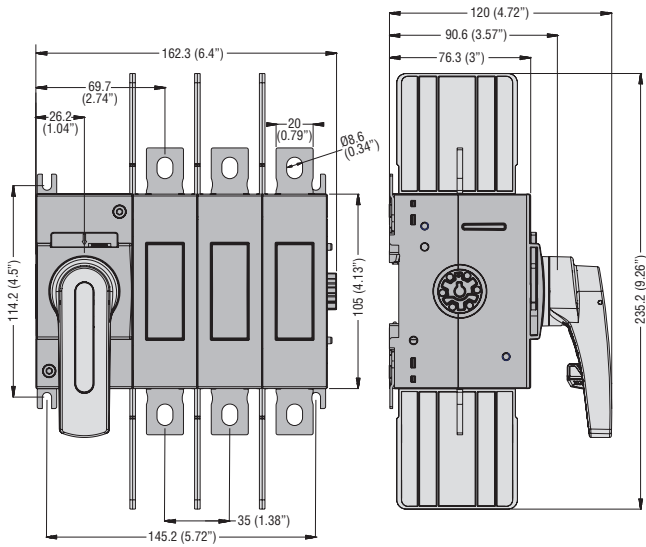
**GL0160C1...GL0315C1**



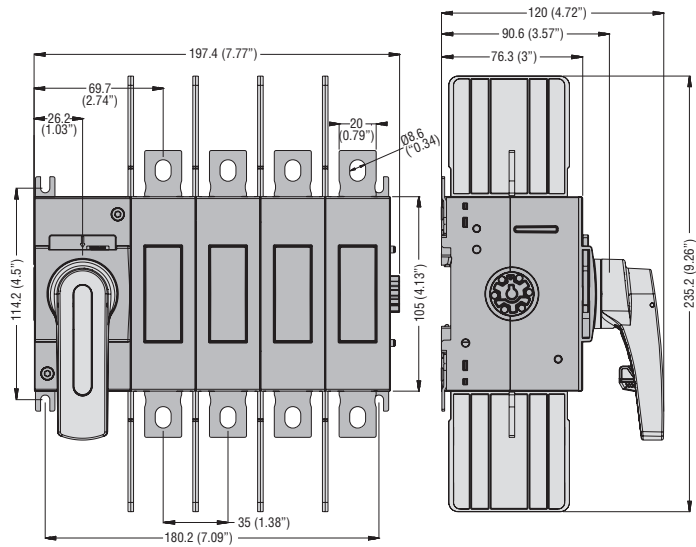
**GL0160C1...GL0315C1 with add-on fourth pole GLX42 0315**



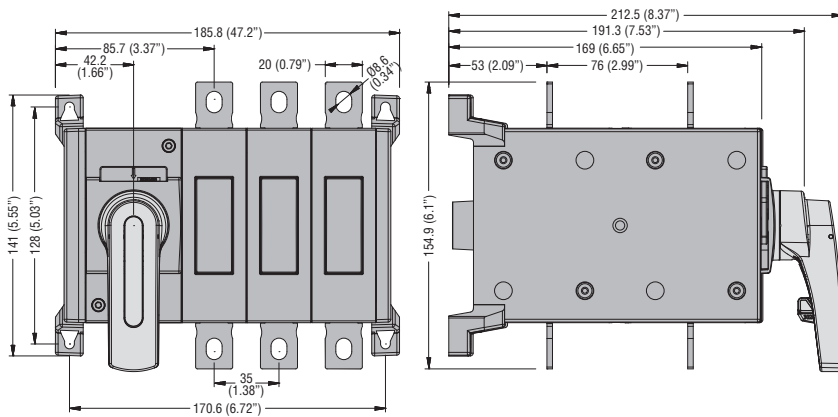
**GL0200 C1UL**



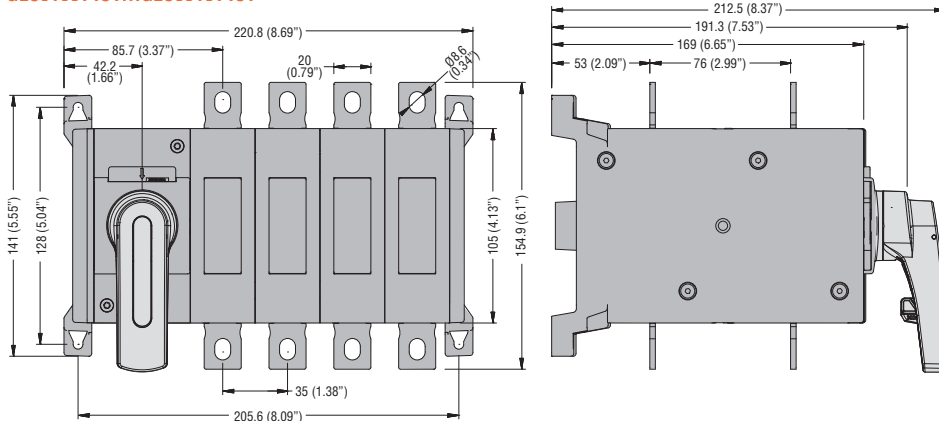
**GL0200 C1UL with add-on fourth pole GLX42 0200UL**



**GLC0160C1...GLC0315C1**



**GLC0160T4C1...GLC0315T4C1**

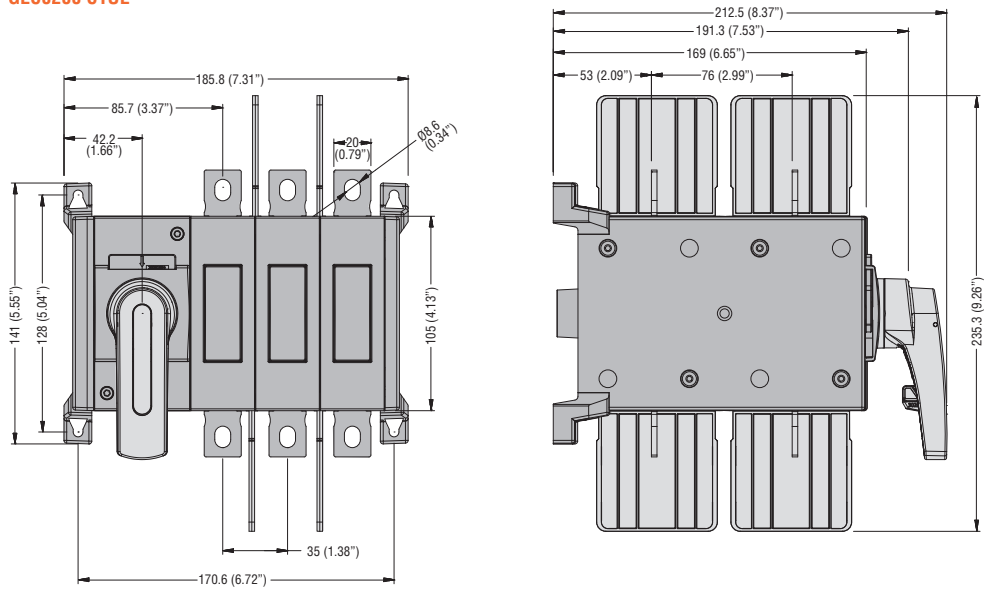




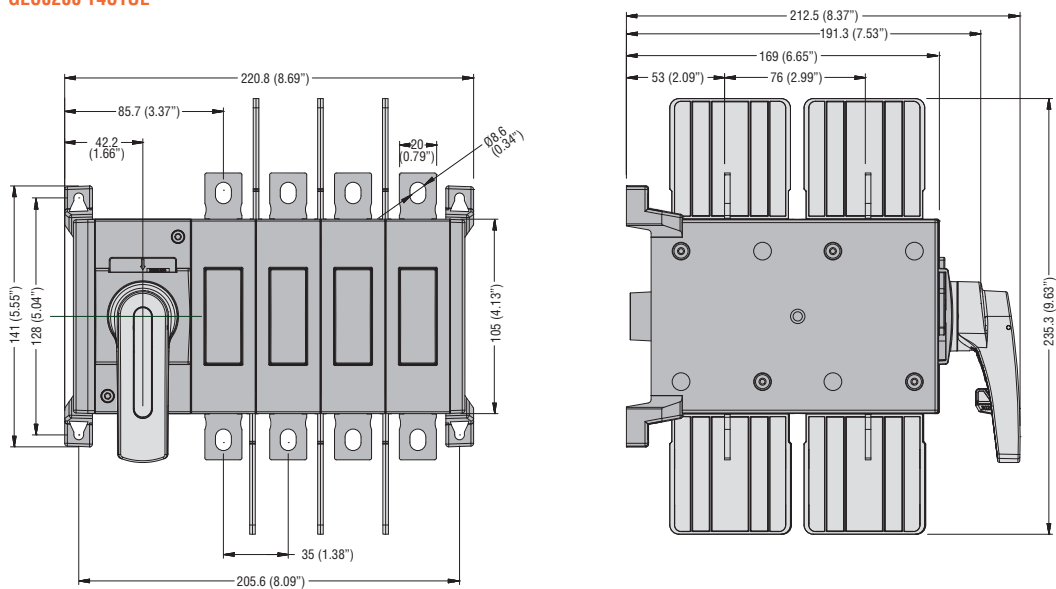
# Switch disconnectors

## Dimensions [mm]

**GLC0200 C1UL**



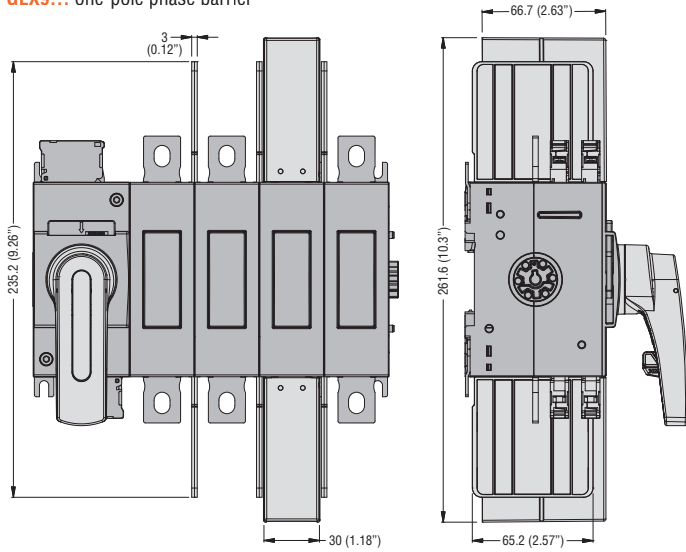
**GLC0200 T4C1UL**



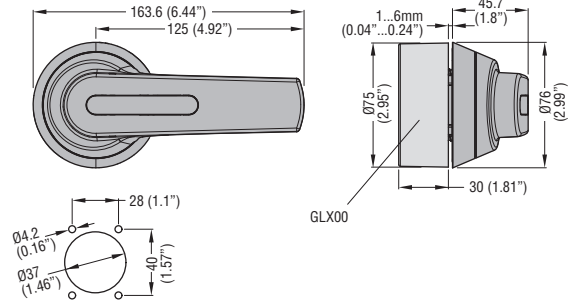
# Switch disconnectors

Dimensions [mm]

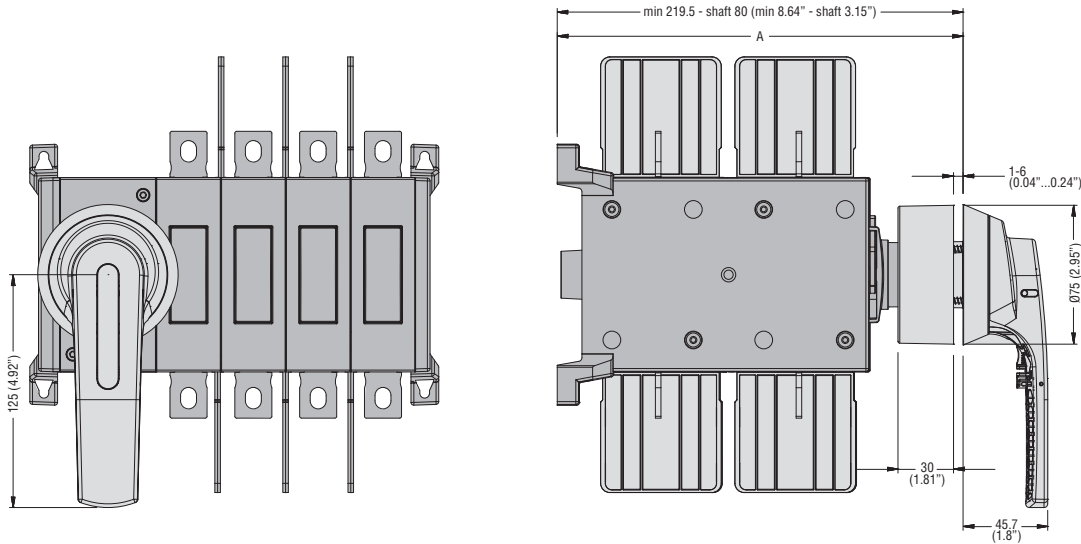
**GLX8... terminal covers**  
**GLX9... one-pole phase barrier**



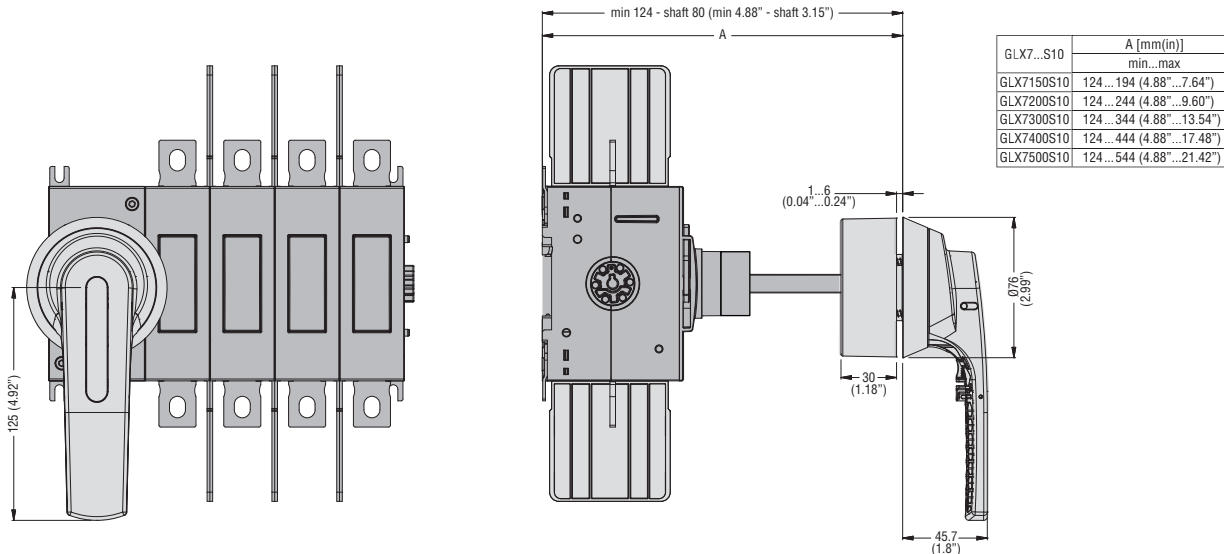
**GLX61 - GLX61B - GLX61CB handles**



**GLX00 shaft alignment ring**



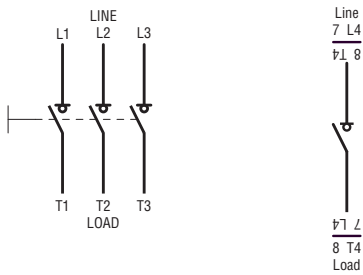
**GLX7... shaft extensions for door coupling handles**



### GL SERIES 160A TO 315A SWITCH DISCONNECTORS

Three-pole  
**GL0160...GL0315...**

Fourth pole  
**GLX42...**



### ADD-ON BLOCKS AND ACCESSORIES

Auxiliary contacts  
**GLX10 10EA**

**GLX10 01**

Neutral terminal  
**GLX3 00**

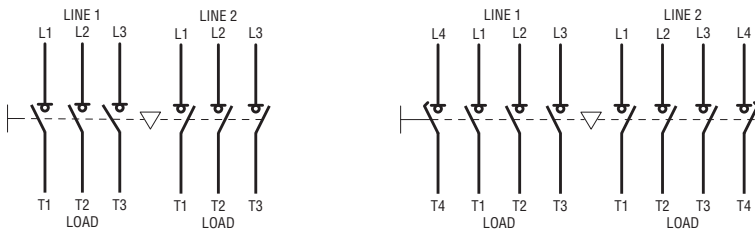
Earth/Ground terminal  
**GLX3 01**



### GL SERIES 160A TO 315A CHANGEOVER SWITCHES

Three-pole **GLC0160...GLC0315**

Four-pole **GLC0160 T4...GLC0315 T4**



# Switch disconnectors

Technical characteristics  
Switch disconnectors

## TECHNICAL DATA ACCORDING TO IEC/EN 60947

TYPE	3-pole	GL0160...	GL0200... / GL0200...UL	GL0250...	GL0315...	
	4-pole	GLX42 0315				
<b>CONTACT CHARACTERISTICS</b>						
IEC conventional free air thermal current I <sub>th</sub> (40°C)	A	160	200	250	315	
IEC rated insulation voltage U <sub>i</sub>	V	1000				
IEC rated impulse withstand U <sub>imp</sub>	kV	12				
IEC rated operational current I <sub>e</sub>						
AC21A	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC22A	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC23A	400V	A	160	200	250	250
	500V	A	160	200	250	250
	690V	A	160	200	250	250
Power dissipation	W/pole	3.2	4	6.5	6.5	
IEC rated operational power						
AC23A	400V	kW	90	110	140	140
	690V	kW	144	200	250	250
IEC reactive power for control of capacitors 400V	kvar	80	100	115	145	
<b>SHORT CIRCUIT PROTECTION</b>						
Rated short-time current (1s) I <sub>cw</sub>	kA rms	8				
Conditional short-circuit current	kA rms	100				
With fuse class gG	A	160	200	250	315	
Making capacity AC23A 400V	A	1600	2000	2500	2500	
Breaking capacity AC23A 400V	A	1280	1600	2000	2000	
Mechanical life	cycles	20000				
Terminal for busbars	mm	M8 x 25				
Tightening torque	Nm	15...22				
	lbin	132...194				
Conductor section min.	mm <sup>2</sup>	70	95	120	185	
	AWG/ Kcmil	00	000	250	400	
<b>AMBIENT CONDITIONS</b>						
Temperature	Operating	°C	-25...+55			
	Storage	°C	-40...+70			
Maximum altitude	m	3000				
Mounting position	Normal	Vertical				
	Admissible	Any				
Fixing	By screw or on 35mm DIN rail (IEC/EN 60715)					

## TECHNICAL DATA ACCORDING TO UL/CSA RATINGS

TYPE	3-pole	—	GL0200...UL	—	—
	4-pole	—	GLX42 0200UL	—	—
Compliance		—	UL98 CSA C22.2 N°4	—	—
General purpose current ratings	A	—	200	—	—
Max operating voltage	V	—	600	—	—
Horsepower ratings /motor FLA current three-phase	240V	HP/A	75/192	—	—
	480V	HP/A	150/180	—	—
	600V	HP/A	200/192	—	—
Short circuit ratings	KA rms	—	200	—	—
With fuse class J	A	—	200	—	—
Terminal kit lugs		—	GLX5...	—	—
Minimum enclosure dimensions at rated current	mm	—	400 x 250 x 150	—	—

# Switch disconnectors

## Technical characteristics Changeover switches

TYPE	3-pole	GLC0160...	GLC0200...	GLC0250...	GLC0315...	
	4-pole	GLC0160T4C1	GLC0200T4C1	GLC0250T4C1	GLC0315T4C1	
<b>CONTACT CHARACTERISTICS</b>						
IEC conventional free air thermal current I <sub>th</sub> ( 40°C)	A	160	200	250	315	
IEC rated insulation voltage U <sub>i</sub>	V	1000				
IEC rated impulse withstand U <sub>imp</sub>	kV	12				
IEC rated operational current I <sub>e</sub>						
AC31B	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC32B	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC33B	400V	A	160	200	250	250
	500V	A	160	200	250	250
	690V	A	160	200	250	250
AC21A	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC22A	400V	A	160	200	250	315
	500V	A	160	200	250	315
	690V	A	160	200	250	315
AC23A	400V	A	160	200	250	250
	500V	A	160	200	250	250
	690V	A	160	200	250	250
Power dissipation	W/pole	3.2	4	6.5	6.5	
IEC rated operational power						
AC23A	400V	kW	90	110	140	140
	690V	kW	144	200	250	250
IEC reactive power for control of capacitors 400V	kvar	80	100	115	145	
<b>SHORT CIRCUIT PROTECTION</b>						
Rated short-time current (1s) I <sub>cw</sub>	kA rms	8				
Conditional short-circuit current	kA rms	100				
With fuse class gG	A	160	200	250	315	
Making capacity AC23A 400V	A	1600	2000	2500	2500	
Breaking capacity AC23A 400V	A	1280	1600	2000	2000	
Mechanical life	cycles	10000				
Terminal for busbars	mm	M8 x 25				
Tightening torque	Nm	15...22				
	lbin	132...194				
Conductor section min.	mm <sup>2</sup>	70	95	120	185	
	AWG/ Kcmil	00	000	250	400	
<b>AMBIENT CONDITIONS</b>						
Temperature	Operating	°C	-25...+55			
	Storage	°C	-40...+70			
Maximum altitude		m	3000			
Mounting position	Normal		Vertical			
	Admissible		Any			
Fixing			By screw			



ENERGY AND AUTOMATION

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

LOVATO ELECTRIC S.P. A.

via Don E. Mazza, 12  
24020 Gorle (Bergamo) Italy

Tel +39 035 4282111  
[info@LovatoElectric.com](mailto:info@LovatoElectric.com)

Follow us



The products described in this publication are subject to be revised or improved at any moment. Catalogue descriptions and details, such as technical and operational data, drawings, diagrams and instructions, etc., do not have any contractual value. In addition, products should be installed and used by qualified personnel and in compliance with the regulations in force for electrical systems in order to avoid damages and safety hazards.