



# DC Load Break Switch

Isolators & Changeovers  
Photovoltaic Applications



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# DC Load Break Switches

LB Series Load Break Switches comply with the latest specifications for modern low voltage devices. Outstanding electrical characteristics of LB Switches with compact design, contribute to space saving installation and operational convenience. Basic construction and design of the switch makes it compact, safe and highly reliable. The switch uses polyamide glass filled material, having excellent track resistance (CTI) for Insulation to prevent flashover between phases in the most severe conditions. The special contact design and configuration makes the switch highly reliable to withstand high short circuit currents.

## Applications

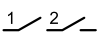
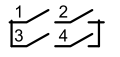
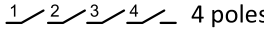
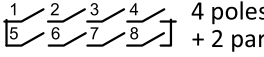
- Photovoltaic - Isolators
- Isolator
- Main Switch
- Emergency ON / OFF
- Inverter Applications
- AC / DC Changeover in Solar Pumps

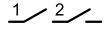
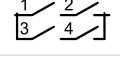
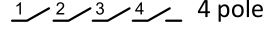
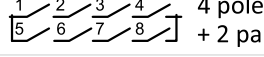
## Features

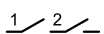
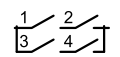
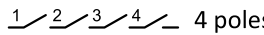
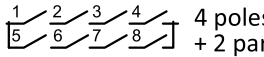
- Compact and reliable
- Finger Protection
- Easy Installation
- Wiping Contacts
- Excellent switching and high short circuit capacity
- Optional Extended Terminals
- DIN rail mounting - Suitable for DB boards
- Various Panel mounting Options - Front mounting, Rear mounting Enclosure mounting



# IEC - Technical Specification

Type	Contact Sequence	IEC Rating 60947-3 - DC21B / DC PV2			
		500V	700V	1000V	1500V
<b>DCLB 216</b>	1pole	12	10	6	-
	 2 poles in series	16	16	-	-
	2 poles in series + 2 poles in series	-	-	-	-
	 2 poles in series + 2 parallel	55	25	12	3
	 4 poles in series	20	20	20	16
	 4 poles in series + 2 parallel	29	29	29	16

<b>DCLB 225</b>	1pole	16	12	8	-
	 2 poles in series	20	20	-	-
	2 poles in series + 2 poles in series	-	-	-	-
	 2 poles in series + 2 parallel	63	32	16	4
	 4 poles in series	25	25	25	23
	 4 poles in series + 2 parallel	45	45	45	23

<b>DCLB 232</b>	1pole	20	16	11	-
	 2 poles in series	25	25	-	-
	2 poles in series + 2 poles in series	-	-	-	-
	 2 poles in series + 2 parallel	72	35	20	6
	 4 poles in series	40	40	40	32
	 4 poles in series + 2 parallel	63	63	63	32

TERMINAL CROSS SECTION		Measure	DCLB216	DCLB225	DCLB232
Single / Multi Strand wire	Min	mm <sup>2</sup>	2.5	2.5	2.5
	Max	mm <sup>2</sup>	16	16	16
Fine Strand Wire with Sleeve	Min	mm <sup>2</sup>	0.75	0.75	0.75
	Max	mm <sup>2</sup>	10	10	10
American Wire Gauge	-	AWG	-	10	6
Recommended Tightening Torque for terminals	-	Nm	1.7	1.7	2

## UL - Technical Specification

Type	Contact Sequence	UL Rating 508i		
		500V	700V	1000V
<b>DCLB 216</b>	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series	16	16	10
	2 poles in series + 2 poles in series	16	16	16
	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series $\frac{3}{\diagdown} \frac{4}{\diagup}$ + 2 parallel	32	16	10
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series	16	16	16
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series $\frac{5}{\diagdown} \frac{6}{\diagup} \frac{7}{\diagdown} \frac{8}{\diagup}$ + 2 parallel	32	-	-
<b>DCLB 225</b>	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series	25	23	12
	2 poles in series + 2 poles in series	25	25	25
	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series $\frac{3}{\diagdown} \frac{4}{\diagup}$ + 2 parallel	40	23	12
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series	25	25	25
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series $\frac{5}{\diagdown} \frac{6}{\diagup} \frac{7}{\diagdown} \frac{8}{\diagup}$ + 2 parallel	45	-	-
<b>DCLB 232</b>	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series	32	27	16
	2 poles in series + 2 poles in series	32	32	32
	$\frac{1}{\diagdown} \frac{2}{\diagup}$ 2 poles in series $\frac{3}{\diagdown} \frac{4}{\diagup}$ + 2 parallel	63	27	16
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series	36	36	36
	$\frac{1}{\diagdown} \frac{2}{\diagup} \frac{3}{\diagdown} \frac{4}{\diagup}$ 4 poles in series $\frac{5}{\diagdown} \frac{6}{\diagup} \frac{7}{\diagdown} \frac{8}{\diagup}$ + 2 parallel	58	-	-

# Switching Configurations

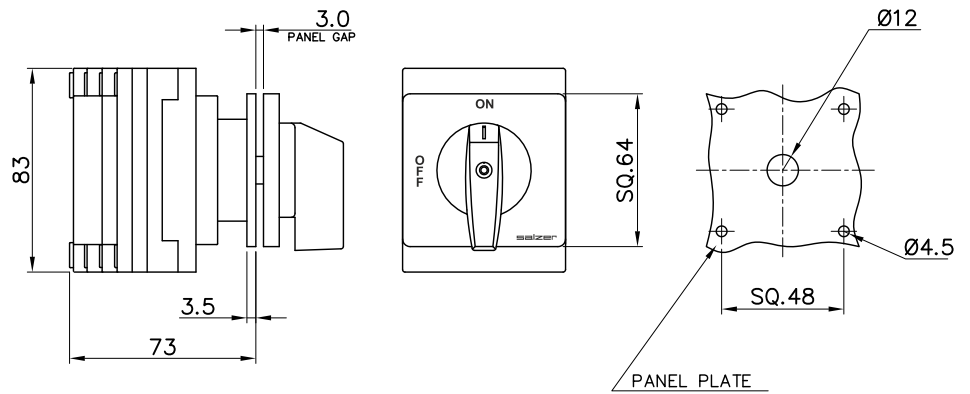
Type	2 pole	4 pole ( 2 + 2 pole )	4 pole	4 pole ( with jumpers )	4 pole ( with jumpers, both input & output at bottom )
DC LB216	30209	32409	30409	30449	30429
DC LB225	30209	32409	30409	30449	30429
DC LB232	30209	-	30409	30449	30429
Contacts Wiring Diagram					
Switching Example					

FRONT MOUNTING  
B13

4 POLE



16A-40A

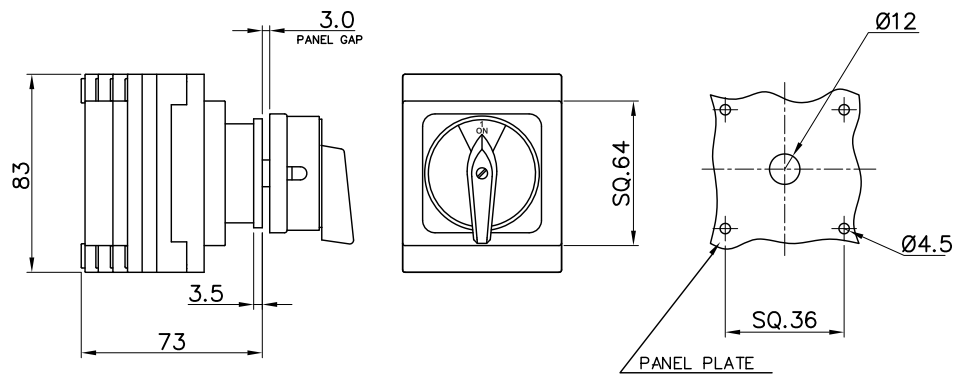


- 4 hole panel mounting.
- Degree of Protection : Front IP54

B33



16A-40A

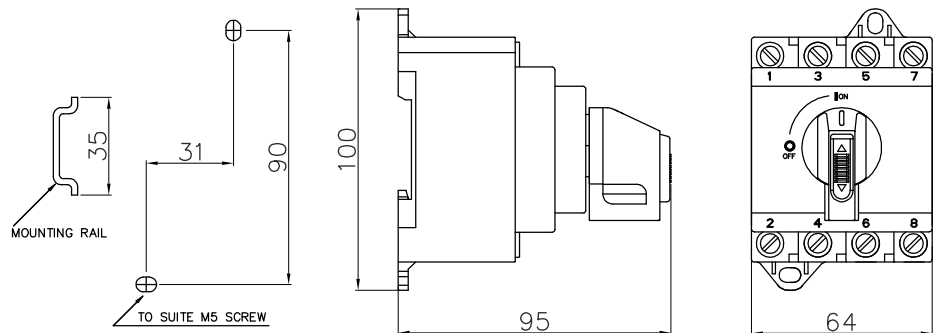


- Degree of Protection : Front IP65
- Max 3 Padlocks
- 4 hole panel mounting
- Round padlocking device to prevent being switched ON by Unauthorized personnel

REAR MOUNTING  
B23DB



16A-40A

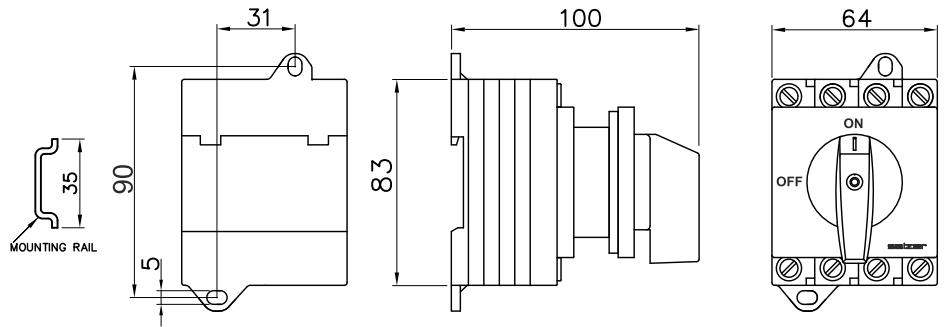


- 2 Hole rear mounting.
- Alternately snap mounting on DIN EN50022 rail (35mm).

B23



16A-40A



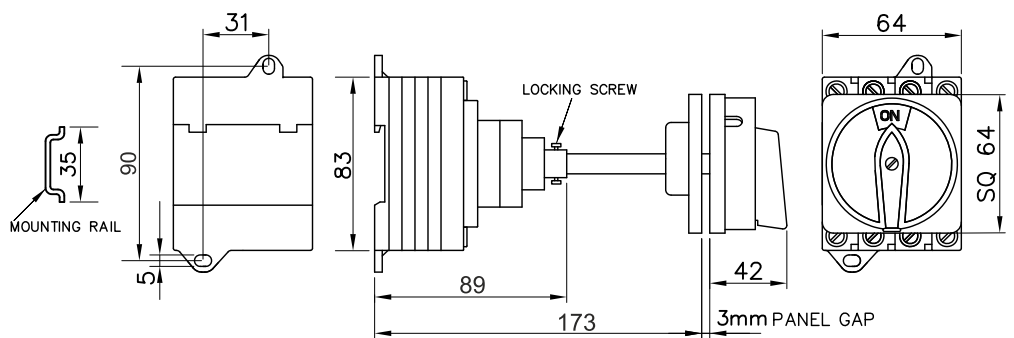
- Degree of Protection : Front IP30
- 2 Hole rear mounting.
- Alternately snap mounting on DIN EN50022 rail (35mm).

4 POLE

DOOR INTERLOCK  
MB34



16A-40A



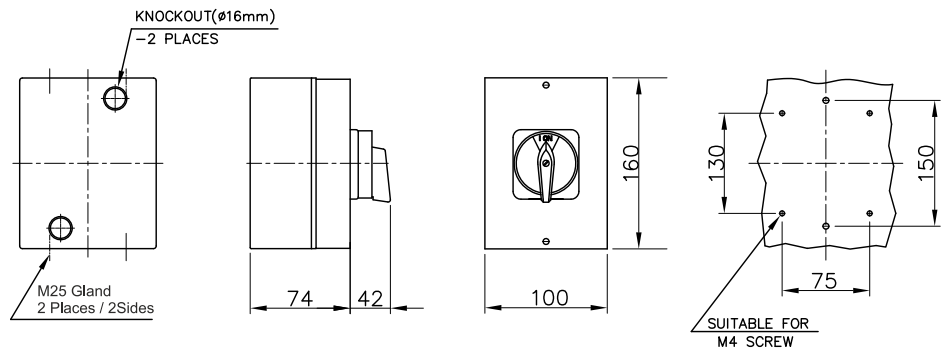
- Degree of Protection : Front IP65
- Switch with round padlocking device to prevent the Switch from being made ON by unauthorised personnel
- 2 hole rear mounting or snap mounting on DIN EN50022 rail (35mm) and operateable from the front (door) coupled with door mechanism
- Door interlock (door opens only in OFF position)
- Max.3 padlocks



ENCLOSURES  
B31SMX



16A-40A

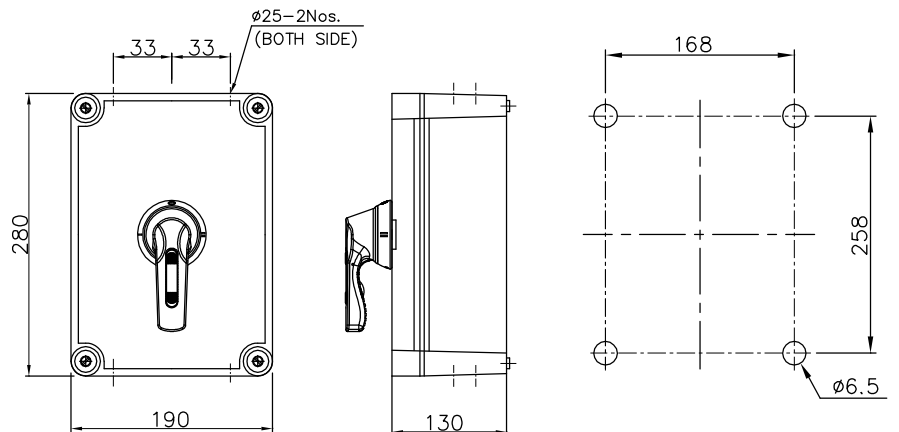


- Degree of Protection : Front IP65
- Switch rear mounted for easy connection
- Enclosure colour : Dark grey base and light grey cover.
- Switch mounted in ABS / polycarbonate (optional) enclosure.
- Round padlocking device (Max.3 padlocks) to prevent the Switch from being made ON by unauthorised personnel
- Interlock Feature (Cover opens only in OFF position)

B31L



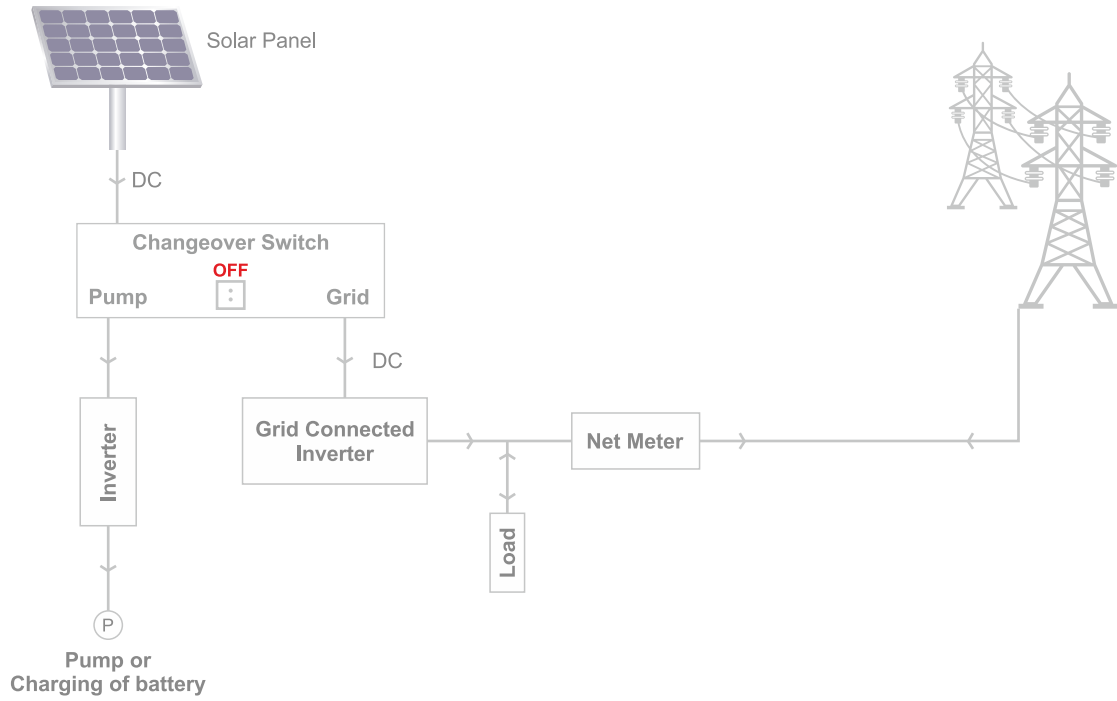
16A-40A



- Degree of Protection : IP65
- Switch rear mounted for easy connection padlocking device (Max.2 padlocks) to prevent the Switch from being made ON by unauthorised personnel
- Interlock Feature (Cover opens only in OFF position)
- Enclosure colour : Grey
- Switch mounted in ABS / polycarbonate (optional) enclosure

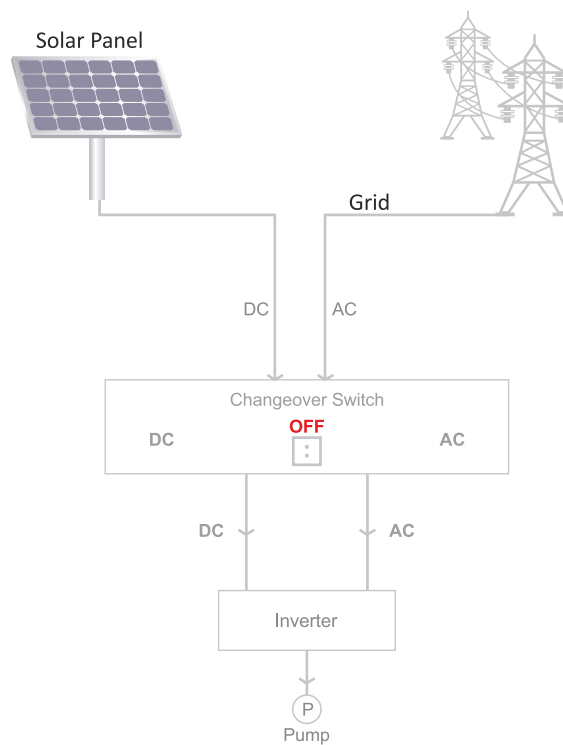
# CHANGEOVER

## Application - I



# CHANGEOVER

## Application - II

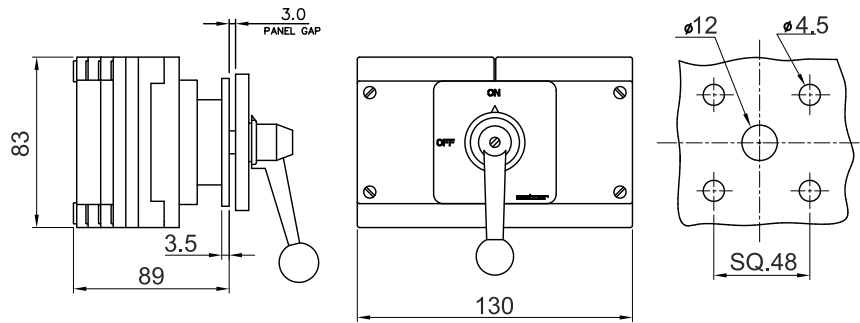


Type	8-pole Isolator
DC LB216	30809
DC LB225	30809
DC LB232	30809
Contacts Wiring Diagram	
Switching Example	

4-pole Changeover		1	3	5	7	9	11	13	15
I		X	X	X	X				
O									
II						X	X	X	X

FRONT MOUNTING

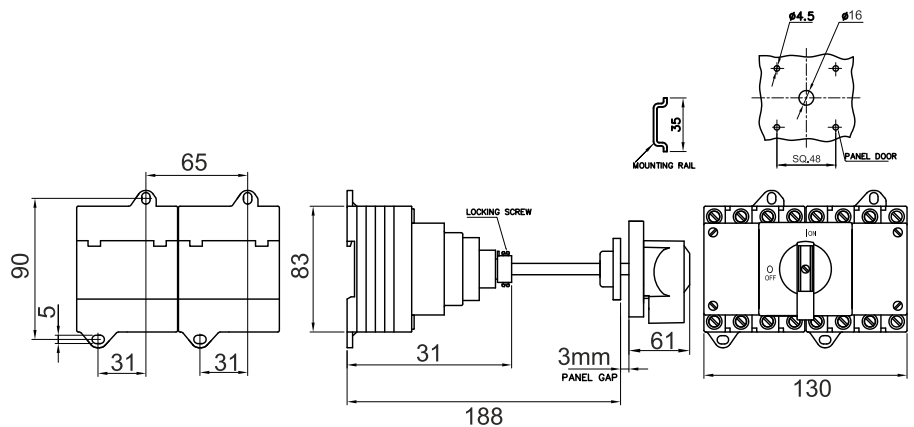
B13



- Degree of Protection : Front IP54
- 4 hole front panel mounting

DOOR INTERLOCK

MB34

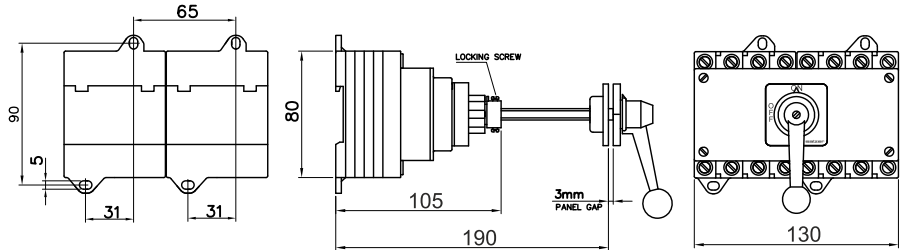
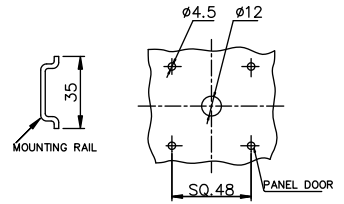


- Degree of Protection : Front IP65
- Switch with padlocking device to prevent the Switch from being made ON by unauthorised personnel
- 4 hole rear mounting or snap mounting on DIN EN50022 rail (35mm) and operateable from the front (door) coupled with door mechanism
- Door interlock (door opens only in OFF position)
- Max.2 padlocks

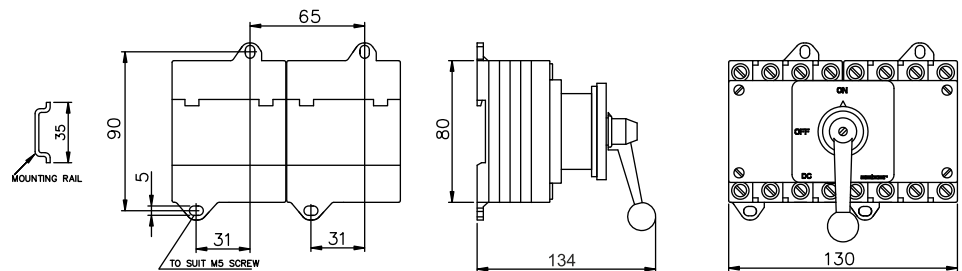
## MB42



- Degree of Protection : Front IP54
- 4 hole rear mounting or snap mounting on DIN
- EN50022 rail (35mm) and operateable from the front (door) coupled with door mechanism
- Door interlock (door opens only in OFF position)

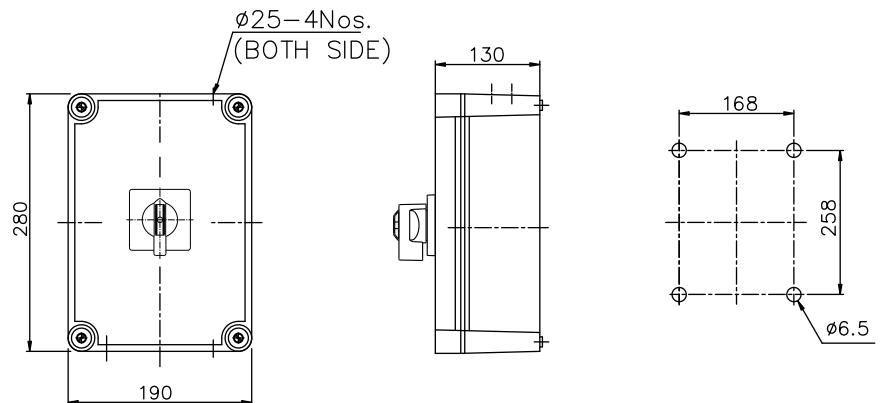


## B21



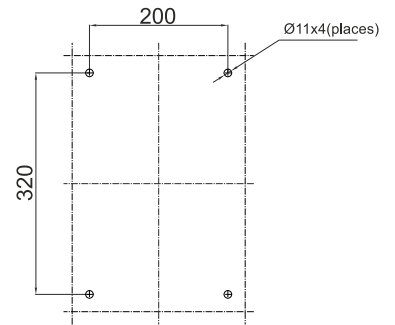
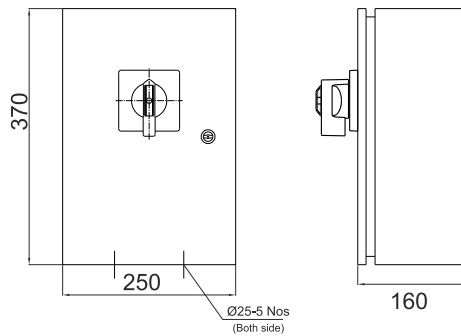
\* 4 Hole rear mounting or Snap mounting on DIN EN50022 rail (35mm)

## ENCLOSURES B31L



- Degree of Protection : IP65
- Switch rear mounted for easy connection
- Pdlocking device (Max.2 padlocks) to prevent the Switch from being made ON by unauthorised personnel
- Interlock Feature (Cover opens only in OFF position)
- Enclosure colour : Grey
- Switch mounted in ABS / polycarbonate (optional) enclosure



# SB31XL



CHANGEOVER

- Degree of Protection : IP65
- Switch rear mounted for easy connection
- Pdlocking device (Max.2 padlocks) to prevent the Switch from being made ON by unauthorised personnel
- Interlock Feature (Cover opens only in OFF position)
- Enclosure colour : Grey
- Switch mounted in ABS / polycarbonate (optional) enclosure

## Insulated Jumper

Type	Pack
 DC LBJ - LH	100
 DC LBJ - RH	100

## Ordering Code

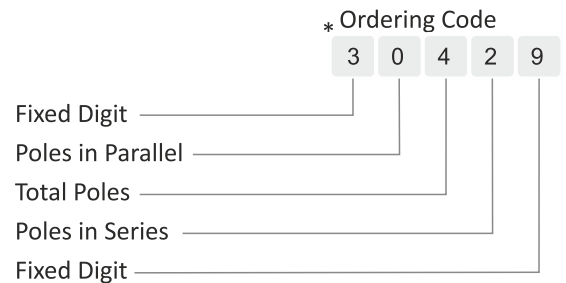
DCLB	XXX Frame Model	XXX Programme code	XXX Mounting Options	XXX Knob Options	XXX Colours
DC Load Break Switch ( 2 & 4 pole )	216/225/ 232	30209 / 32409 / 30409 / 30449 / 30429	B13/ B33 / B23 / B23 DBP/ MB34 / B31SMX	RD - Round Knob FL - Flag Knob	GB - Grey Black
DC Load Break Switch ( 8 Pole )	216/225/ 232	30809 / 34829	B13 / MB34 / MB42 / B31L	BG - Ball handle LH - Leech handle	GB - Grey Black
DC Load Break Switch ( Changeover )	216/225/ 232	30154	B13 / MB34 / MB42 / B31L	BG - Ball handle LH - Leech handle	GB - Grey Black

<b>DCLB</b>	<b>232</b>	<b>30429</b>	<b>MB34</b>	<b>RD</b>	<b>GB</b>
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Example

**DCLB 232 30429 MB34 RD GB**

Stands for DCLB Switch, 232 frame , 4 pole Switching Configuration,  
with 4 Hole Rear Mounting with Door Interlock  
Grey Front Plate, Black Round Knob







*Switch on to the Best...*

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