

## Operating Instructions

# POWERGUARD

## Heavy Duty

## Switch disconnecter fuse (Fuse Switch) Type 3KL (upto 125A)

### General Description

In 3KL range of Switch disconnecter fuse, the fuses are stationary. The contact system isolates the fuse on both sides. Specially designed roller contact system ensures high breaking capacity, long contact life and safety under short-circuit conditions.

### Standards

The Switch disconnecter fuse conform to IEC 60947-3 and IS 13947-3 They are suitable for the most severe utilization category i.e. AC23A

Therefore, these Switch disconnecter fuse can be used for switching under no load conditions, and under the most stringent conditions of inductive motor loads; they can also be used for switching inductive DC loads and Capacitor banks.

### Maintenance free

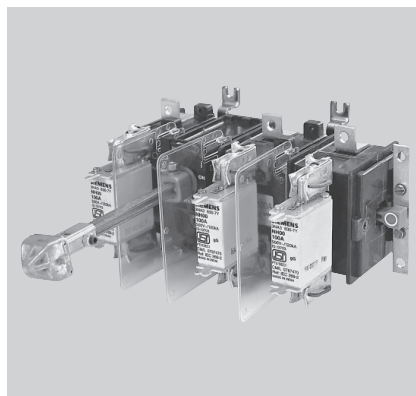
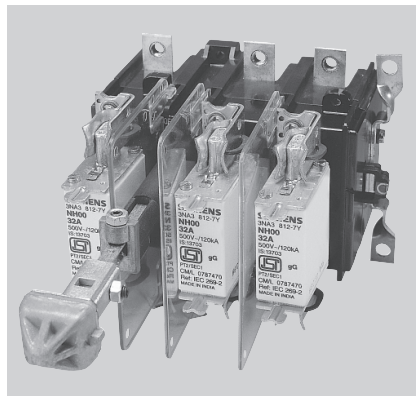
The Switch disconnecter fuse does not require maintenance. Do not clean, grease or replace the contacts.

### Mechanical OFF State indicator

The OFF state of the Switch disconnecter fuse contact is indicated by a fail proof, mechanical indicator on the right-hand side of the unit.

### Replacement of Fuses

In 'OFF' position of the Switch disconnecter fuse, the fuses are completely isolated and can be safely replaced. Fuses have to be ordered separately.



### Accessories

- **Mounting of the Auxiliary Switch for 3KL47/49/50/51/52**

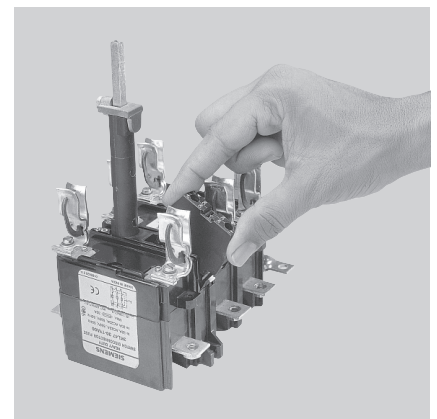


Fig. 1

Snap fit the feet of the Auxiliary Switch in the grooves of the housing as shown in fig. 1.

- **Removal of Auxiliary Switches**

To remove the auxiliary switch (if necessary) press the white shimp down to disengage the feet from the housing.

● **Mounting of the Phase Barrier**

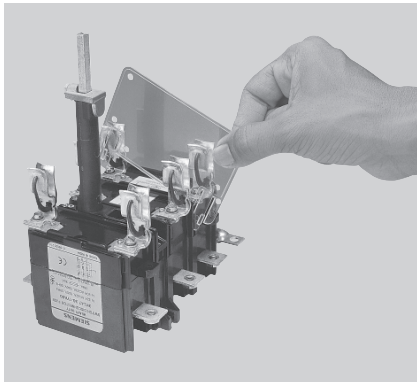


Fig. 3

The phase barrier is fitted in the grooves provided in the Housing. Engage one foot of the phase barrier as shown in the picture and rotate it till its other foot snap fits in place as shown in fig. 3.

● **Removal of the phase barrier**

Engage a screw driver bit in the groove in the foot of the phase barrier to disengage it on one side. Repeat the procedure with the other foot of the phase barrier, then pull it out.

● **Mounting of the Terminal Guard**

With the two screws provided, fix the Terminal Guard onto pins on the Switch disconnecter fuse body at the top or the bottom, depending on the incoming connection as shown in fig. 4. Terminal guard kit is supplied on request.

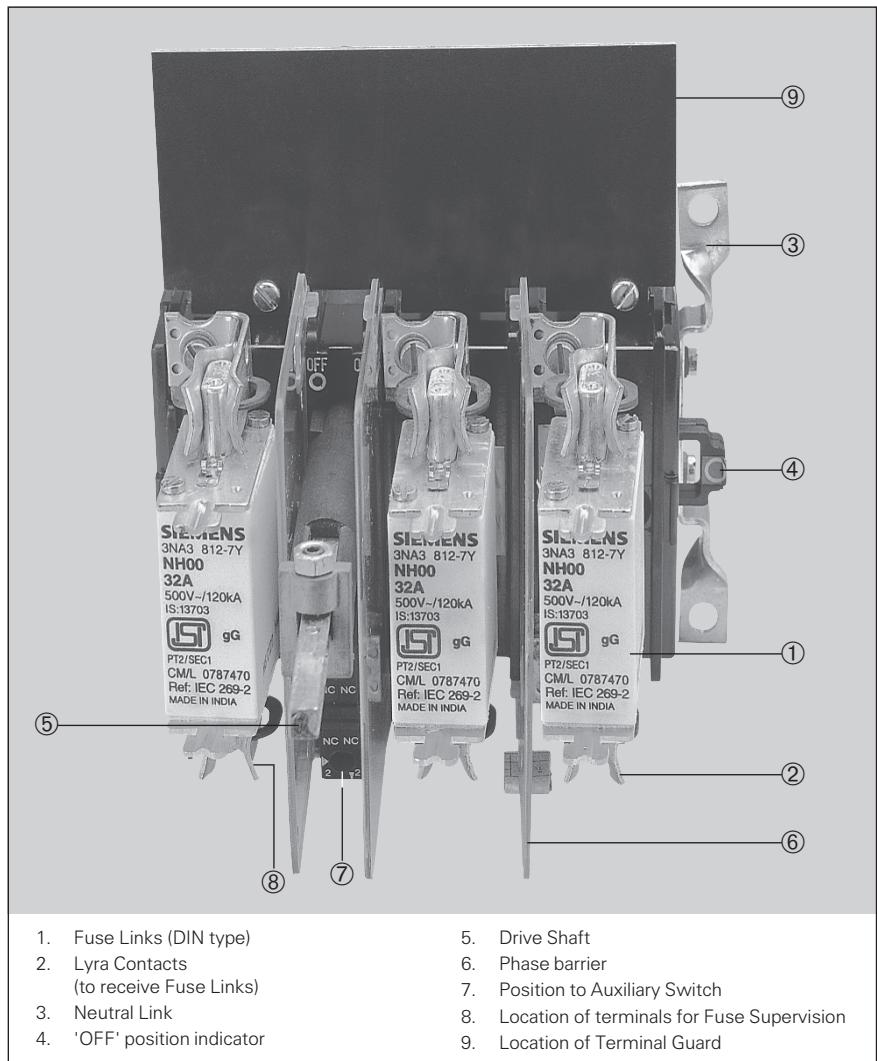


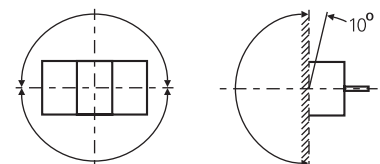
Fig. 4

● **Neutral Link as Accessory**

Neutral Link is supplied as Accessory for 3KL 47/49/50/51/52. Switch Disconnecter Fuse units in sheet steel enclosure and tin plated SDFs are supplied with Neutral Link as standard.

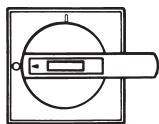
**Selection Table for 3KL Accessories**

Description	3KL47/49/50 Order No.	3KL51/52 Order No.
Phase Barriers	3KX34 87-1YA	3KX34 87-1YA
Protection Guard Kit	3KX34 87-1YB	3KX35 27-1YB
Aux. Switch Kit (1NO + 1NC)	3SB14 00-0A	3KX35 22-1YC
Aux. Switch Kit (2NO + 2NC)	–	3KX35 22-1YD
Front Drive with door - interlock, defeat and padlocking facility	8UC61	8UC62
Add-on switched neutral	–	3KX35 28-1YN
Neutral Link	3KX34 28-1YN0	3KX35 28-1YN0
Depth Setting Template (for quick and correct mounting of 8UC drive)	8UC60 46	8UC60 46

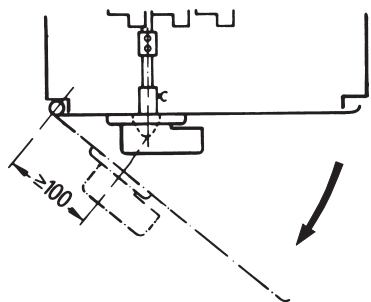


Permissible mounting position

## Features

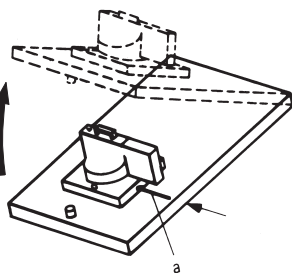


**Mounting position** for switches and Rotary mechanism with "0" position.



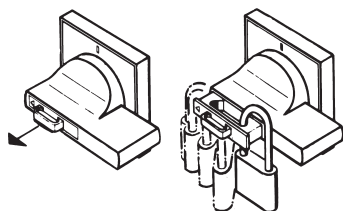
### Door hinge spacing

Minimum distance between handle and the door hinge to be  $\geq 100\text{mm}$

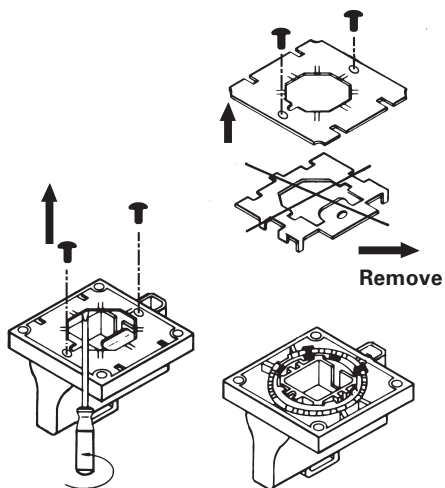


### To defeat Door Interlock

Break-Open the knockout (a) and actuate with pin (dia.  $< 4\text{mm}$ )  
 With close knockout - IP65;  
 With open knockout - IP44.

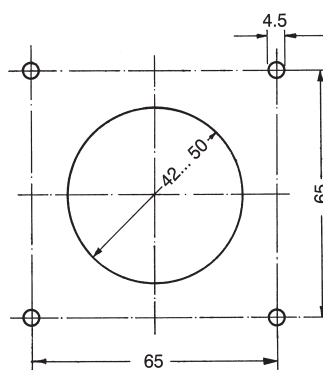


**Padlocking in "OFF" position.**

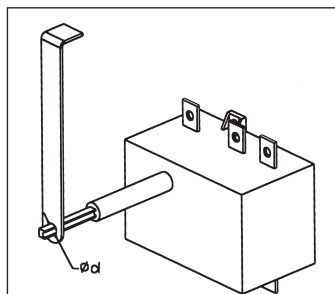
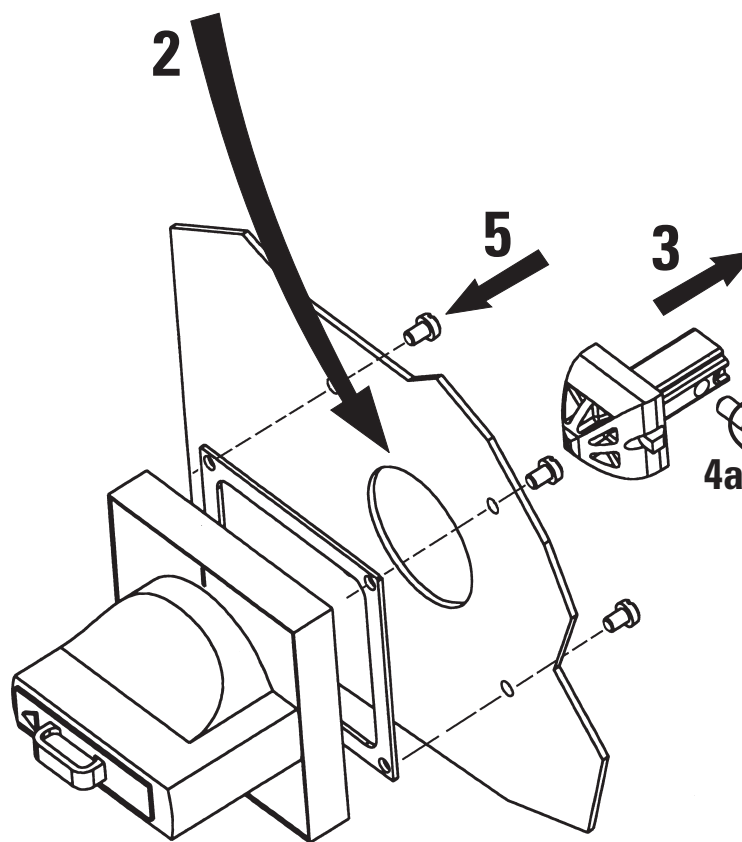


**To Remove the Door Interlock.**

## Mounting Sequence of Front Drive



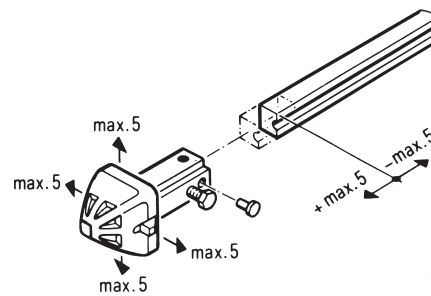
Door Drilling template provided  
 For 8UC 61/62



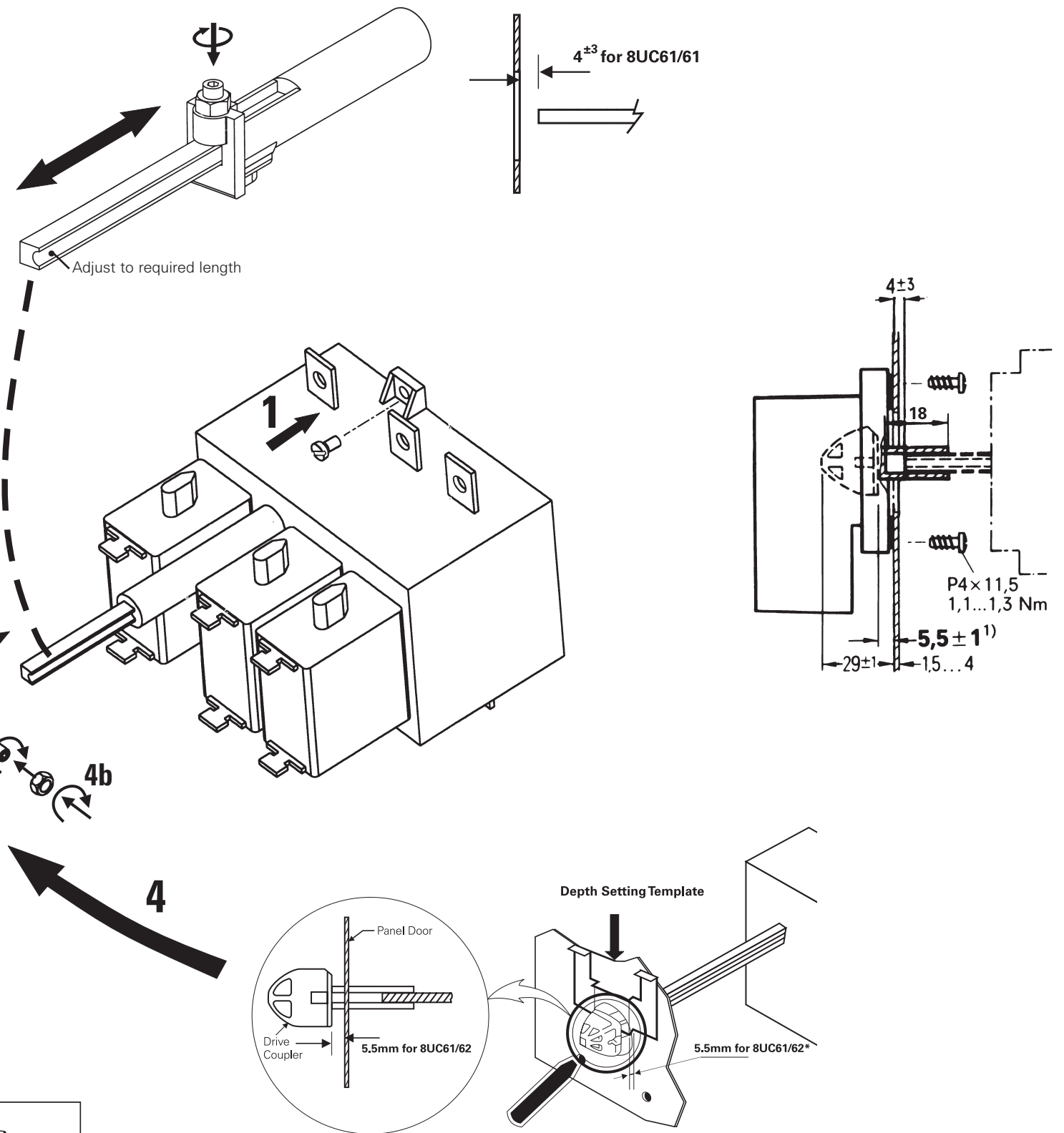
Drive support, close to panel door is recommended when shaft extension is used.

$\varnothing d = 9\text{mm}$  for 8UC61

12mm for 8UC62



Tolerances of drive coupler and operating or extension shaft  
**Pull-out strength** : The pull-out strength (=being pull force on the shaft or destruction of the mechanism) of locked mechanism is  $\geq 800\text{N}$  with pulling force exerted directly on the shaft in the direction of the shaft.



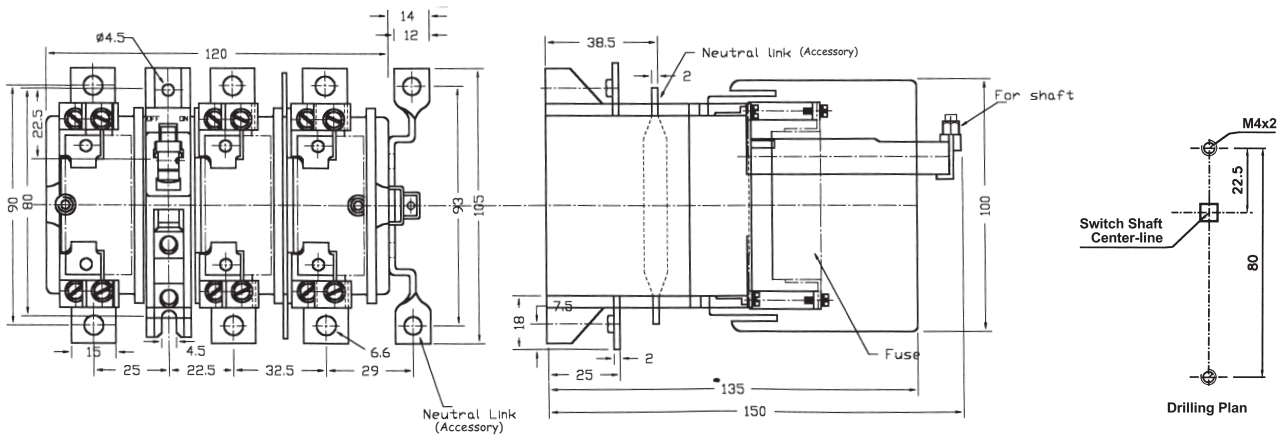
Sequence for mounting the 8UC drive

1. Mount the unit on the panel.
2. Make the cut-outs on the panel door with the help of **Door Drilling Template** (provided in the supply) ensuring the centre of the unit in the line with the door cutout.
3. Mount drive coupler on the shaft of the unit.  
Close the panel door fully, as is the case during operation.
4. Adjust the drive coupler with the help of **Depth Setting Template** by adjusting the shaft length as shown. Tighten the grub screw and nut of the drive coupler fully.
5. Mount the handle and rubber gasket on the door.

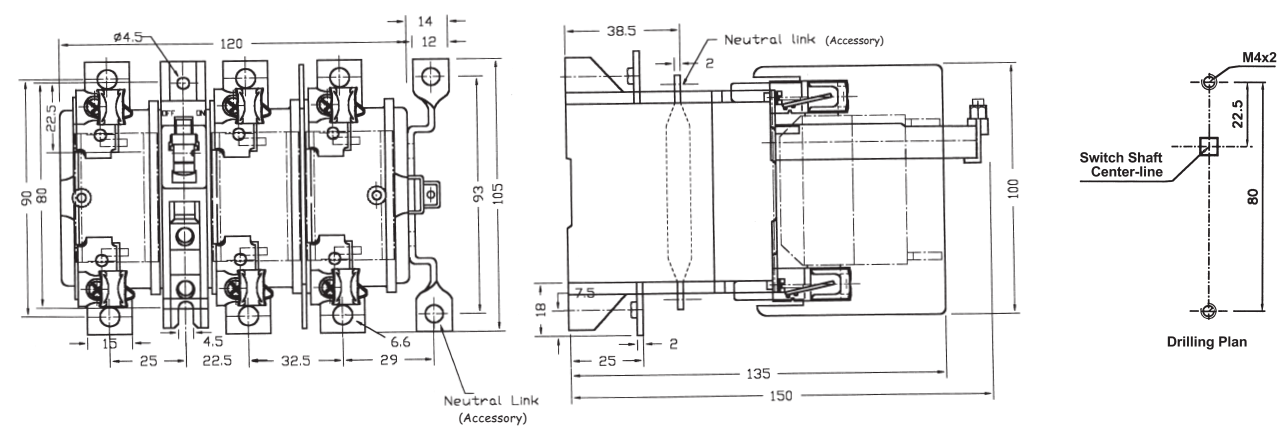
SDF/SD Unit	Front Drive	L	D	H	K (Min)	K (Max)
3KL47/49/50	8UC61	36	28	66	180	260
3KL51/52	8UC62	62	28	66	180	240

## Switch disconnecter fuse units in open execution

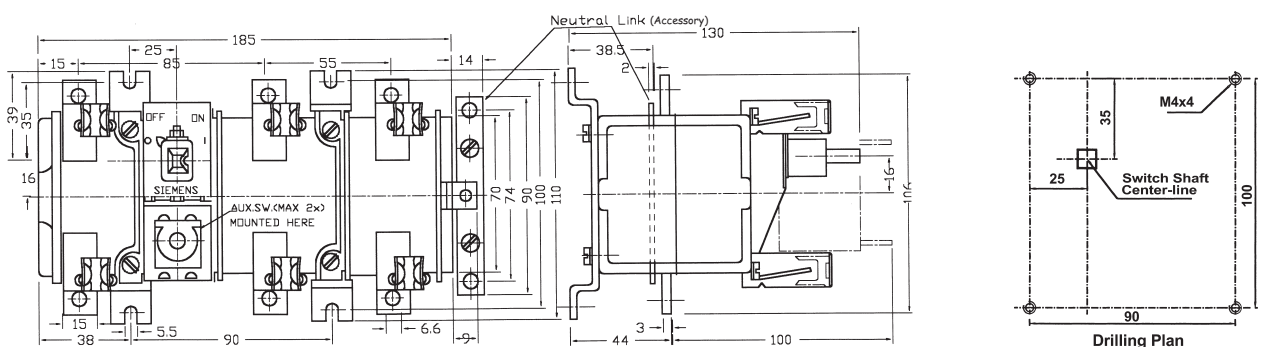
### Type: 3KL47 /3KL49 /3KL50 (Suitable for bolted fuses)



### Type: 3KL47 /3KL49 /3KL50 (Suitable for DIN fuses)

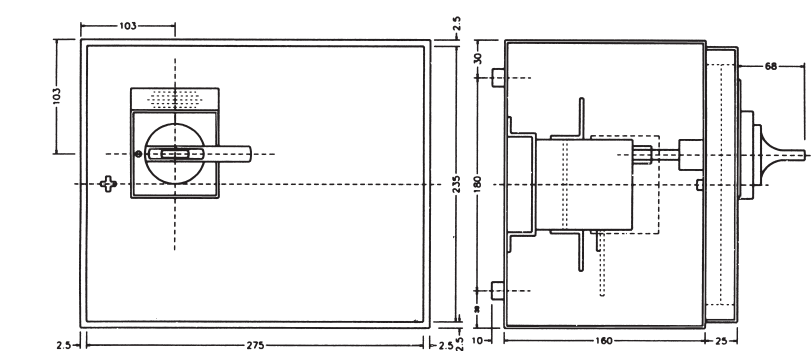


### Type: 3KL51 / 52 (Suitable for DIN fuses)



## Switch disconnecter fuse units in sheet steel enclosure

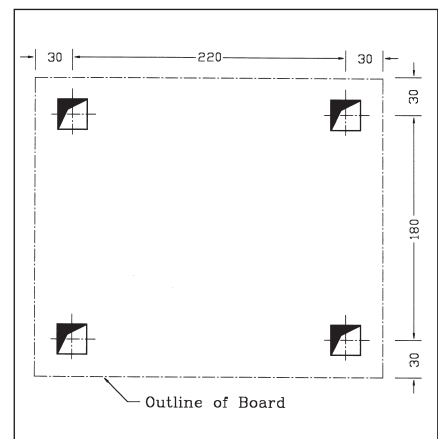
### Type: 3KL47 37 / 3KL50 37 / 3KL52 37



Neutral Link as standard

All dimensions are in mm

## Mounting Dimensions



## Type References

Description	32A <sup>#</sup>	50A <sup>+</sup>	63A	100A	125A
TPN Switch disconnecter fuse in open execution	3KL4730-1Y_	3KL4930-1Y_	3KL5030-1Y_	3KL5130-1Y_	3KL5230-1Y_
Front Drive with ... – Door interlocking, defeat and padlocking facility	8UC61	8UC61	8UC61	8UC62	8UC62

- # AC22A rating 32A, AC23A rating 20A  
+ AC22A rating 50A, AC23A rating 32A

## Summary of Technical Details

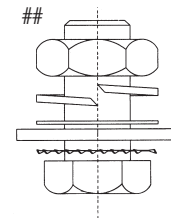
Rated Operational Voltage : 550V AC, 50Hz. Other voltages on enquiry.

Max. Permissible fuse rating	32A	50A	63A	100A	125A
Type of fuse	3NA38...	3NA38...	3NA38...	3NA38...	3NA38...
Size of fuse as per DIN43620	00	00	00	00	00
Bolted type fuse	3NW	3NW	3NW	–	–
Terminal sizes mm <sup>2</sup> – Main Terminals – Neutral Terminals	1x35 1x16	1x35 1x16	1x35 1x16	1x70 1x35	1x70 1x35
Terminal Screw <sup>##</sup> – Size – Tightening Torque Nm	M6 6-7.5	M6 6-7.5	M6 6-7.5	M6 7-10	M6 7-10
Approx. weight of unit in open execution, without fuses, without drive, in kg	0.65	0.65	0.7	2.7	2.7

\*Note : Please ensure proper cable supports are provided to avoid deformation of terminals

## Auxiliary Contacts

Rated thermal current I <sub>th</sub>	Amp	10
Rated Insulation ratings	Volts	500 AC 600 DC
I <sub>e</sub> /AC 12 at		415V 10A
I <sub>e</sub> /DC 12 at		24V 10A 110V 4A 220V 1A
Max, fuse rating for short circuit protection - Amps		10A Delayed action cartridge type fuses



## DC Ratings of Switch disconnecter fuse

Type	Type of connection	DC rating	
3KL 47	Two poles in series Three poles in series	I <sub>e</sub> /DC23 at 220V = 20A I <sub>e</sub> /DC23 at 440V = 20A	<p>Two poles in series</p> <p>Three poles in series</p> <p>Ⓛ = Load</p>
3KL 49	Two poles in series Three poles in series	I <sub>e</sub> /DC23 at 220V = 32A I <sub>e</sub> /DC23 at 440V = 32A	
3KL50	Two poles in series Three poles in series	I <sub>e</sub> /DC23 at 220V = 63A I <sub>e</sub> /DC23 at 440V = 63A	
3KL51	Two poles in series Three poles in series	I <sub>e</sub> /DC23 at 220V = 100A I <sub>e</sub> /DC23 at 440V = 100A	
3KL52	Two poles in series Three poles in series	I <sub>e</sub> /DC23 at 220V = 125A I <sub>e</sub> /DC23 at 440V = 125A	

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