

Operating Instructions

POWERGUARD

Heavy Duty

Switch disconnecter fuse (Fuse Switch) Type 3KL (200-800A)

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.

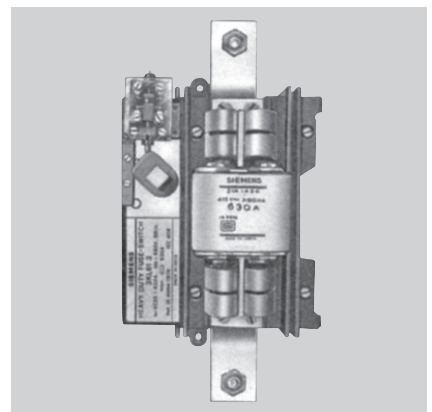
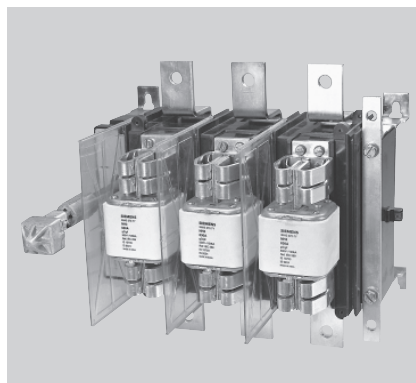
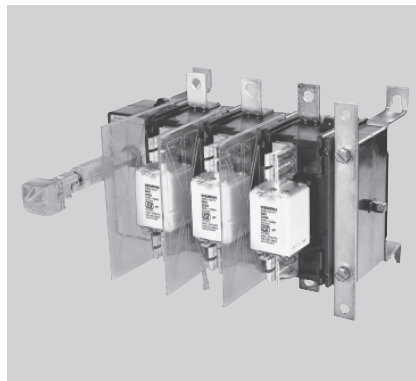


Fig. 1

● Mounting of the Phase Barrier

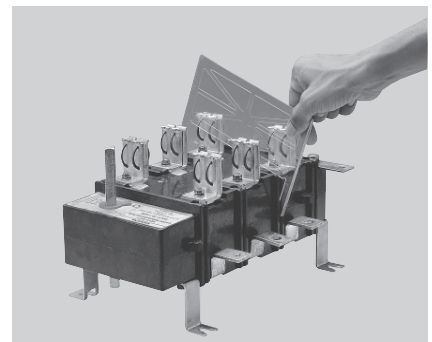


Fig. 2

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. 2.

Accessories

Mounting of the Auxiliary Switch for 3KL54/25/31/41/61/81:

Slip on the cam over the operating shaft and secure it in position as shown in fig 1. using the grub screw supplied. Mount the limit switch on the mounting plate by means of two "Cheese head" screw size M4 x 10 2nos., two spring washer and two punched washers enclosed in the auxiliary switch kit. Now, clamp the mounting plate on the unit as shown, using the self tap screws B8 x 19.

● 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 the Switch disconnecter fuse body at the top or the bottom, depending on the incoming connection as shown in fig. 3. Terminal guard kit is supplied on request.

● Neutral Link as Accessory

Neutral Link is supplied as Accessory for 3KL 54/25/31/41/61/81. Switch Disconnecter Fuse units in sheet steel enclosure and tin plated switches are supplied with Neutral Link as standard.

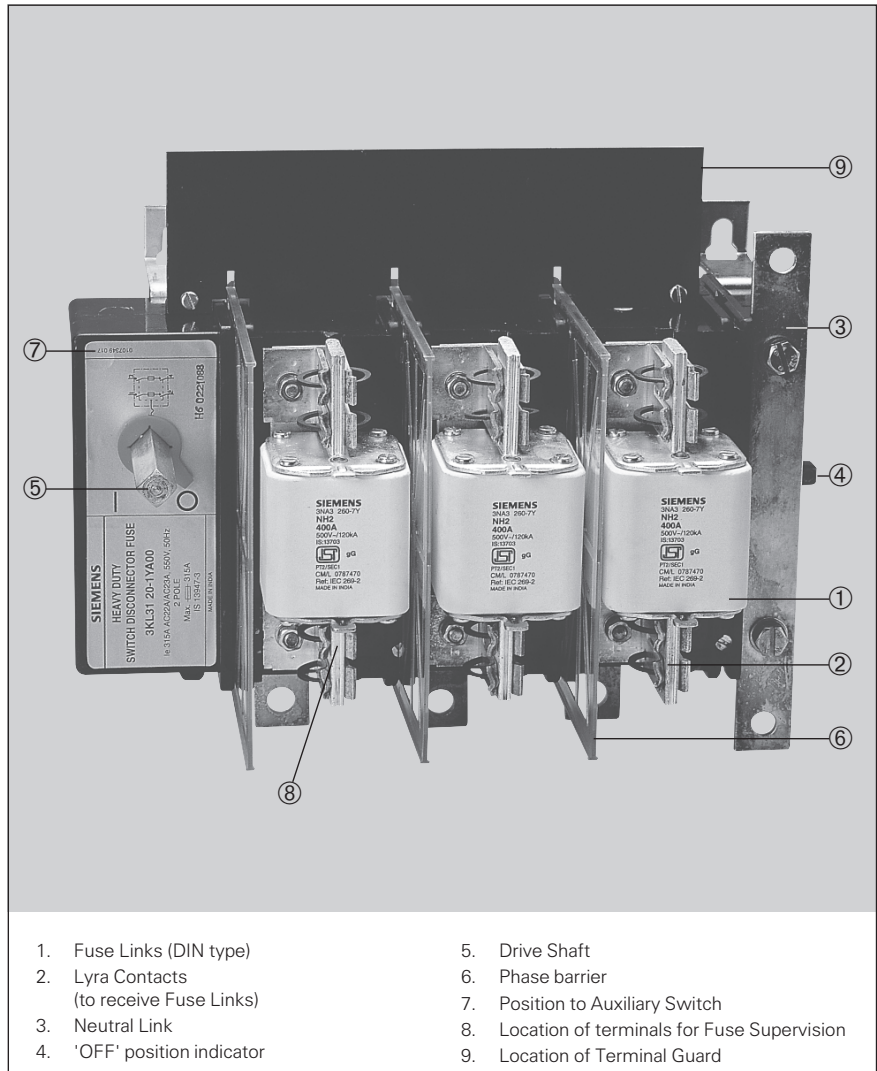
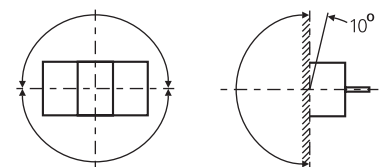


Fig. 3

Selection Table for 3KL Accessories

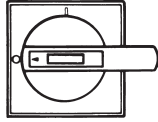
Description	3KL54/25/31/41 Order No.	3KL61/3KL81 Order No.
Phase Barriers	3KX35 57-1YA	3KX35 87-1YA
Protection Guard Kit	3KX35 57-1YB	3KX35 87-1YB
Aux. Switch Kit (1NO + 1NC)	3KX35 52-1YC	3KX35 82-1YC
Aux. Switch Kit (2NO + 2NC)	3KX35 52-1YD	3KX35 82-1YD
Front Drive with door - interlock, defeat and padlocking facility	8UC63	8UC64
Add-on switched neutral	3KX35 58-1YN	3KX35 88-1YN
Neutral Link	3KX35 58-1YN0	3KX35 88-1YN0 3KX35 88-1YN1 [§]
Castell interlock (2 locks & 2 keys)	3KX35 88-1YP ^Φ	3KX35 88-1YP ^Φ
Switch coupler to replace old 3KX drive by new 8UC drive	8UC92 55	8UC92 55
Depth Setting Template (for quick and correct mounting of 8UC drive)		



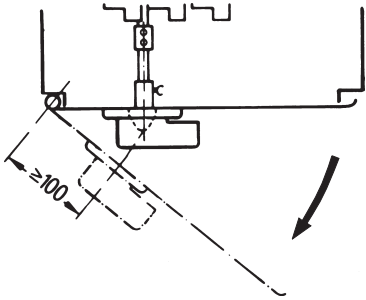
Permissible mounting position

^Φ The 11th place of the order number indicates the alphabet type of the lock & key; combinations available are A,B,C,D,E & F.
[§] For 3KL81

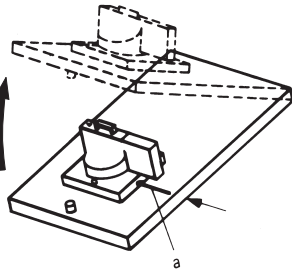
Features



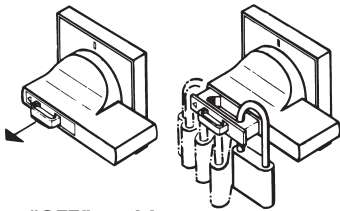
Mounting position for switches and Rotary mechanism with "0" position.



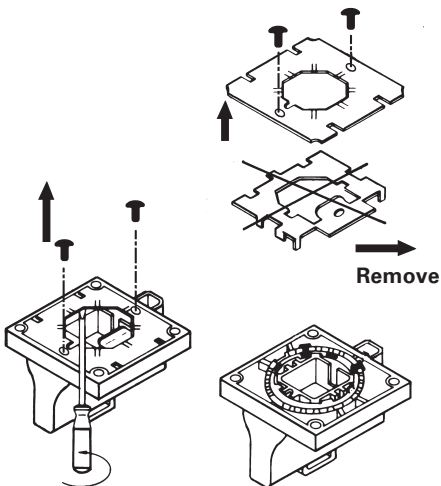
Door hinge spacing
Minimum distance between handle and the door hinge to be $\geq 100\text{mm}$



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.

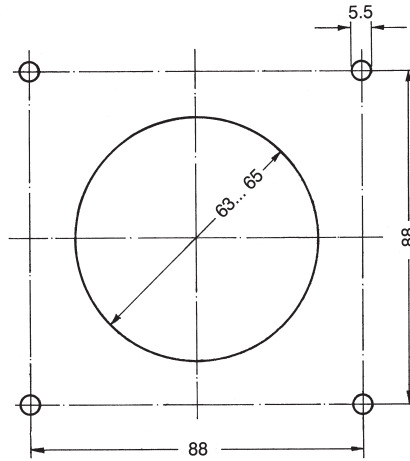


Padlocking in "OFF" position.

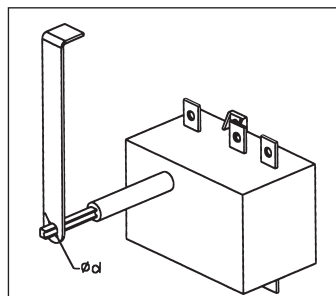
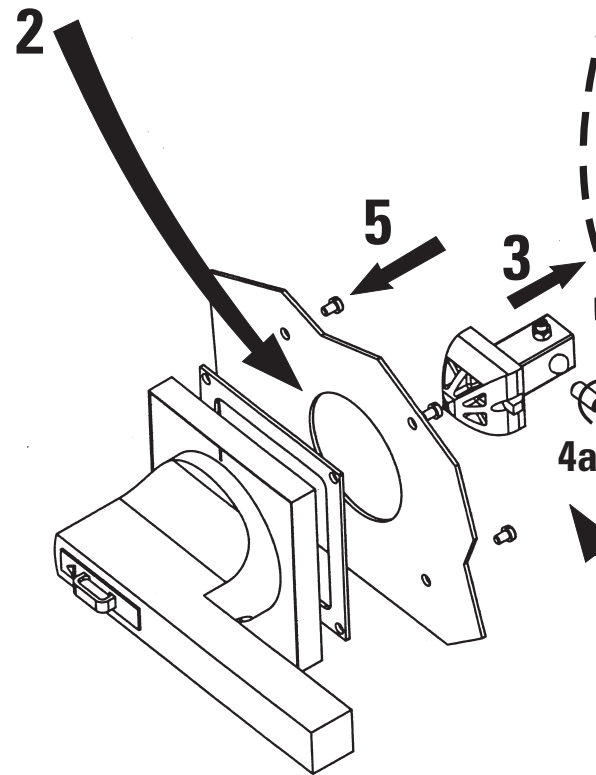


To Remove the Door Interlock.

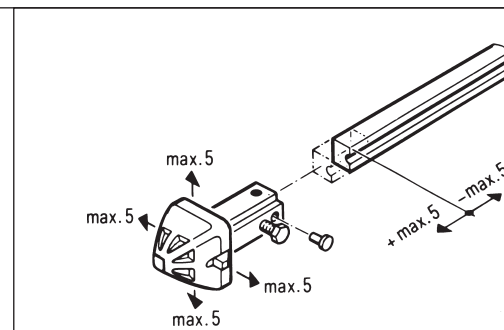
Mounting Sequence of Front Drive



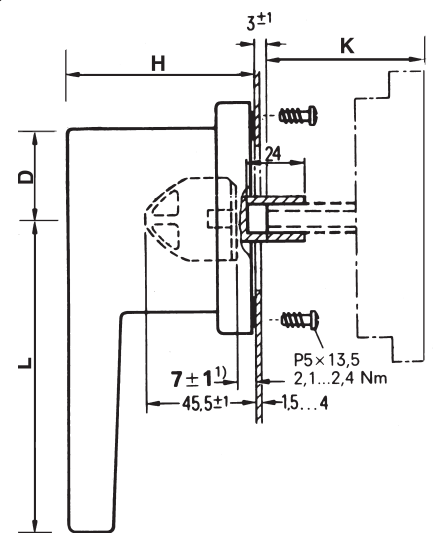
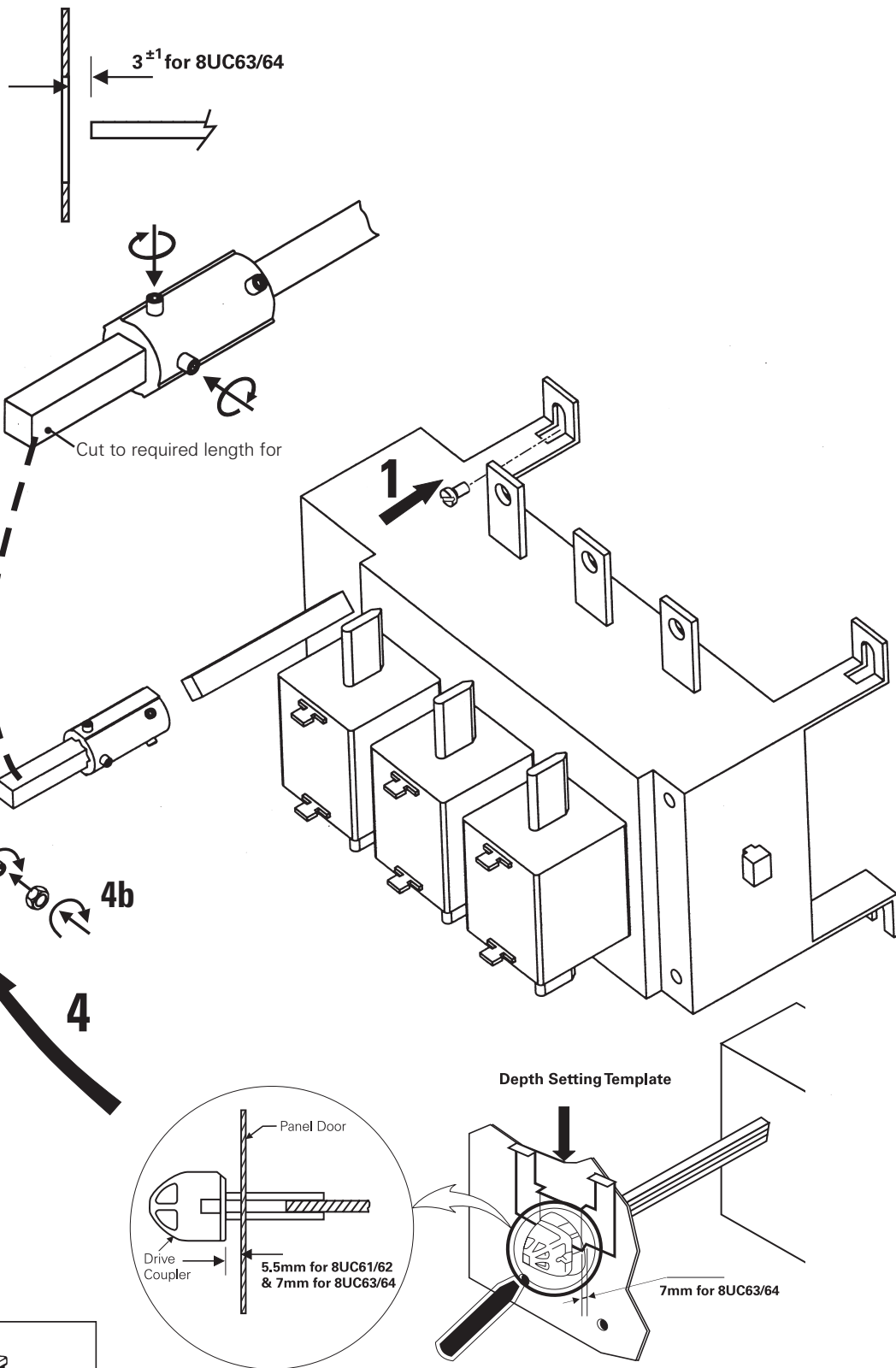
Door Drilling template provided
For 8UC 63/64



Drive support, close to panel door is recommended when shaft extension is used.
 $\varnothing d = 18\text{mm}$ for 8UC63/64



Tolerances of drive coupler and operating or extension shaft are $\pm \text{max. } 0.5\text{mm}$.
Pull-out strength : The pull-out strength (=being pull-out force 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.



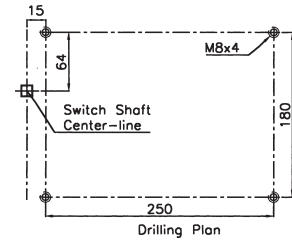
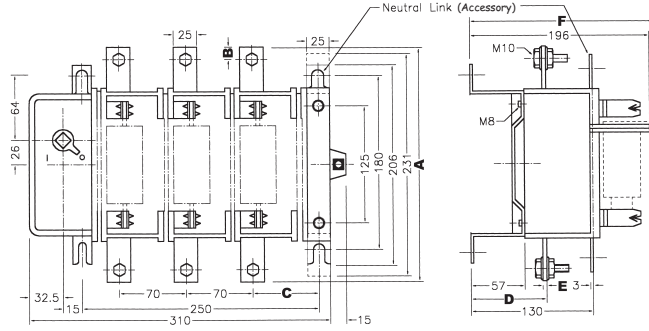
Sequence for mounting the 8UC drive

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)
3KL54/25/31/41	8UC63	140	40	88	231	256
3KL61/81	8UC64	200	40	88	285	310

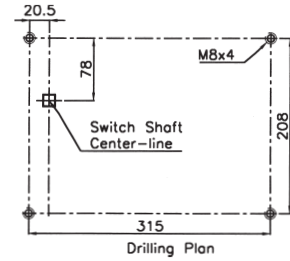
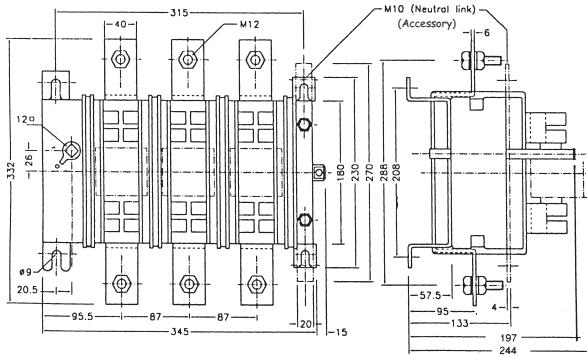
Switch disconnecter fuse units in open execution

Type: 3KL54 /3KL25 /3KL31 /3KL41 (Suitable for DIN fuses)

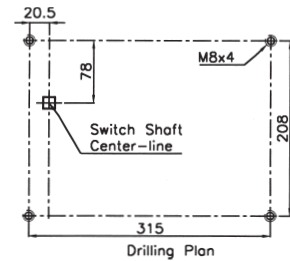
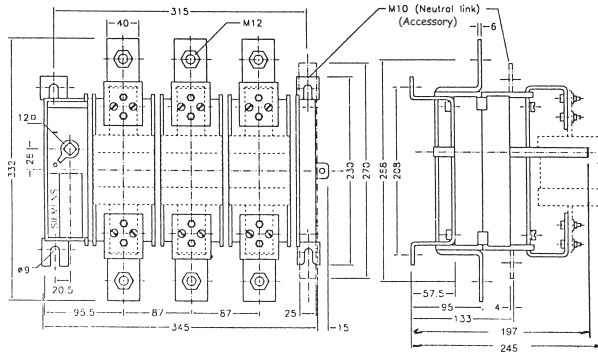


Switch disconnecter fuse type	A	B	C	D	E	F
3KL54 / 3KL25 / 3KL31	234	12.5	66.5	80	4	203/217
3KL41	245	12.5	70	75	6	217

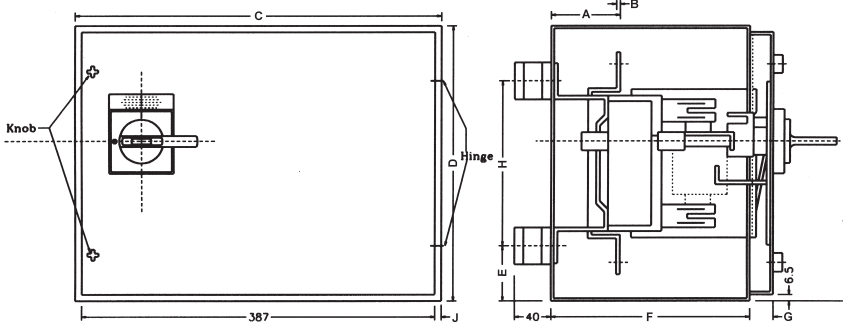
Type: 3KL61 (Suitable for DIN fuses)



Type: 3KL81 (Suitable for bolted fuses)

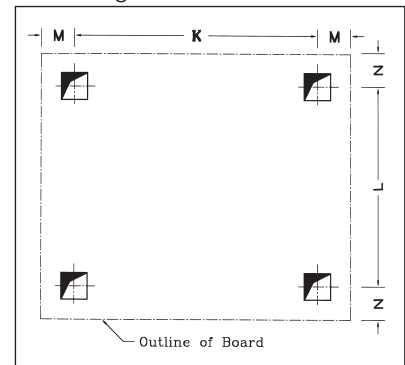


Type: 3KL25 37 / 3KL41 37 / 3KL61 37



Neutral Link as standard

Mounting Dimensions



Type of Switch disconnecter fuse	A	B	C	D	E	F	G	H	I	J	K	L	M	N
3KL25 37	80	4	400	300	60	215	26.5	180	176	6.5	370	180	15	60
3KL41 37	75	6	400	300	60	215	26.5	180	176	6.5	370	180	15	60
3KL61 37	95	6	400	395	96	262	25	208	223.5	2.5	320	208	40	96

All dimensions are in mm

Type References

Description	200A	250/315A	400A	630A	800A
TPN Switch disconnecter fuse in open execution	3KL5430-1Y_	3KL2530-1Y_/3KL3130-1Y_	3KL4130-1Y_	3KL6130-1Y_	3KL8130-1Y_
Front Drive with ... - Door interlocking, defeat and padlocking facility	8UC63	8UC63	8UC63	8UC64	8UC64

Summary of Technical Details

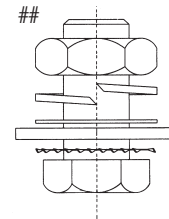
Rated Operational Voltage : 550V AC, 50Hz. Other voltages on enquiry.

	200A	250/315A	400A	630A	800A
Max. Permissible fuse rating	200A	250/315A	400A	630A	800A
Type of fuse	3NA31...	3NA31/ 3NA32...	3NA32...	3NA33...	-
Size of fuse as per DIN43620	1	1/2	2	3	-
Bolted type fuse	-	-	-	-	3NW
Terminal sizes mm ²					
- Main Terminals	1x300	1x300	2x300	2x400	2x630
- Neutral Terminals	1x150	1x150	2x150	2x185	2x300
Terminal Screw##					
- Size	M10	M10	M10	M12	M12
- Tightening Torque Nm	35-45	35-45	35-45	56	56
Approx. weight of unit in open execution, without fuses, without drive, in kg	7	7/7.5	8	14	15

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

Auxiliary Contacts

Rated thermal current I _{th}	Amp	10
Rated Insulation ratings	Volts	500 AC 600 DC
I _e /AC 12 at	415V	10A
I _e /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
3KL54	Two poles in series	I _e /DC22 at 440V = 200A
3KL25/3KL31/3KL41	Two poles in series	I _e /DC22 at 440V = 250A
3KL61	Two poles in series	I _e /DC22 at 440V = 630A

Two poles in series	Three poles in series

(L) = Load

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