



TECHNICAL MANUAL

Switch disconnecter

PowerSwitch 63-100 A EKF

1 DESCRIPTION

The switch disconnectors PowerSwitch 63 A - 100 A EKF are designed for non-automatic rare routine close/open operations of electrical distribution equipment in three-phase AC 50Hz networks at rated voltage of up to 660 V.

The mechanism of switch disconnector provides instantaneous (13,8 m/s) contact opening regardless of handle travel speed.

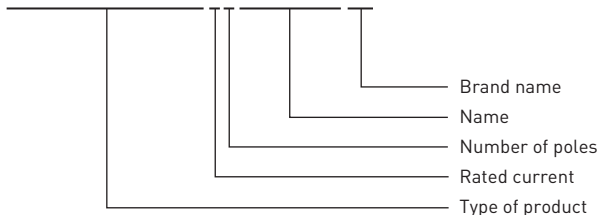
The fiberglass-reinforced unsaturated polyester resin envelope features excellent dielectric performance, fire-, impact-, and carbon dioxide resistance and ensures safe operation of the product when used as intended.

All contact materials are silver-plated copper alloys with two separating contact surfaces, ensuring large insulation gap.

Handle can be padlocked to avoid erroneous activation.

Type code

Switch disconnector XX PowerSwitch EKF



2 TECHNICAL DATA

The main technical performances are listed in Table 1.

Table 1 Technical performances of switch disconnectors 63 A - 100 A

Parameter			Value			
Rated thermal current I _{th} , A			63		100	
Rated current I _n , A			40	63	80	100
Rated insulation voltage U _i , V			690	690	690	690
Dielectric strength, V			5000	5000	5000	5000
Rated impulse withstand voltage U _{imp} , kV			6			
Rated operating current I _e , A	380 V	AC-21V	40	63	80	80
		AC-22V	40	63	80	80
		AC-23V	40	50	80	80
	660 V	AC-21V	40	50	80	80
		AC-22V	32	32	50	50
		AC-23V	25	25	40	40
Motor power P, kW	380 V		18,5	25	40	40
	660 V		22	22	33	33
Rated short-time withstand current I _{cw} , κA RMS			2	2	2	2
Rated breaking capacity I _{cn} , A RMS			320	504	640	800
Rated making capacity I _{cm} , A RMS			400	630	800	1000
Short-circuit current, kA			2,84	2,84	2,84	2,84
Mechanical endurance at 380V, O-C cycles			1700	1700	1700	1700
Electrical endurance at 380V, O-C cycles			300	300	300	300
Applied force on operating handle, N*m			1,2	1,2	1,2	1,2
Weight, kg	3 poles		0,37	0,37	0,37	0,37
	4 poles		0,41	0,41	0,41	0,41

The switch disconnectors correspond to the standards:

- IEC 60947-1:2020 «Low-voltage switchgear and controlgear - Part 1: General rules»;
- IEC 60947-3:2020 «Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units».

Design.

Close/open operations shall be made with the rotary handle in the manual mode. The housing of the switch disconnector has windows to check the position of contacts visually.

The rotary handle to operate the switch disconnector inside the enclosure is included in the delivery scope. Use the external handle for PowerSwitch 63-100 A EKF to operate the switch disconnector through the enclosure door.

Features:

- rated operating current of switch disconnectors: 63 A, 100 A;
- two positions of handle;
- three- or four pole version;
- high electrical and mechanical endurance;
- operation with the rotary handle;
- display of contact position (window for contact status)
- simple design and easy to install.

The handle can be installed either directly to the panel or with an extension shaft.

3 OVERALL AND INSTALLATION DIMENSIONS

For appearance and dimensions of switch disconnectors, refer to Figures 1a, 1b, 1c

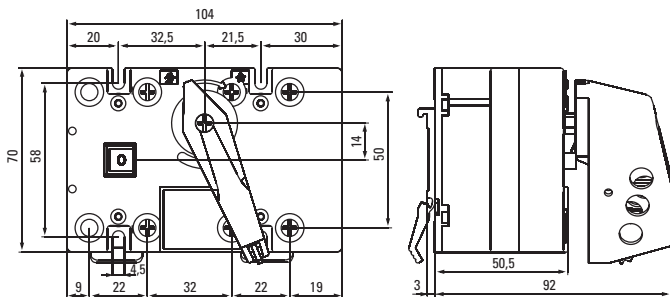


Figure 1a - Installation dimensions
of switch disconnector PowerSwitch 63 A

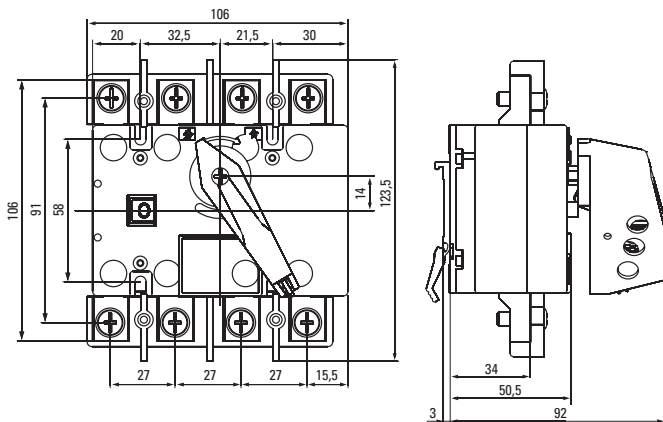


Figure 1b - Installation dimensions of switch disconnecter PowerSwitch 100 A

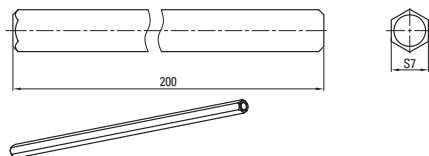


Figure 1c - Overall drawings of extension shaft

4 WIRING DIAGRAMS

The wiring diagram of switch disconnecter is given in Figure 2.

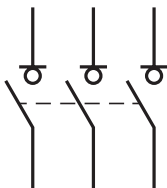


Figure 2

5 INSTALLATION

The switch disconnectors shall be mounted and connected by qualified electrical personnel. The switch disconnectors shall be mounted onto mounting plate or DIN rail (only for models 40-100A). The operating position of the switch disconnectors is shown in Figure 3.

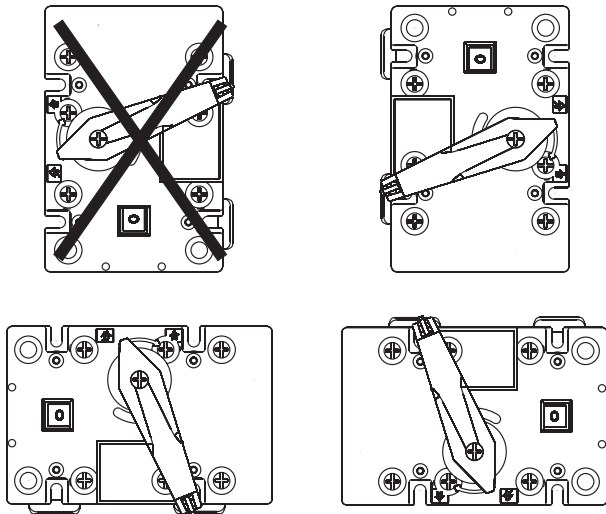


Figure 3

Before installation of the switch disconnector, make sure:

- the switch disconnector complies with intended purpose.
- there is no visible damage to the device.

DIN rail mount is given on Figure 4.

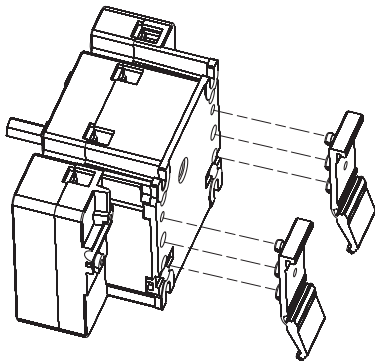


Figure 4

Handle mount to the housing of the switch disconnecter is given in Figure 5.

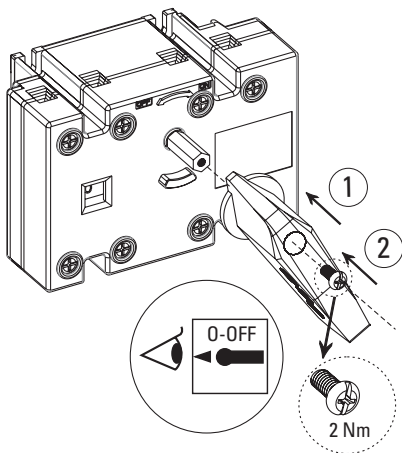


Figure 5

Handle padlocking is given in Figure 6.

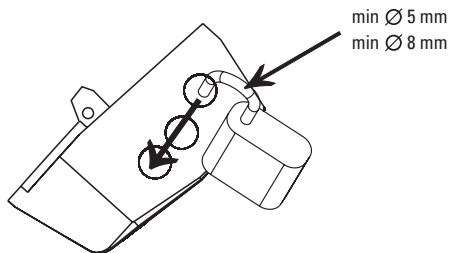


Figure 6

See the external rotary handle mount to the door of the enclosure in figures 7, 8 and 9.

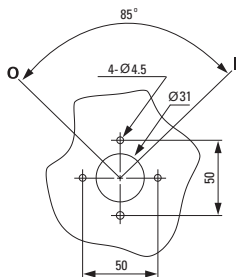
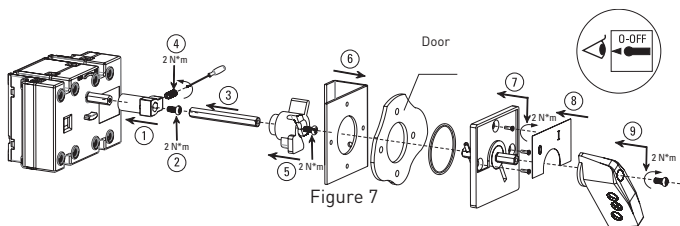


Figure 8 – Installation dimensions. Enclosure door mount

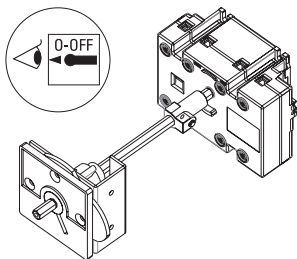


Figure 9 – Assembled rotary handle

6 OPERATION

Perform all installation and maintenance work only when the power is off. Under normal operating conditions, visually inspect the switch disconnectors once a year and after every short-circuit currents impact.

The inspection shall include:

- rust and dirt removal;
- screw tightening torque test;
- no load on/off operation of the switch disconnecter.

Do not touch clamps and non-insulated live conductors when operating the switch disconnectors.

7 OPERATION CONDITIONS

The ambient temperature: from -5°C to $+40^{\circ}\text{C}$ and relative humidity is max. 95% indoors.

Altitude above sea level is max. 2000 m.

Do not operate switch disconnectors in corrosive environment.

Do not operate the switch disconnectors in Ex-zone!

8 DELIVERY SCOPE

The switch disconnectors PowerSwitch 63 A - 100 A EKF are supplied in the group package. For all available documentation, scan the QR-code on the insert or on the inside of the package.

9 TRANSPORTATION AND STORAGE

The switch disconnectors can be transported by any means of enclosed transport that ensures protection of packed products from mechanical and atmospheric impacts.

The switch disconnectors shall be stored indoors in the original package at the ambient temperature from -40°C to $+55^{\circ}\text{C}$ and relative humidity of max. 50% at $+40^{\circ}\text{C}$.

10 DISPOSAL

Life-expired and failed switch disconnectors shall be disposed of in compliance with the national and local laws and regulations in force.

11 MANUFACTURER'S WARRANTY

The manufacturer guarantees that the switch disconnectors comply with the requirements of IEC 60947-1:2020, IEC 60947-3:2020, provided that the consumer follows the operation, transportation and storage conditions.

Warranty period: 7 years from the date of sale specified in the sales receipt.

Shelf life: 7 years from the date of manufacture specified on the product package or housing.

Service life: 10 years.

Manufacturer: for information, refer to the product package.

Importer and EKF trademark service representative: EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates.

Importer and EKF trademark service representative on the territory of the Russian Federation: OOO «Electroresheniya», Otradnaya st., 2b bld. 9, 5th floor, 127273, Moscow, Russia. Tel.: +7 (495) 788-88-15.

Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan: TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

12 CERTIFICATE OF ACCEPTANCE

The switch disconnectors PowerSwitch 63 A - 100 A EKF have been manufactured in compliance with laws and regulations in force and has been approved for operation.

Date of manufacture: for information, refer to the product package.

Technical control stamp



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