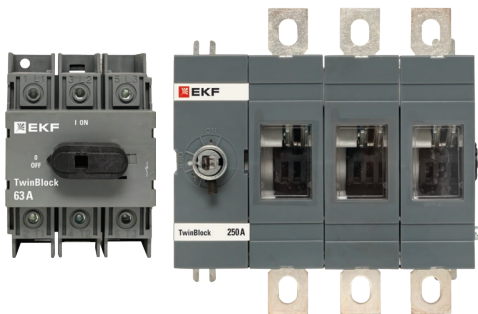




# EKF



## TECHNICAL MANUAL

Switch disconnectors

TwinBlock EKF

## 1 DESCRIPTION

Switch disconnectors TwinBlock EKF are designed to carry rated currents, and close/open 50/60 Hz electrical circuits with rated voltages up to 690VAC in electrical distribution devices.

Switch disconnectors are supplied in the following versions:

- switch disconnectors with pre-installed rotary handle (40A, 63A, 80A, 100A, 125A).
- switch disconnectors without handle (160A, 200A, 250A, 315A, 400A, 630A, 800A, 1000A, 1250A, 1600A), handle to be ordered separately.
- changeover switches with pre-installed rotary handle (40A, 63A, 80A, 100A, 125A).
- changeover switches without handle (160A, 200A, 250A, 315A, 400A, 630A, 800A), handle to be ordered separately.

Switch disconnectors TwinBlock are designed to switch loads to backup lines with power break (position indication I-0-II). Electrical specifications of the changeover switches TwinBlock enable switching loads between two power sources, even under high inductive currents and motor inrush currents.



Extra pole options



Changeover switch versions

Switch disconnectors TwinBlock (40-800A) have the option of connecting an extra fourth pole.

Versions without handle can be complemented by either option:

- External rotary handle;
- Directly mounted rotary handle.

## 2 TECHNICAL DATA

Products are listed in table 1.

Table 1

Item code	Name
tb-40-3p-f	Switch disconnecter 40A 3P with directly mounted rotary handle TwinBlock EKF
tb-63-3p-f	Switch disconnecter 63A 3P with directly mounted rotary handle TwinBlock EKF
tb-80-3p-f	Switch disconnecter 80A 3P with directly mounted rotary handle TwinBlock EKF
tb-100-3p-f	Switch disconnecter 100A 3P with directly mounted rotary handle TwinBlock EKF
tb-125-3p-f	Switch disconnecter 125A 3P with directly mounted rotary handle TwinBlock EKF
tb-s-160-3p	Switch disconnecter 160A 3P without handle TwinBlock EKF
tb-s-200-3p	Switch disconnecter 200A 3P without handle TwinBlock EKF
tb-s-250-3p	Switch disconnecter 250A 3P without handle TwinBlock EKF
tb-s-315-3p	Switch disconnecter 315A 3P without handle TwinBlock EKF
tb-s-400-3p	Switch disconnecter 400A 3P without handle TwinBlock EKF
tb-s-630-3p	Switch disconnecter 630A 3P without handle TwinBlock EKF
tb-s-800-3p	Switch disconnecter 800A 3P without handle TwinBlock EKF
tb-s-1000-3p	Switch disconnecter 1000A 3P without handle TwinBlock EKF
tb-s-1250-3p	Switch disconnecter 1250A 3P without handle TwinBlock EKF
tb-s-1600-3p	Switch disconnecter 1600A 3P without handle TwinBlock EKF
tb-s-40-3p-rev	Changeover switch 40A 3P with directly mounted rotary handle TwinBlock EKF
tb-s-63-3p-rev	Changeover switch 63A 3P with directly mounted rotary handle TwinBlock EKF
tb-s-80-3p-rev	Changeover switch 80A 3P with directly mounted rotary handle TwinBlock EKF

Table 1 continued

Item code	Name
tb-s-100-3p-rev	Changeover switch 100A 3P with directly mounted rotary handle TwinBlock EKF
tb-s-125-3p-rev	Changeover switch 125A 3P with directly mounted rotary handle TwinBlock EKF
tb-s-160-3p-rev	Changeover switch 160A 3P without handle TwinBlock EKF
tb-s-200-3p-rev	Changeover switch 200A 3P without handle TwinBlock EKF
tb-s-250-3p-rev	Changeover switch 250A 3P without handle TwinBlock EKF
tb-s-315-3p-rev	Changeover switch 315A 3P without handle TwinBlock EKF
tb-s-400-3p-rev	Changeover switch 400A 3P without handle TwinBlock EKF
tb-s-630-3p-rev	Changeover switch 630A 3P without handle TwinBlock EKF
tb-s-800-3p-rev	Changeover switch 800A 3P without handle TwinBlock EKF
tb-40-4p-f	Switch disconnecter 40A 4P with directly mounted rotary handle TwinBlock EKF
tb-63-4p-f	Switch disconnecter 63A 4P with directly mounted rotary handle TwinBlock EKF
tb-80-4p-f	Switch disconnecter 80A 4P with directly mounted rotary handle TwinBlock EKF
tb-100-4p-f	Switch disconnecter 100A 4P with directly mounted rotary handle TwinBlock EKF
tb-125-4p-f	Switch disconnecter 125A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-160-4p	Switch disconnecter 160A 4P without handle TwinBlock EKF
tb-s-200-4p	Switch disconnecter 200A 4P without handle TwinBlock EKF
tb-s-250-4p	Switch disconnecter 250A 4P without handle TwinBlock EKF
tb-s-315-4p	Switch disconnecter 315A 4P without handle TwinBlock EKF
tb-s-400-4p	Switch disconnecter 400A 4P without handle TwinBlock EKF
tb-s-630-4p	Switch disconnecter 630A 4P without handle TwinBlock EKF
tb-s-800-4p	Changeover switch 800A 4P without handle TwinBlock EKF
tb-s-1000-4p	Changeover switch 1000A 4P without handle TwinBlock EKF

Table 1 continued

Item code	Name
tb-s-1250-4p	Changeover switch 1250A 4P without handle TwinBlock EKF
tb-s-1600-4p	Changeover switch 1600A 4P without handle TwinBlock EKF
tb-s-40-4p-rev	Changeover switch 40A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-63-4p-rev	Changeover switch 63A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-80-4p-rev	Changeover switch 80A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-100-4p-rev	Changeover switch 100A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-125-4p-rev	Changeover switch 125A 4P with directly mounted rotary handle TwinBlock EKF
tb-s-160-4p-rev	Changeover switch 160A 4P without handle TwinBlock EKF
tb-s-200-4p-rev	Changeover switch 200A 4P without handle TwinBlock EKF
tb-s-250-4p-rev	Changeover switch 250A 4P without handle TwinBlock EKF
tb-s-315-4p-rev	Changeover switch 315A 4P without handle TwinBlock EKF
tb-s-400-4p-rev	Changeover switch 400A 4P without handle TwinBlock EKF
tb-s-630-4p-rev	Changeover switch 630A 4P without handle TwinBlock EKF
tb-s-800-4p-rev	Changeover switch 800A 4P without handle TwinBlock EKF

Table 2 - Main characteristics

<b>Characteristics</b>	<b>40</b>	<b>63</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>160</b>	
Rated insulation voltage UI, V	1000						
Rated AC frequency, Hz	50						
Rated operating voltage Ue, V AC	690/400						
Rated impulse withstand voltage Uimp, kV	12						
Number of poles	3P, 4P						
Number of positions	one, two						
Arc chutes	Available						
Rated current In, A	40	63	80	100	125	160	
Conventional thermal current Ith, A	40	63	80	100	125	160	
Maximum cross-section of connected copper wires, mm <sup>2</sup>	70			70	70	70	
Rated breaking capacity for Ue=690V, AC-23, A	160			320	400	640	
Rated making capacity Icm, kA	0,7	1,4	2,1	3,6	3,6	30	
Rated short-time withstand current (RMS value for Ue=690V, 1sec) Icw, kA	0,5	1	1,5	2,5	2,5	8	
Power dissipation/pole, W	4,5			4	6,3	6,5	
Tightening torque, N·m	7			7	7	7	
Size of connected screws	-			-	-	M8x25	
Mechanical endurance, O-C cycles	10000						
Extra pole options	Available						
Degree of protection	IP 00						

	200	250	315	400	630	800	1000	1250	1600
	1000								
	50								
	690/400								
	12								
	3P, 4P								
	one, two						one		
	Available								
	200	250	315	400	630	800	1000	1250	1600
	200	250	315	400	630	800	1000	1250	1600
	95	120	185	240	2x185	2x240	2x300	2x400	2x500
	1600	2000	2520	3200	5040	6400	10000	10000	10000
	30	30	65	65	80	80	92	92	92
	8	8	15	15	20	20	50	50	50
	4	6,5	6,5	10	25	40	19	29	48
	7	7	16	16	27	27	65	65	65
	M8x25		M10x30		M12x40		M12x50		M12x60
	10000		8000	8000	5000	5000	3000	3000	3000
	Available						N/A		
	IP 00								

Switch disconnectors can be operated in pollution degree 3 environment in compliance with IEC 60947-1.

Rated operation mode – continuous.

### 3 OVERALL DIMENSIONS

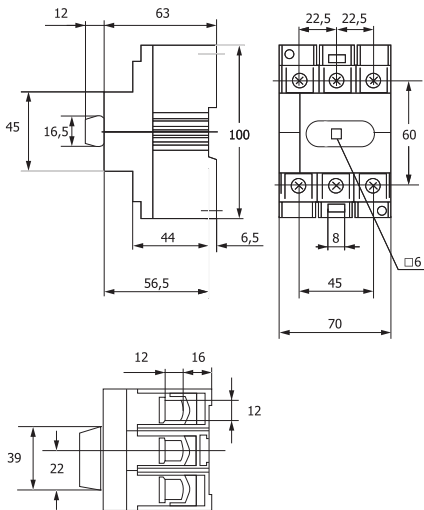


Figure 1. Overall and installation dimensions of switch disconnectors 40-125A



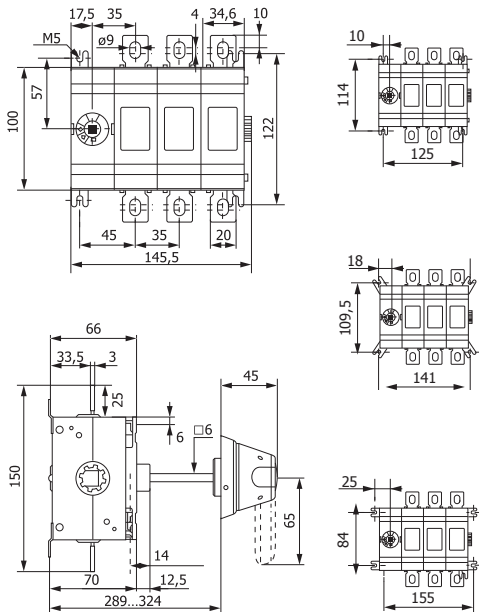


Figure 2. Overall and installation dimensions of switch disconnectors 160-250A

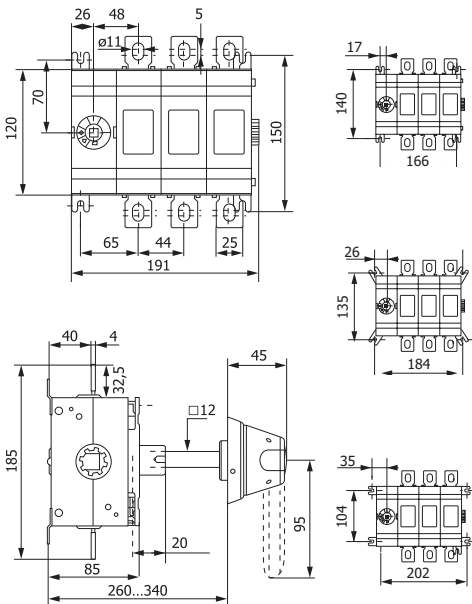


Figure 3. Overall and installation dimensions of switch disconnectors 315-400A

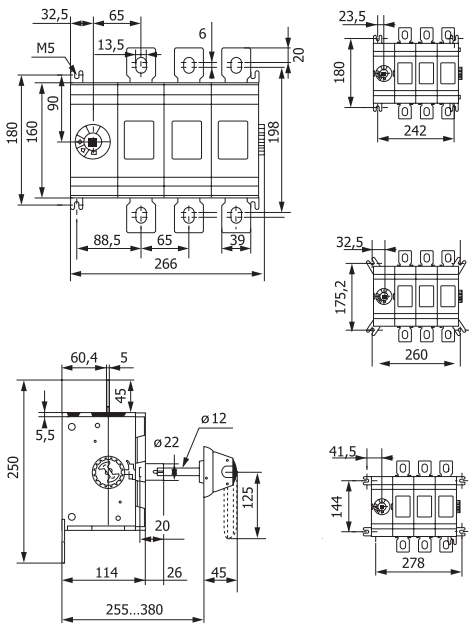


Figure 4. Overall and installation dimensions of switch disconnectors 600-800A

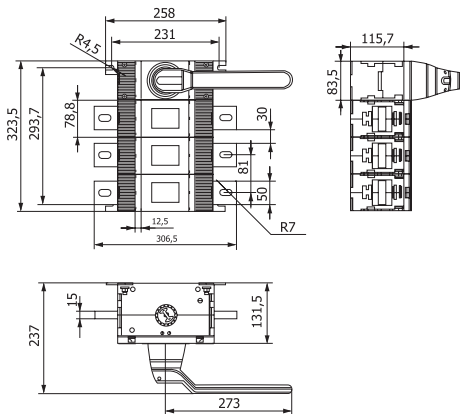


Figure 5. Overall and installation dimensions of switch disconnectors 1000-1600A

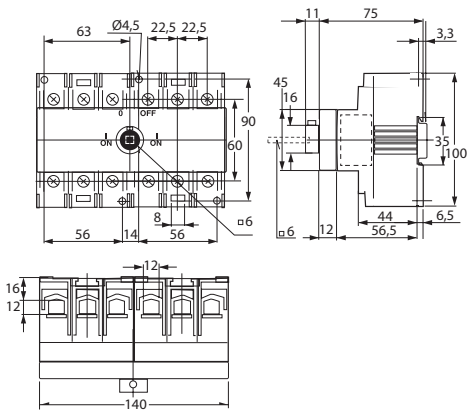


Figure 6. Overall and installation dimensions of changeover switches 40-125A

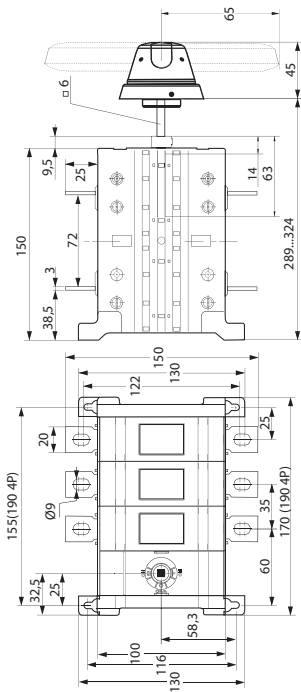


Figure 7. Overall and installation dimensions of changeover switches 160-250A

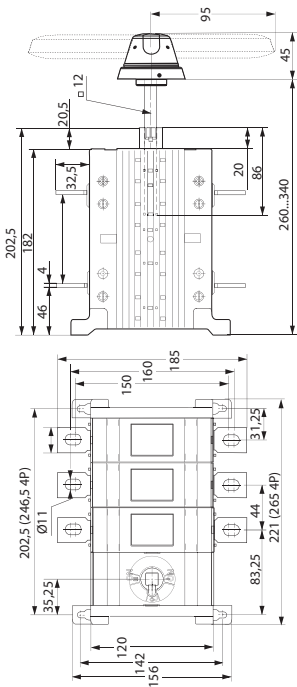


Figure 8. Overall and installation dimensions of changeover switches 315-400A

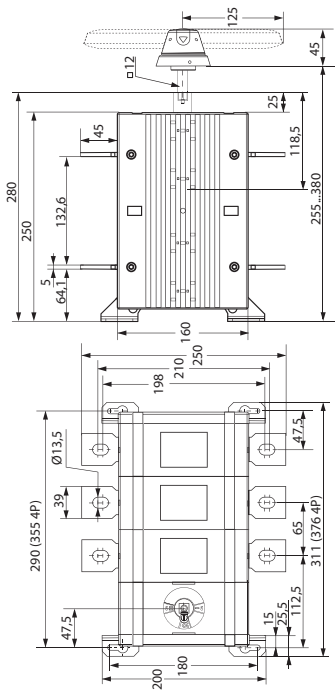


Figure 9. Overall and installation dimensions of changeover switches 630-800A



## 4 WIRING DIAGRAM

For wiring diagrams refer to Figures 10-a and 10-b

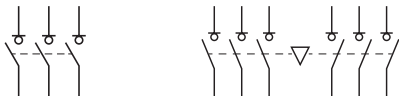


Figure 10-a. Wiring diagram of switch disconnector 3P

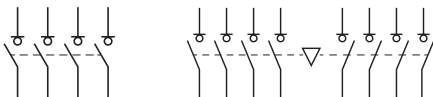


Figure 10-b. Wiring diagram of switch disconnector 4P

## 5 DELIVERY SCOPE

Switch disconnectors Twinblock EKF are supplied in an individual package.

For all available documentation, scan the QR-code on the insert or on the inside of the package.

## 6 INSTALLATION AND OPERATION

Switch disconnectors shall be mounted and connected by qualified electrical personnel. Mounting types: DIN rail (for 40-125A only) and mounting plate. Whatever operating position is supported.

Before installation, make sure that:

- 1) the device type meets the intended use requirements.
- 2) the device has no damages.

Make sure the power is off before installation and maintenance!

Under normal operating conditions, visually inspect the switch disconnector once a year and after every short-circuit currents. During inspection:

- remove dust and grease.
- tighten the screws.
- switch the device on/off without loads.

Do not touch terminals or exposed live conductors when operating the device.

### 6.1 Mounting of 40-125A models (to mounting plate and DIN rail)

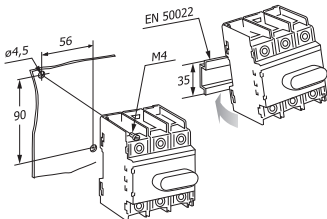
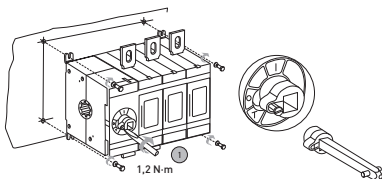
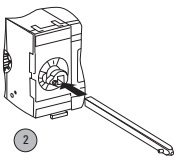


Figure 11. Mounting of 40-125A models

### 6.2 Installation of extension shaft



Step 1: Unscrew the screw



Step 2: Insert the extension shaft

Step 3: Screw the screw in

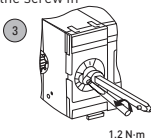
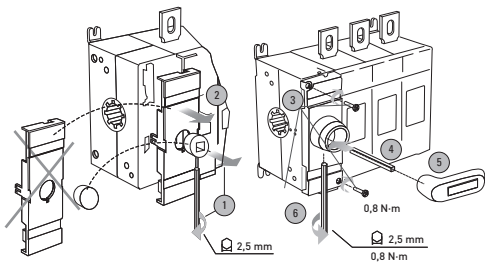


Figure 12. Extension shaft installation

### 6.3 Installation of directly mounted rotary handle (160-250A models)



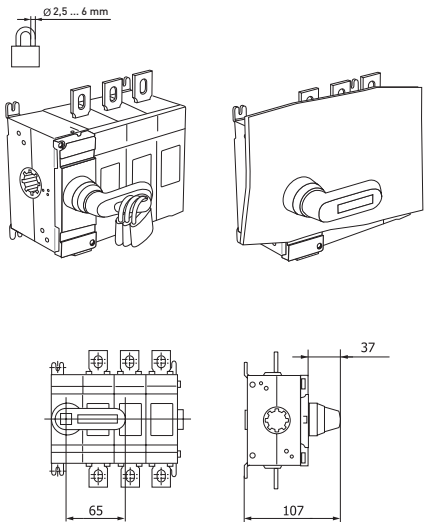


Figure 13. Installation of directly mounted rotary handle 160-250A

## 6.4 Installation of directly mounted rotary handle (315-1600A models)

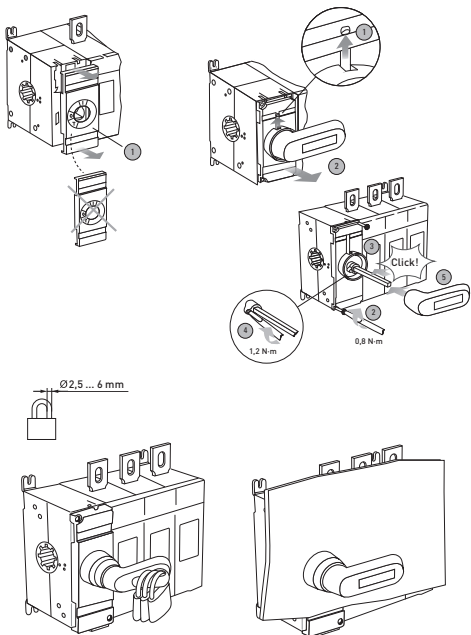


Figure 14. Installation of directly mounted rotary handle 315-1600A

## 6.5 Installation of external rotary handle

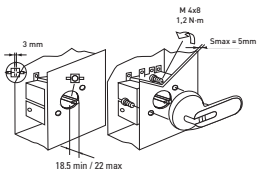


Figure 15. Installation of external rotary handle

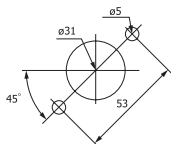


Figure 16. Hole dimensions for rotary handle

## 6.6 Installation of extra pole (160-800A)

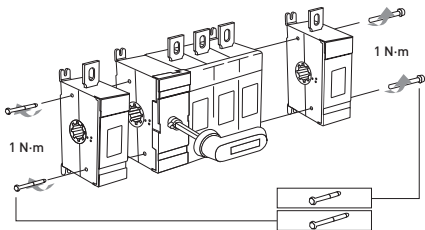


Figure 17. Installation diagram of extra pole (screws in the pole kit)

## **7 TRANSPORTATION AND STORAGE**

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

Switch disconnectors shall be stored in the original package indoors at the ambient temperature from -60 to +40 °C. Relative humidity: 50% at high temperature and 90% at low temperature.

## **8 DISPOSAL**

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

To dispose of the product, send it to an authorized company for recycling in compliance with national and local laws and regulations in force.

## **9 MANUFACTURER'S WARRANTY**

The manufacturer guarantees that switch disconnectors comply with the requirements of IEC 60947-3:2020 provided that consumers follow 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.

## 10 CERTIFICATE OF ACCEPTANCE

The switch disconnecter TwinBlock EKF complies with IEC 60947-3:2020 and has been approved for operation.

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

Quality control stamp

