



TECHNICAL MANUAL

Thermal overload relay RTE EKF

1 DESCRIPTION

The thermal overload relays RTE EKF are designed to protect three-phase squirrel-cage asynchronous motors against current overloads of unacceptable duration, including those resulting from loss of one of the phases.

The relays are used as components in motor control circuits together with contactors KTE.

The thermal overload relays RTE correspond to IEC 60947-4-1:2018.

2 TECHNICAL DATA

Compatibility of thermal overload relay and contactor KTE is specified in table 1.

Table 1

Name	Item code	Contactor
Thermal overload relay RTE -4355 55-80 EKF	rel-4355-55-80	KTE 115A KTE 150A KTE 185A
Thermal overload relay RTE-4363 63-90 EKF	rel-4363-63-90	
Thermal overload relay RTE-4380 80-110 EKF	rel-4380-80-110	
Thermal overload relay RTE-4390 90-120 EKF	rel-4390-90-120	
Thermal overload relay RTE-4312 120-150 EKF	rel-4312-120-150	
Thermal overload relay RTE-4315 150-180 EKF	rel-4315-150-180	
Thermal overload relay RTE-53125 125-200 EKF	rel-53125-125-200	KTE 225A

The main technical performances are listed in Table 2.

Table 2

Name	RTE-4355...RTE-4315	RTE-53125
Relay setpoint, A	55-80; 63-90; 80-110; 90-120; 120-150	125-200
Rated operating voltage Unom, V	230, 400, 660	230, 400, 660
Rated insulation voltage Ui, V	690	
Rated impulse withstand voltage Uimp, kV	8	8
Frequency, Hz	50-60	
Sealing	N/A	Available
Net weight, kg	0,972	2,75
Cross-section of connected signalling wires, mm ²	1-2,5	
Tightening torque, N-m	15	28
Type of auxiliary contacts	1NO+1NC	
Release class	10A	

Tripping characteristics are shown in Figure 1:

Class 10A

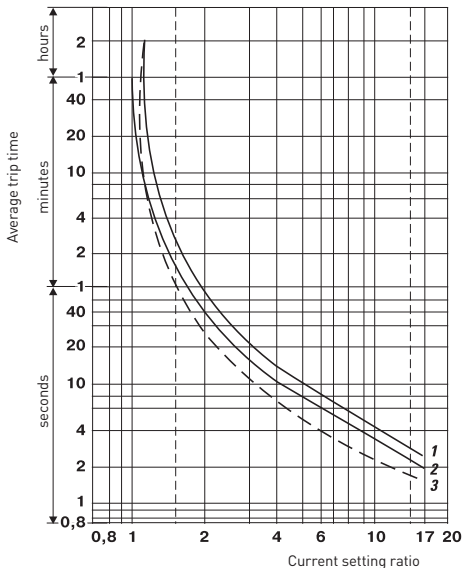


Fig. 1 Tripping curves

Tripping curves

1. symmetrical three-phase mode from the cold state
2. symmetrical two-phase mode from the cold state
3. symmetrical three-phase mode after prolonged rated current flow (hot state).

Current setting ratio	Time	State	Ambient temperature, °C
1,05	>2 hours	Cold	20±5
1,2	<2 hours	Hot	
1,5	<4 minutes		
7,2	2 s < T _p ≤ 10 s	Cold	
	4 s < T _p ≤ 10 s		≤ 63 A
			> 63 A

Wiring diagram

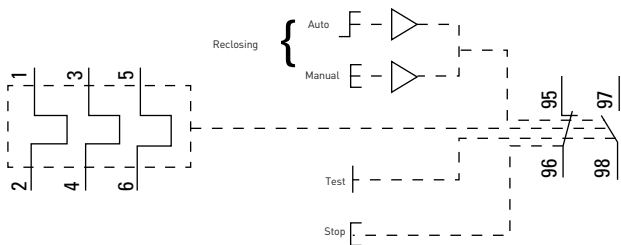


Fig.2 Wiring diagram of RTE-4355...RTE-4315

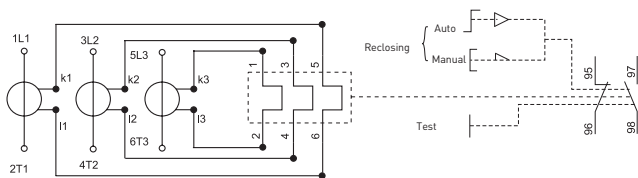


Fig.3 Wiring diagram of RTE-53125

3 OVERALL DIMENSIONS

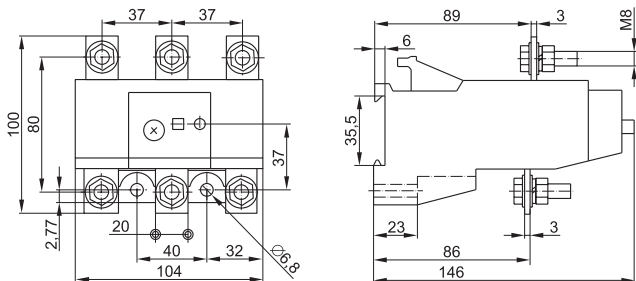


Fig. 4 Overall and connection dimensions of RTE-4355...RTE-4315 Version 1

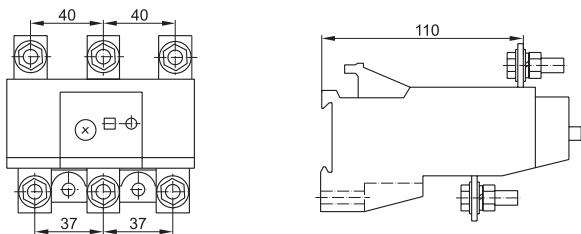


Fig. 5 Overall and connection dimensions of RTE-4355...RTE-4315 Version 2

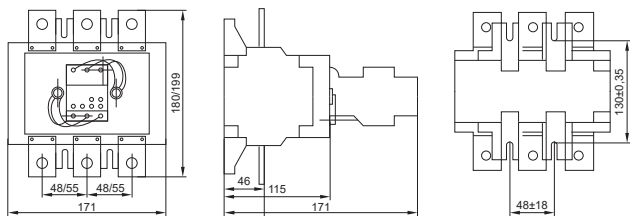


Fig. 6 Overall dimensions of RTE-53125

4 INSTALLATION AND OPERATION

The thermal overload relay shall be mounted and connected by qualified electrical personnel.

To change the trip setpoint, set the current setpoint of relay trip by rotating a disc, aligning the current value (A) on the scale with the marking on the housing.

The cover may be sealed to prevent unauthorized access (for RTE-53125).

To change the reclosing mode, turn the blue Reset switch. If turned to the left, the switch is disengaged and switched to the button mode. Press the button to activate manual reclosing. Press the switch and turn it to the right to activate automatic reclosing. The switch remains in the automatic reclosing position until forced return to the manual reclosing position.

Close the cover to lock the switch. Press the red Stop button to activate Stop function (contacts 95-96 open). Press the red Test button with a screwdriver to activate Test function (triggering of the relay by overload is simulated - it changes the positions of open and close contacts and activates the trip indicator).

Operating temperature: from - 40°C to +50°C.

Altitude above sea level is max. 2000 m.

Position in space - vertical on a vertical plane.

5 DELIVERY SCOPE

Thermal overload relays 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 SAFETY REQUIREMENTS

Do not operate the thermal overload relay RTE with visual mechanical damage.

By protection method against electric shock, thermal overload relays belong to protection class «0» according to IEC 61140 .

7 MAINTENANCE

For maintenance, follow national safety rules for operation of electrical Installations.

Under normal operating conditions, visually inspect the thermal overload relays and tighten the screw terminals every 6 months.

8 TRANSPORTATION AND STORAGE

The thermal overload relays RTE can be transported by any means of enclosed transport that ensures protection of packed products against mechanical and atmospheric impacts.

Thermal overload relays RTE shall be stored indoors in the original package at the ambient temperature from -40°C to +50°C and relative humidity of max. 75% at +15°C.

9 DISPOSAL

Life-expired and failed thermal overload relays shall be disposed of in compliance with the national and local laws and regulations in force.

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

10 MANUFACTURER'S WARRANTY

The manufacturer guarantees thermal overload relays comply with the declared characteristics, provided that the consumer follows the operation, transportation and storage conditions.

Warranty period: 7 years from the date of sale.

Service life: 10 years.

Shelf life: 7 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.

11 CERTIFICATE OF ACCEPTANCE

The thermal overload relay RTE EKF complies with IEC 60947-4-1:2018 and has been approved for operation.

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

Quality control stamp



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