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## CKF-316

### PHASE CONTROL RELAYS

three-phase asymmetry  
and sequence monitors

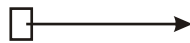


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#### PURPOSE

Three phase and sequence monitor is designed to protect three phase electric motors against voltage drop in at least one phase or voltage asymmetry between phases, which could damage the motor, with additional protection of motor rotation direction in case of phase change before the monitor.



#### STARTING

1. Take on the power.
2. Green LED is shining - correct phase sequence of connection phases joint - can switch ON motor.
3. Red LED is shining - incorrect phase sequence of connection phases joint.
  - a. Take OFF the power.
  - b. change sequence of connection of phases joint e.g. from L2 to L3.
  - c. Make action with points 1 and 2.
4. Any LED isn't shining:
  - Lack of phase
  - Voltage asymmetry is greater than 55V~

#### TECHNICAL DATA

supply	3x400/230V +N
current load	<10A
joint	1P
sygnalling of supply	2xLED
activation voltage asymmetry	55V~
hysteresis	5V~
switching OFF delay	4sec
power consumption	0,56W
working temperature	-25÷40°C
connection	screw terminals 2,5mm <sup>2</sup>
dimensions	1 module (18mm)
fixing	on rail TH-35

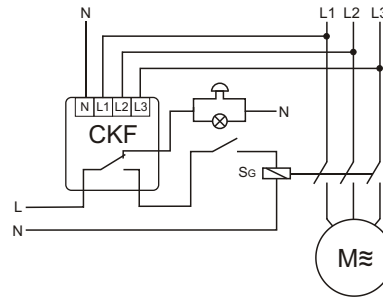
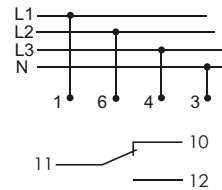
#### FUNCTIONING

Supplied a receiver is signaled by shine of green LED. Voltage collapse in any phase or voltage asymmetry between phases - more than 45V - above fixed actuation threshold causes switching-OFF the motor. The motor switching-OFF occurs after delay of 4 sec, which prevents accidental motor switching-OFF caused by instantaneous voltage drop. Switching the motor ON anew occurs automatically when the voltage increases of 5V~ above activation voltage (i.e. about value of voltage hysteresis). At occurrence of these disturbances, it is not possible to set motor in motion. In case of change of phase sequence, before the monitor, which causes change of motor rotation direction ( in relation to that primarily set) is signaled by shining red diode LED along with impossibility of switching-on the motor. The re-connection is possible after the return to correct phase sequence.

#### ASSEMBLY

1. Check work of motor (direction of sales).
2. Take OFF the power.
3. Put on the relay on the rail in the switchgear box.
4. To joints 1, 6, 4 connect phases L1, L2, L3 with marks. To joint 3 connect N.
5. Contractor of relay ( joints 11-12) connect in line to system of coil of switch ON motor.

#### WIRING DIAGRAM



A090625