



«F&F»® F&F Filipowski sp. j.
 Konstantynowska 79/81 95-200 Pabianice
 phone/fax: (+48 42) 215 23 83 / 227 09 71 POLAND
 http://www.fif.com.pl e-mail: fif@fif.com.pl

**PHASE CONTROL RELAY
 three-phase asymmetry
 and sequence monitors** **CKF-316**

WARRANTY. The F&F products are covered by a warranty of the 24 months from the date of purchase. Effective only with proof of purchase. Contact your dealer or directly with us. More information how to make a complaint can be found on the website: www.fif.com.pl/reklamacje



Do not dispose of this device in the trash along with other waste! According to the Law on Waste, electro coming from households free of charge and can give any amount up to that end point of collection, as well as to store the occasion of the purchase of new equipment (in accordance with the principle of old-for-new, regardless of brand). Electro thrown in the trash or abandoned in nature, pose a threat to the environment and human health.



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 contact - can switch ON motor.
3. Red LED is shining - incorrect phase sequence of connection phases contact.
 - a. Take OFF the power.
 - b. Change sequence of connection of phases contact 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
contact	1xNO/NC
signalling of supply	2xLED
activation voltage asymmetry	55V~
hysteresis	5V~
switching OFF delay	4sec
power consumption	0.56W
working temperature	-25÷40°C
terminal	2.5mm ² screw terminals
dimensions	1 module (18mm)
mounting	on rail TH-35
ingress protection	IP20

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 contacts 1, 6, 4 connect phases L1, L2, L3 with marks. To contact 3 connect N.
5. Contractor of relay (contacts 11-12) connect in line to system of coil of switch ON motor.

Wiring diagram

