



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

ORDER OF PHASE AND PHASE LOSS SENSOR
 Without neutral wire

CKF-318

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/reklamacja



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 to 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

The CKF-318 order of phase and phase loss sensor is designed to protect electric motors powered from the three-phase network 3x400V (without neutral wire).

Implemented security features:

- voltage asymmetry between the phases
- total loss of phase
- symmetrical voltage drop in three phases
- change the order of phases
- exceeding of the phase upper voltage threshold >480V
- exceeding of the phase lower voltage threshold <320V

- 1 -

Start

1. Turn on the power supply.
2. Green LED [R] lights - the order of connection of the phase terminals is correct, network parameters are correct - motor can be started.
3. Red LED [<U] flashes x1/s - incorrect phase order.
 - a. Disconnect the power supply.
 - b. Change the order of connection of the phase terminals, for example L2 with L3.
 - c. Follow the steps described in points 1 and 2.

Technical data

power supply	3x 400V
contact	2x separated 1xNO/NC
current load	<10A
power supply control	2x LED
actuating voltage asymmetry	20÷80V~
min/max actuating voltage	<320V~ / >480V~
voltage hysteresis	5V~
power off delay at asymmetry	1÷10s
reconnection delay at asymmetry and loss	2÷360s
action time for min/max voltages	5s / 0.5s
power consumption	1.6W
terminal	2.5mm ² screw terminals
working temperature	-25÷40°C
dimensions	1 module (18mm)
mounting	on TH-35 rail
protection level	IP20

- 3 -

Functioning

With the right voltage conditions the contacts of the sensor are closed. In the event of a voltage anomaly the sensor disconnects contacts with the appropriate time-delay. Return of the network parameters to standard conditions will reactivate the contacts with the preset delay.

Indications:

Green LED [R]:

- lights - correct parameters, contact closed
- flashes - counting off the delay time of a next activation

Red LED [<U]:

- lights - voltage asymmetry or voltage below 320V
- flashes x1/s - incorrect phase order
- flashes x3/s - voltage above 480V

Note!

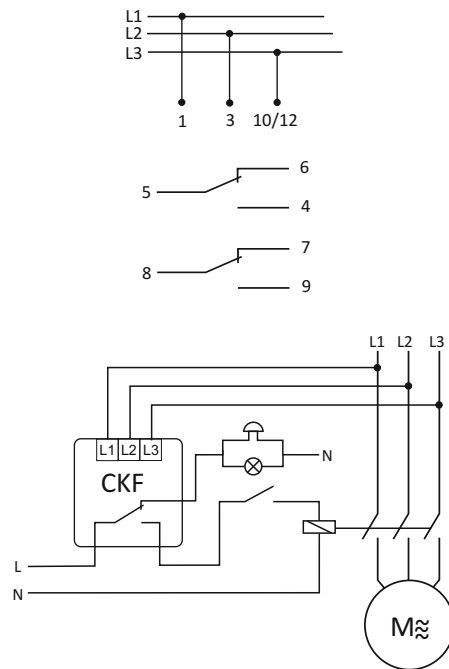
Change-over contact of the relay allows you to connect a visual or sound signaling system that informs about relay operation, which means turning off the motor.

Assembly

1. Check the correct operation of the motor (the direction of rotation).
2. Disconnect the power supply.
3. Mount the sensor on the rail in the dashboard.
4. Connect respective input terminals of the three-phase network to the L1, L2, L3 (1, 3, 10 or 12) terminals.
5. Connect the relay contact (terminals 5-4/8-9) in series into contactor coil circuit that activates the motor anywhere in the control circuit.
6. Set the action threshold of asymmetry and delay times of actuation and return.

- 2 -

Connection diagram



D151221

- 4 -