

# PHASE FAILURE RELAY WITH PHASE SEQUENCE

FK-04/04P, FK-14/14P, FKV-03, FKV-14/14P and FSR **ENG**

## General

FK-04/04P, FK-14/14P, FKV-03, FKV-14/14P and FSR phase failure relays are designed to avoid any failure of three phase motors(which works phase sequence) caused from network. FK-04P, FK-14P and FKV-14P types additionally avoids failure of motor caused thermal overload.

## Usage of Device and Working Principle

Make the connections according to the diagram. When power is on and phases in normal values and phase sequences are correct relay pulls and relay led is switched on. In this case, contact out is (NO)3 pole. Any of the phases increases or decreases than normal values or phase sequence connection is wrong relay releases and phase sequence(⚡) led is switched on and led switches off. In this case contact out is (NC)1 pole. PTC type phase failure relays are sensitive to thermal changes of motor. If the motor temperature is higher than optimum, relay releases, led switches off, when motor temperature is back to nominal, relay pulls and led switches on, relay releases when PTC resistance value 1600R-2000R and pulls again when resistance value 1000R-1400R.

**Note:** Connect PTC to the surface of motor. If PTC not used type FKV-14P: short circuit between P poles and neutral. If PTC not used type FK-04P, FK-14P: short circuit between PTC poles.

**FKV-03:** There is no phase sequence led(⚡). When the phase sequence reversed out led turns off.

## Maintenance

Switch off the device and release from connections. Clean the trunk of device with a swab. Don't use any conductor or chemical might damage the device. Make sure device works after cleaning.

## Warnings

Please use the device according to the manual. Don't use the device in wet. Include a switch and circuit breaker in the assembly. Put the switch and circuit breaker nearby the device, operator can reach easily. Mark the switch and circuit breaker as releasing connection for device.

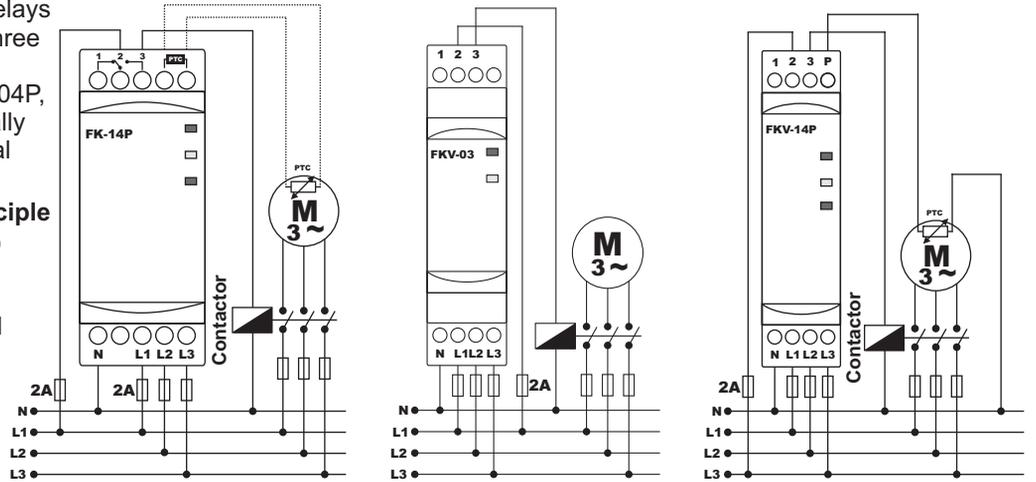
## Technical Specifications:

- Operating Voltage(Un)...: 3 x 380V AC and neutral
- Operating Frequency....: 50/60 Hz.
- Operating Power.....: <4VA
- Operating Temperature..: -20°C.....+55°C
- Tolerance.....: ~%30, ~%40(FKV-03) and no tolerance(FSR)
- Display.....: On led and Out led and Phase Sequence led
- Connection Type.....: Terminal connection
- Weight.....: Max. 110gr.
- Contact.....: 5A/250V AC (Resistive Load)
- Mounting.....: Vertical assembled in the panel or assembled on the din rail
- Operating Altitude.....: <2000meter
- Cable Diameter.....: 2.5mm<sup>2</sup>, 1.5mm<sup>2</sup>(FKV-14/14P, FKV-03)

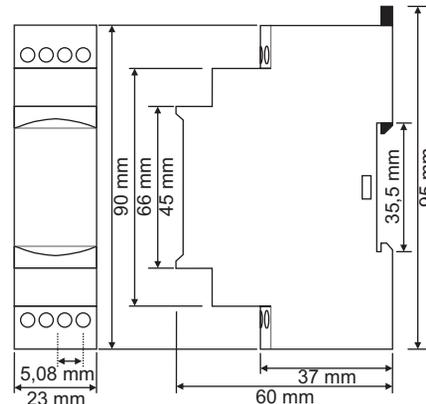
Connection diagram for FKV-03

Connection diagram for FK-14/14P

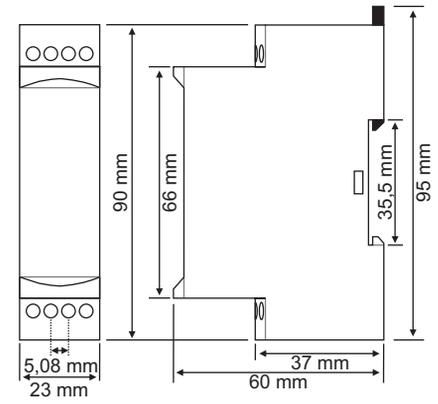
Connection diagram for FKV-14/14P/FSR



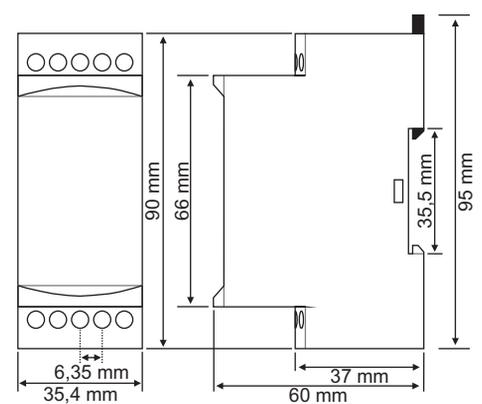
Dimensions for FKV-03



Dimensions for FKV-14/14P



Dimensions for FK-14/14P/FSR



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