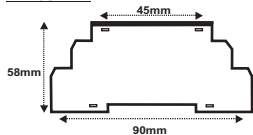


## Device Leds

On	Asym.	U	Out	(☀ LED ON) (⚡ FLASHER) (⊗ LED OFF)
☀	☀	☀	☀	N or Phase L1 (Supply Line) is not connected or corrupted
☀	☀	☀	☀	Voltages are adjusted value ( Normal operation )
☀	⚡	☀	☀	<b>Asym.</b> imbalance t-off time.
☀	☀	☀	☀	<b>Asym.</b> imbalance. ( Phase to Phase )
☀	☀	⚡	☀	<b>U</b> Extreme low voltage unbalance t-off time
☀	☀	☀	⊗	<b>U</b> Extreme low voltage unbalance. (Phase-Neutral).Or Phase loss
☀	⚡	⚡	☀	<b>Respectively Flasher Asym.</b> and <b>U</b> imbalance t-off time
☀	☀	☀	⊗	<b>Asym.</b> and <b>U</b> imbalance
☀	⚡	⊗	⊗	LEDs flash together.Phase sequence fault

## Dimensions

### FMK/SFMK



### FMK



### SFMK



## Technical specifications

Power Supply	: 220 Vac ±%35, 50 Hz (L1-N)
Under , Over Voltage Tolerance	: %5...%30
Asymmetry Adjustment	: %5...%15
Hysteresis	: % 20 (Adjusted value)
Delay Time	: 0.1sec...10sec
Power Consumption	: < 7 VA
Ambient Temperature	: -5°C...+55°C
Contact Type	: Relay, 1 Invsor, 10A/ 250 Vac(Omron)
Electrical Connector	: PCB Clamp
Connection	: DIN 35 rail or Vertical Installation(Installation springs behind the box should be pushed outward to enable screwing).

# KRK®

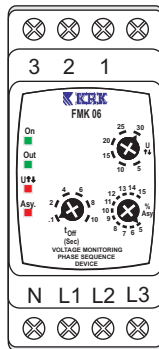
29601  
9001:2008

# VOLTAGE MONITORING PHASE SEQUENCE DEVICE

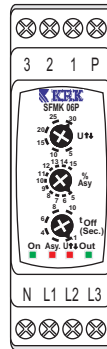
True RMS



## FMK 06



## SFMK 06P



## User guide

## General Specifications

The devices are used for three phase systems, to protect systems from : Phase loss, Phase sequence failure, Under voltage, Over voltage

### Protection Functions

**1- Phase Loss :** If the system has lost one of the phases, the output is closed without delay ("on" and "under" leds are lighted). In case of supply voltage loss, all led are off.

**2-Phase Sequence Failure :** If the sequence of the phases are wrong the output is closed without delay."Under" and "over" leds are flashing.

**3- Under and Over Voltage Protection :** Under and Over voltage tolerances can be adjusted separately. If the phase-neutral voltage values are between the adjusted levels "out" led is on (2-3 contacts are closed). Otherwise device close the output(1-2 contacts are closed). During normal operation any of pases voltage value decreases under the adjusted value "under" led is on, increases ver the adjusted value "over" led is on. If one of the phase is over the limit and one of the under the limit both "under" and "over" leds are on. If these condition continues more than adjusted delay time "out" led is off (1-2 contacts are closed). Related warning leds remain on. If these condition continues less than adjusted time, warning leds are off. Device operating normally.

**4- If any of phases values increases over  $1.5xU_n$  or decreases under  $0.5xU_n$  device will closed the system without delay. Warning leds will light on accordingly.**

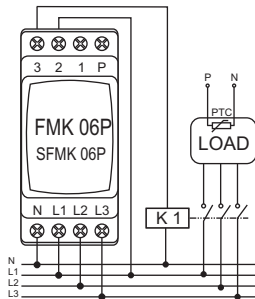
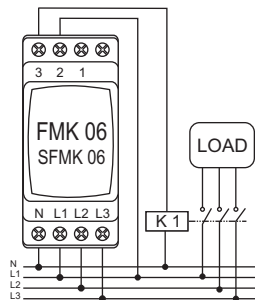
The devices are protect motors from ;

\*Phase loss \*Phase sequence failure \*Phase asymmetry \*Motor overheat

**5- Phase Loss :** If the system has lost one of the phases, the output is closed without delay ("Ph. seq." and "Asym." led are lighted). In case of supply voltage loss, all of leds are off.

**6- Voltage Asymmetry:** If system's phase-phase voltage values are between the adjusted asymmetry value, "out" led is on (2-3 contacts are closed). Otherwise the output is closed (1-2 contacts are closed). During normal operation, if asymmetry occurs "Asym." Led is on ad if it continues more than adjusted delay time device will cut-off the system (1-2 contact are closed). If it return normal value will continue to normal operation and all warning leds are off.

## Connection diagram



**NOTE: FMK 06P / SFMK 06 P series**  
P and N to cancel the PTC  
protection Short circuit ends.