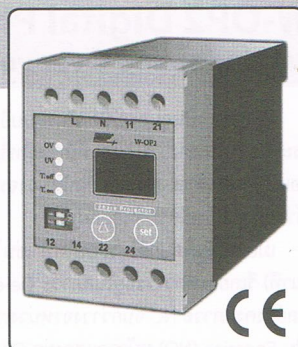


# W-OP2 Digital Phase Protector

## 1Ø Under and Over voltage with adjustable time delay & Selectable voltage

**W-OP2** is a digital electronic instrument designed for AC voltage monitoring and protection in single phase system. Used in application such as under and over voltage. When the measured voltage moves outside the set-point limit, the relay will de-energize after the selected time delay (Off delay). The relay will automatically reset to energize when the input voltage is raised past the set-point plus the hysteresis value and the adjustable delay period starts. At the end of timed period the relay will automatically energize again. The time setting adjustment range is 0 to 15 min. Should any phase fail, the output relay will de-energize. Line voltage is selected with Dip switch on top 220, 230 or 240 VAC and the trip-point will be automatically calculated by the microcontroller.



The **W-OP2** operates automatically and shut down your motor before any damage is done. An illuminated LED indicates of actual fault that cause the trip and display "ON" indicates when the relay is energized. The last fault can be checked by pressing "▲" and the LED will show the fault condition. The case can be mounted on a DIN rail 35mm and adapter plate is available for wall mounting.

### System Parameter Setting:

1. Press "Set" key the LED will indicate the first system parameter (ie. "OV"), this means the controller goes to modify phase. After that, each time press the "Set" key, the controller goes to modify the next parameter.
2. After entering the modifying phase, use "▲" key to increase the value by one unit, respectively.
3. Use "Set" key to end current parameter setting, and move to the next parameter. After three system parameters, the procedure of the system parameter setting is ended. At this time the display shows "On".

### System Parameter Table :

No.	LED	Description	Range	Requirement	Default
1	OV	Set Over voltage	10 to 20%	10 to 25 %	12%
2	UV	Set Under voltage	2 to 20%	2 to 25 %	12%
3	T.Off	Set time delay off	0 to 5 sec.	-	2 sec.
4	T.On	Set time delay on	0 to 15 min.	-	0 min.

### Specification

#### Feature

Approved standard	: CE Mark
Power consumption	: 1.2 W
Input voltage	: 220, 230 or 240 VAC 1Ø (Selectable)
System frequency	: 50/60 Hz.
Accuracy	: $\pm 0.5\%$ of normal voltage
Display	: 7-segment Red LED Letter 0.39" (9.90mm)

#### Range

Over voltage (OV)	: Adjustable from 10 ... 20% (Requirement 10-25%)
Under voltage (UV)	: Adjustable from 2 ... 20% (Requirement 2-25%)
Differential (Hysteresis)	: Preset at 1%

#### Time

Time delay OFF	
Under voltage	: Adjustable from 0 - 5 sec.
Over voltage	: Preset at 2 sec.
Time delay ON	: Adjustable from 0 -15 min

#### Relay output

Output relay	: 2-pole change over (DPDT)
Contact rating	: 5A at 250VAC
Operations	: Mechanical : $2 \times 10^7$ times
	: Electrical : $1 \times 10^5$ times
Relay reset	: Automatic

#### Environmental

Operating temperature	: $-10^\circ$ to $+55^\circ$ C
Storage temperature	: $-10^\circ$ to $+70^\circ$ C
Ambient humidity	: Max 85%RH

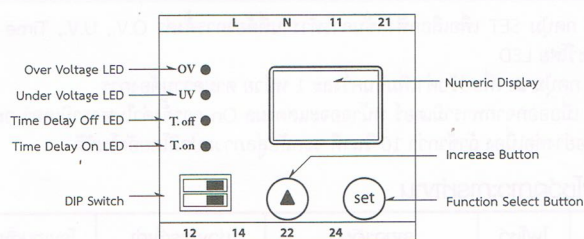
#### Enclosure

Mounting	: DIN rail 35mm
Housing	: ABS UL94V-0
Protection class	: IP20
Wire fixing	: Screw terminal block (3.5 mm2 self lifting)
Indicator	: LED 3 mm
Dimension (mm)	: 55 x 76 x 106
Weight:	: 222 g.



The product should not be dispose of a household refuse.

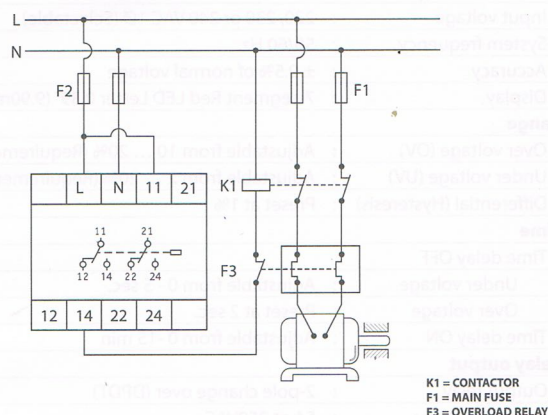
### Operation front Panel



### Binary for select voltage with Dip switch

DIP Switch	Voltage
1 On, 2 Off	220 VAC
1 Off, 2 On	230 VAC
1 On, 2 On	240 VAC

### Wiring Diagram



### Dimension in mm.

