



## W-OP4

3Ø Under, Over and Voltage unbalance with Selectable Voltage  
Code : 6006



### Operation

The W-OP4 Phase Protection Relay is a digital electronic instrument designed for AC voltage monitoring and protection in 3 phase 4 wire and 3 phase 3 wire system. Used in application such as main failure, phase sequence, phase unbalance, under and over voltage.

**Operating System with "Over voltage":** When the measured voltage moves outside the set-point limit, the relay will count the time for "Delay off", then the relay will de-energize (N/C) after the time delay. The relay will automatically reset to energize (N/O) when the input voltage is reduced past the set-point minus the differential (hysteresis value)

**Operating System with "Under voltage":** When the measured voltage moves outside the set-point limit, the relay will count the time for "Delay off", then the relay will de-energize (N/C) after the time delay. The relay will automatically reset to energize (N/O) when the input voltage is raised past the set-point plus the differential (hysteresis value)

**Operating System with "Unbalance voltage":** When the measured voltage moves raised and reduced the set-point limit, the relay will count the time for "Delay off", then the relay will de-energize (N/C) after the time delay. The relay will automatically reset to energize (N/O) when the input voltage is raised and reduced past the set-point plus the differential (hysteresis value)

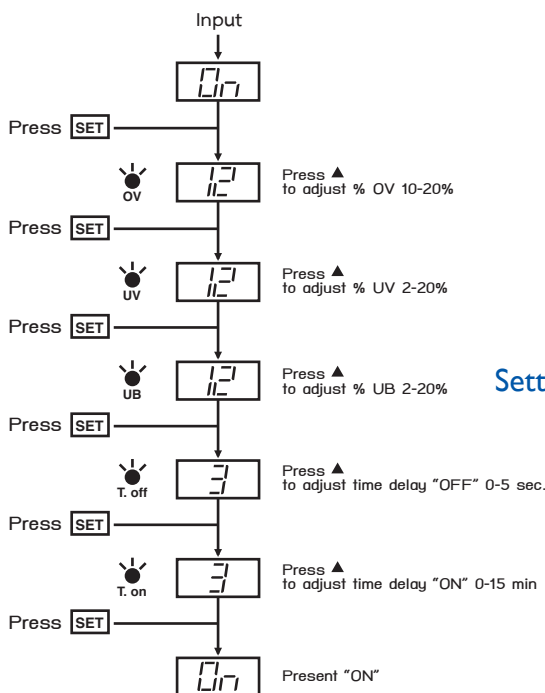
**Setting time delay:** "Time Delay Off" and "Time Delay On".

**Last fault checked:** The last fault can be checked by pressing "▲" and the LED will show the last fault condition.

**System input voltage setting:** Press "Input V." to choose input voltage (380VAC, 400VAC or 415 VAC)

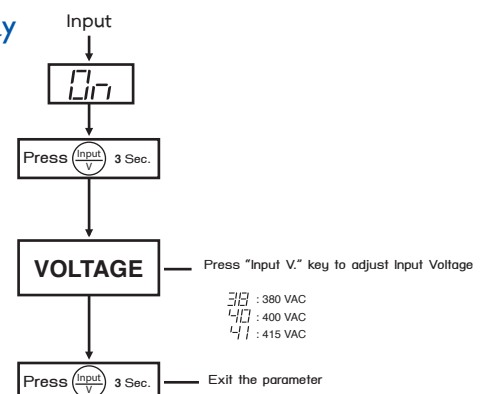
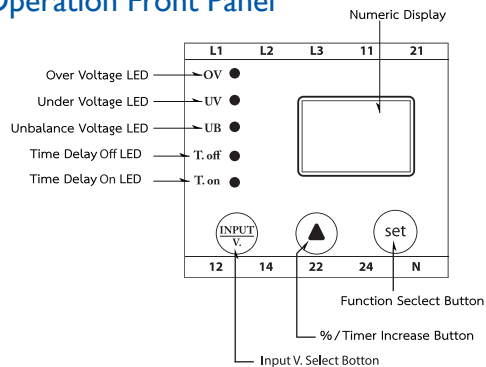
W-OP4 will de-energize (N/C) after the time delay, LED gives indication of actual fault that caused the trip. The case can be mounted on a DIN rail 35 mm.

### Setting Input Voltage

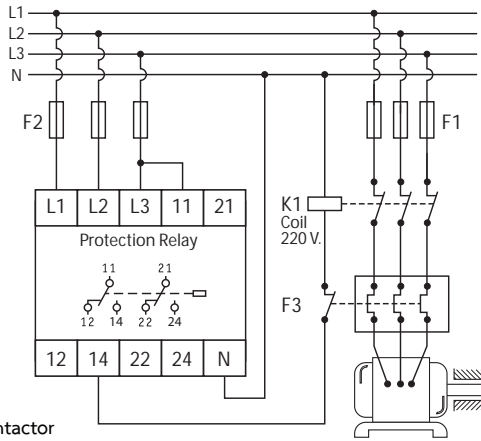


### Setting OV, UV, UB, Time Delay

### Operation Front Panel

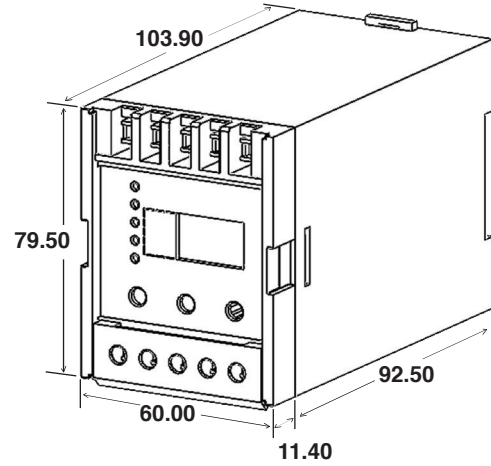


## Wiring Diagram



K1 = Contactor  
 F1 = Main fuse  
 F2 = 2 Amp fast acting fuses recommended for safety (Not required)  
 F3 = Overload relay

## Dimension in mm.



## Specification :W-OP4

Feature	Environmental
Power consumption : 2 VA	Operating temperature : -10 °C to +55 °C
Input voltage : 110, 220, 440, 460 VAC (Fixed V.Requirement)	Storage temperature : -10 °C to +70 °C
380, 400 or 415 VAC 3Ø (Selectable)	Ambient humidity : Max 85%RH
System frequency : 50/60 Hz.	<b>Enclosure</b>
Accuracy : ± 0.5% of normal voltage	Mounting : DIN rail 35mm
Display : 7 segment Red LED Letter 0.39" (9.90mm)	Housing : ABS UL94V-0
<b>Range</b>	Protection class : IP20
Over voltage (OV) : Adjustable from 10% to 20% (Requirement 10-25%)	Wire fixing : Screw terminal block (3.5mm <sup>2</sup> self lifting)
Under voltage (UV) : Adjustable from 2% to 20% (Requirement 2-25%)	Indicator : LED 3mm
Unbalance voltage (UB) : Adjustable from 2% to 20% (Requirement 2-25%)	Dimension in mm : 60 x 79.50 x 103.90
Differential (Hysteresis): Preset at 1%	Weight : 303 g
<b>Time</b>	
Delay off : UV and UB Adjustable 0-5 sec. OV preset at 2 sec.	
Delay on : Adjustable 0-15 min	
<b>Relay output</b>	
Output type : 2-pole change over (DPDT)	
Contact rating : 5A at 250VAC	
Operations : Mechanical : 2 x 10 <sup>7</sup> times Electrical : 1 x 10 <sup>5</sup> times	
Relay reset : Automatic	



The product should not be disposed of as household refuse.

Product Code	Description	Wires	Voltage (L-L)
6006 - 7	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P4W	380 - 415 Vac
6006 - 9	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P4W	440 Vac
6036 - 5	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P3W	110 Vac
6036 - 6	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P3W	220 Vac
6036 - 7	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P3W	380 - 415 Vac
6036 - 9	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P3W	440 Vac
6036 - 8	Over 10% - 20%, Under 2% - 20%, Unbalance 2% - 20%, Time Off 0 - 5 Sec., Time On 0 - 15 min.	3P3W	460 Vac