

# Three-phase Voltage Monitoring Relay

## ■ Features

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- Microprocessor technology provides highly accurate and repeatable protection
- Built-in LCD and keypad afford a precise digital setting
- Compact modular 43mm housing
- Adjustable over-and undervoltage, phase unbalance threshold
- Independent adjustable delay time for overvoltage, undervoltage, phase unbalance
- Adjustable reset method: automatic reset or manual reset
- 1 NO & 1NC contacts
- Failure recording with last 3 faults

## ■ Protective Functions

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- Phase Loss(Failure)
- Phase Sequence(Reversal)
- Phase Unbalance(Asymmetry)
- Undervoltage
- Overvoltage

## ■ Applications

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- Pumps
- Fans
- Refrigeration Units
- Blowers
- Motors
- Compressors
- Lifts, Elevators
- Cranes
- Mining excavators and conveyors

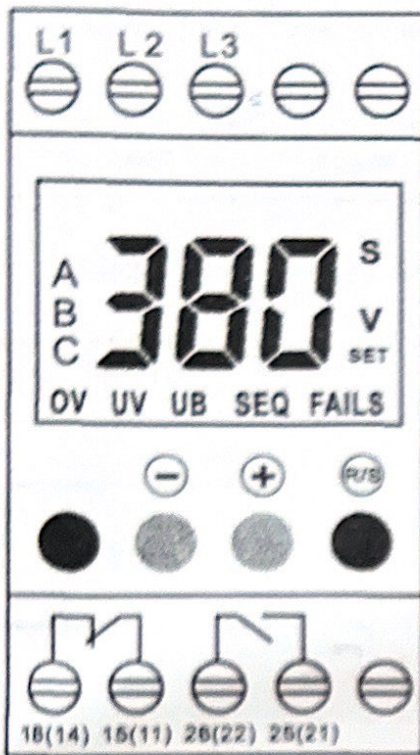
## ■ Ordering Information

| Model | Rated Voltage | Operating Range |
|-------|---------------|-----------------|
|       | 380VAC,50Hz   | 300~490VAC      |

## ■ Technical data

|                              |                                    |
|------------------------------|------------------------------------|
| Rated supply voltage         | 380VAC                             |
| Operating Range              | 300~490VAC                         |
| Operating Frequency          | 50Hz                               |
| Voltage hysteresis           | 10V                                |
| Asymmetry hysteresis         | 2%                                 |
| Automatic reset time         | 1.5s                               |
| Phase loss tripping time     | 1s                                 |
| Phase sequence tripping time | Instant                            |
| Measurement error            | ≤1% with adjustable voltage range  |
| Failure recording            | Three times                        |
| Output type                  | 1NO & 1NC                          |
| Contact capacity             | 6A,250VAC/30VDC(resistive load)    |
| Degree of protection         | IP 20                              |
| Working conditions           | -25°C~65°C, ≤85%RH, non-condensing |
| Mechanical durability        | 1000000cycles                      |
| Dielectric strength          | >2kVAC 1min                        |
| Weight                       | 130g                               |
| Dimensions(H×W×D)            | 80×43×54                           |
| Mounting                     | 35mm DIN rail                      |

## ■ Front Panel View



○ → N/A

⊖ → Decreasing setting value  
& shifting the display of line voltage

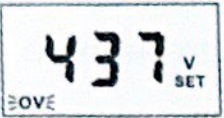
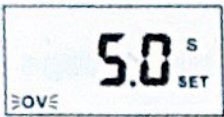

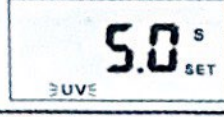
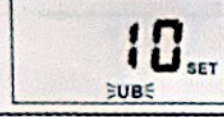
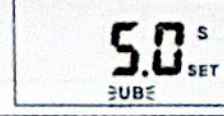


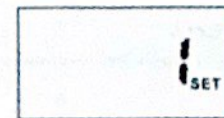
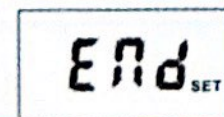
⊕ → Increasing setting value  
& Shifting the display of line voltage

⊖/⊕ → Setting parameters  
& Manual reset

| LCD Indication | Description   |
|----------------|---|
| A B C          | The phases of line voltage, shift by ⊖ or ⊕                             |
| OV             | Overvoltage fault indication<br>or overvoltage setting indication       |
| UV             | Undervoltage fault indication<br>or Undervoltage setting indication     |
| UB             | Phase sequence fault indication<br>or Phase sequence setting indication |
| SEQ            | Phase sequence fault indication<br>or Phase sequence setting indication |
| FAILS          | Phase loss fault indication   |
| SET            | Parameter setting indication  |

## Parameter Setting Method

Press and hold key (R/S) for 3 seconds to get into parameter setting interface, then Press (R/S) to shift to next parameter, press (+) (-) to set up the values. Long press (+) (-) Could accelerate increase or decrease.

| LCD indication  | Parameters                 | Setting range | Default |
|---|----------------------------|---------------|---------|
|    | Overvoltage threshold      | 390~490~OFF   | 437v    |
|    | Overvoltage delay time     | 0.1~25s       | 5s      |
|    | Undervoltage threshold     | OFF~300~370V  | 323V    |
|    | Undervoltage delay time    | 0.1~25s       | 5s      |
|  | Phase unbalance ratio      | 5~29%~OFF     | 10%     |
|  | Phase unbalance delay time | 1~25s         | 5s      |
|  | Phase sequence             | ON/OFF        | ON      |
|  | Reset method               | AU/HA         | AU      |
|  | Failure record query       | 1,2,3         | 1       |
|  | Exit                       | -----         | -----   |

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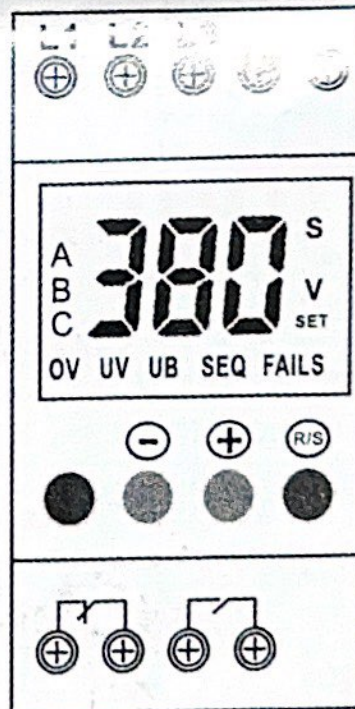
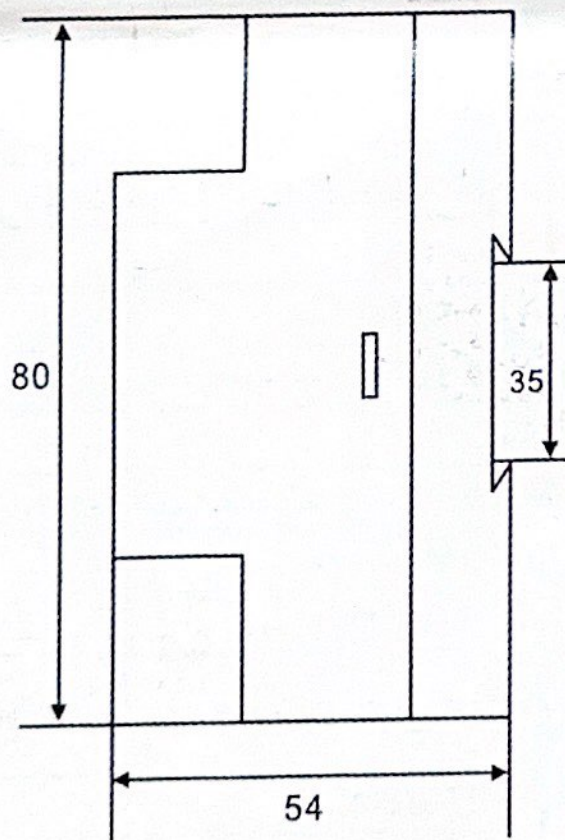
## Parameter Setting Method

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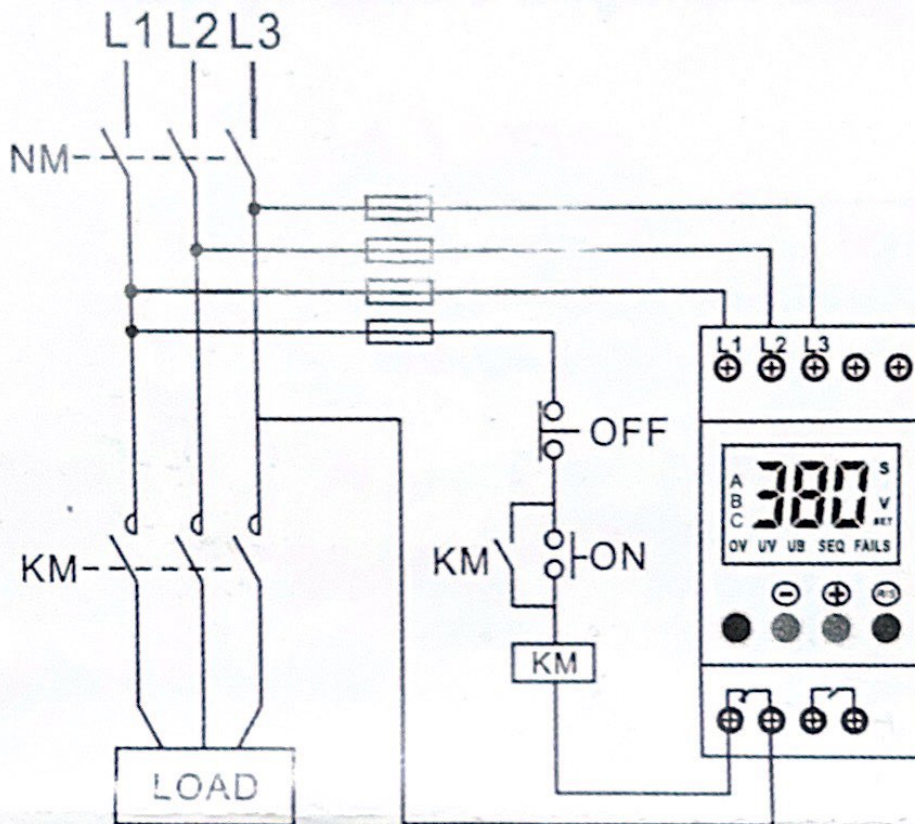
### Note:

1. "ON" means enable the function, "OFF" means disable the function.
2. If overvoltage protection, undervoltage protection or unbalance protection is turned off, the relevant delay times setting will be hidden.
3. For reset method, "AU" means automatically reset, "HA" means manual reset, that you have to press **R/S** to reset.
4. For failure record, the relay will cover the last failure record, you can view the last three failure records.
5. The relay would automatically exit setting interface if any key is not pressed for consecutive consecutive 60 seconds.

## Dimensions(mm)



## ■ Wiring Diagram



Relay contact position shown in "Power on" (Healthy) condition

**General safety**  
potentially hazardous voltages are present at the terminals of the relays.

All electrical power should be removed when connecting or disconnecting wiring.

This device should be installed and serviced by qualified personnel.