

## General

ATR automatic phase changeover relay is designed to switch the fault phase to the normal phase from errors that may arise from mains high and low voltage.

## Device Usage and Principle of Operation

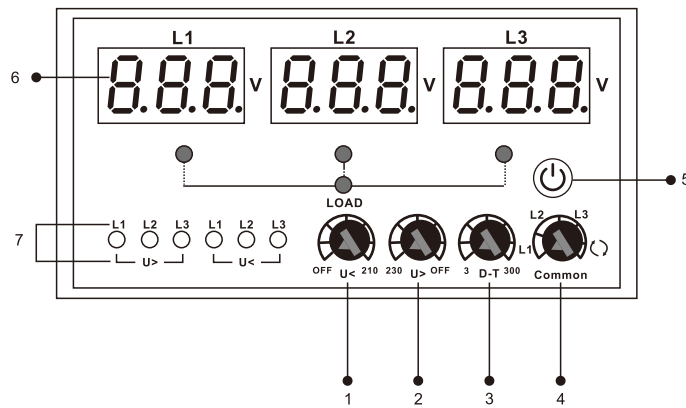
Make the connections of the device according to the connection type. Otherwise, the device may be damaged. Adjust the high & low voltage settings of the according to the voltage values of the load you will use.

**High Voltage Error state:** If the used phase voltage value is over the high voltage set values the device waits for the 3 sec. (fixed), then the device de-energizes the relay, the V> led turn on, the high voltage value displayed on the screen flashes throughout the error period. The device waits for the set time of D-T to switch to another normal phase and energizes the relay.

**Low Voltage Error state:** If the used phase voltage value is under the low voltage set values the device waits for the 3 sec. (fixed), then the device de-energizes the relay, the V< led turn on, the low voltage value displayed on the screen flashes throughout the error period. The device waits for the set time of D-T to switch to another normal phase and energizes the relay.

**Common phase settings:** when set to cyclical the current phase is maintained when the current phase is not faulty. When the current phase fails, switch to the next fault-free phase and hold.

## Display and Buttons



- 1- Low voltage setting knob
- 2- High voltage setting knob
- 3- Changeover delay setting knob
- 4- Common phase setting knob

**5- Manual On/Off Button:**  
For close the device output. In this state, the screen will display "off" and the device cannot be automatic changeover. Press this button again to switch on the device intouse again.

### 6- Voltage Display

Display Group: During normal operation, the input voltage value is displayed here, the screen lights up steadily when not in error state, the display flashes in case of error (high or low voltage).

### 7- LEDs:

L1(U>): Lights up when L1 phase has high voltage fault.  
L2(U>): Lights up when L2 phase has high voltage fault.  
L3(U>): Lights up when L3 phase has high voltage fault.

L1(U<): Lights up when L1 phase has low voltage fault.  
L2(U<): Lights up when L2 phase has low voltage fault.  
L3(U<): Lights up when L3 phase has low voltage fault.

## Working

Example: Set the low voltage value (U<) to 160V, the high voltage value (U>) to 260V, and the time of Changeover delay time is 5 sec. Set the common is cycle.

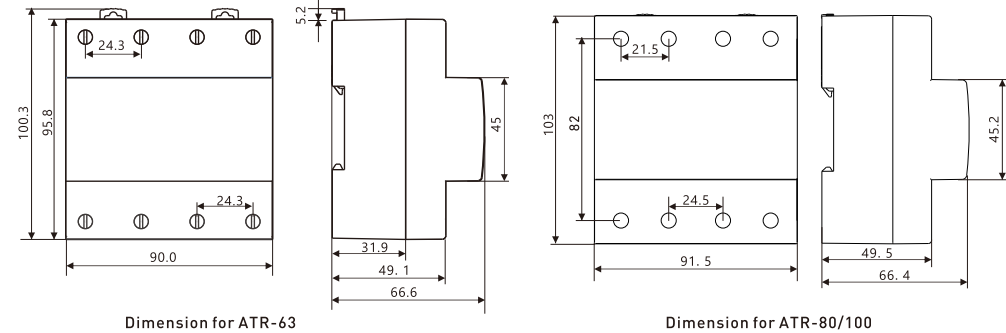
Make the connections of the device according to the connection type. L1 is trouble-free and energizes relay, <L1> led is turn on, output led <LOAD> is turn on.

When the L1 voltage is under 160V, the delay is 3 seconds (fixed), cut off the L1 phase and (L1 U<) error led turn on, turn on the fault-free L2 phase after the delay of D-T(5 sec.), the <L2> led turn on, and the output led <LOAD> is turn on.

When the L2 voltage is over 260V, the delay is 3 seconds (fixed), cut off the L2 phase and (L2 U>) error led turn on, turn on the fault-free L3 phase after the delay of D-T(5 sec.), the <L3> led turn on, and the output led <LOAD> is turn on.

When the L3 voltage is over 300V, the delay is 3 seconds (fixed), cut off the L3 phase and (L3 U>) error led turn on. In this state, L1, L2, and L3 are all faulty, disable the output, wait for any one phase to return to normal, and then turn on the load again.

## Dimensions

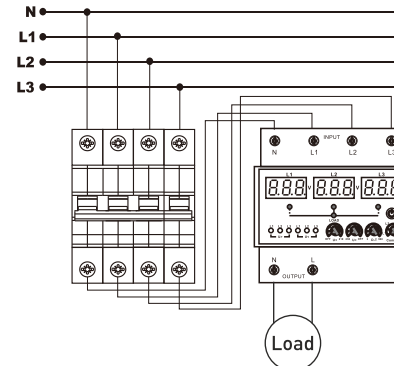


Dimension for ATR-63

Dimension for ATR-80/100

## 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 swith and circuit breaker as releasing connection for device.



※Manual Button: Can only be operated when there is no fault

## Technical specifications:

Operating Voltage(Un).....: 3x380VAC + Neutral  
Operating Frequency.....: 50/60Hz.  
Operating Power.....: <6VA  
Operating Temperature..: -20°C .....+55°C  
High Voltage(U>).....: 230-300V+Off  
Low Voltage(U<).....: 110-210V+Off  
Error Waiting Time .....: 3 sec.(Fixed)  
Changeover Delay.....: 3-300sec.  
Commonly.....: L1,L2,L3 and cycle  
Display.....: 3x3 digit LED display 6 LEDs  
Measurement Precision... : ±%1  
Connection Type.....: Terminal connction  
Weight.....: Max.406 gr  
Mounting.....: Vertical assembled in the panel  
or assembled on the din rail.  
Operating Altitude.....: <2000meter