

● Main menu setting

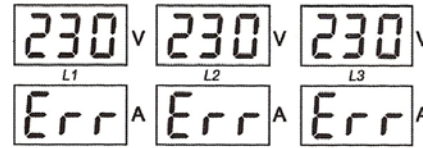
- 230<sub>L1</sub> V • Voltage display
- 63<sub>A</sub> • Current display
- P1<sub>V</sub> • Power-on delay time S
- 10<sub>A</sub> 1→500
- U1<sub>V</sub> • Over-voltage protection value V
- 270<sub>A</sub> 230→300
- U2<sub>V</sub> • Over-voltage recovery value V
- 265<sub>A</sub> 225→295
- U3<sub>V</sub> • Over-voltage recovery delay time S
- 30<sub>A</sub> 1→500
- U4<sub>V</sub> • Over-voltage protection action time S
- 1.0<sub>A</sub> 0.1→30
- U5<sub>V</sub> • Under-voltage protection value V
- 170<sub>A</sub> 140→210
- U6<sub>V</sub> • Under-voltage recovery value V
- 175<sub>A</sub> 145→215
- U7<sub>V</sub> • Under-voltage recovery delay time S
- 30<sub>A</sub> 1→500
- U8<sub>V</sub> • Under-voltage protection action time S
- 1.0<sub>A</sub> 0.1→30

- U9<sub>V</sub> • Three phase voltage error value
- 0<sub>A</sub> -9.5→9.5%
- U10<sub>V</sub> • Three phase voltage unbalance value V
- 20<sub>A</sub> 20→99
- U11<sub>V</sub> • Three phase voltage unbalance recovery value V
- 20<sub>A</sub> 15→94
- U12<sub>V</sub> • Phase sequence protection switch
- on<sub>A</sub> off/on
- C1<sub>V</sub> • Over-current protection value A
- 30<sub>A</sub> 1→63/100
- C2<sub>V</sub> • Over-current recovery delay time S
- 30<sub>A</sub> 1→500
- C3<sub>V</sub> • Over-current protection action time S
- 1.0<sub>A</sub> 0.1→30
- C4<sub>V</sub> • Three phase current error value
- 0<sub>A</sub> -9.5→9.5%
- C5<sub>V</sub> • Continuous over current faults times setting
- off<sub>A</sub> 0→20
- End<sub>V</sub> • Save & Exit Setting
- <sub>A</sub>

- Long press ▲ ▼ can increase or decrease rapidly.
- Only L1 display when setting, L2 and L3 don't display.

● Indication of continuous over current faults

Display for continuous over current faults after reset/start delay is over. Over current faults times is more than preset times.

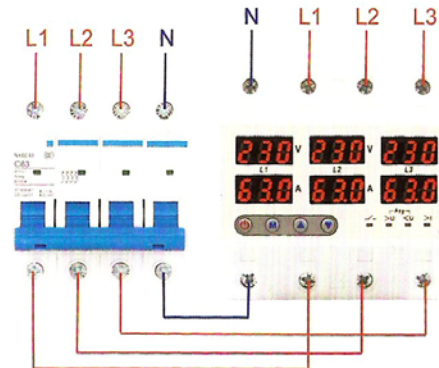


- Disconnect the overload device
- Start the relay after reset manually

OPERATING INSTRUCTIONS

- If a voltage fault was detected when the reset/start delay of relay is counting, the output relay opens and faults indication LED lights up.
- The operating voltage and current values will be displayed on screen when the relay is operating normally. If a voltage or current fault was detected, the output relay opens and fault indication LEDs light up.
- Voltage faults: If input voltage was detected to have returned to Hys after tripped for voltage faults, the relay will reset automatically. During the counting of reset/start delay, fault indication LEDs go out and the operating voltage and current values flash on screen.
- Current faults: After the relay tripped for current faults, it will reset automatically. During the counting of reset/start delay, fault indication LED goes out, the operating voltage and current values flash on screen.

WIRING DIAGRAM



Three Phase Voltage and Current Protector

Instruction Manual



## SAFETY PRECAUTIONS

- 1.The device must be installed by a qualified person.
- 2.Disconnect all power before working on the device.Don't touch any terminal when the power is ON.
- 3.Verify correct terminal connection when wiring.
- 4.Don't dismantle or repair the device whether it operates normally, otherwise no responsibility is assumed by producer and seller.
- 5.Never use the device at the site which can be invaded by corode gas,strong sunshine light and rain.
- 6.Clean the device with a dry cloth.
- 7.Fail to follow these instructions will result in serious injury or death.

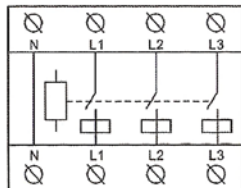
## FEATURES

- Microcontroller based
- Digit display for operating voltage and current value
- Protect electrical device against over/under voltage,over current,three phase asymmetry and incorrect phase sequence
- Voltage measurement accuracy  $\leq 1\%$
- Parameters setting by keys
- LEDs indication for over/under voltage and over current faults
- 5 Module,DIN Rail mounting

## TECHNICAL DATA

Rated supply voltage	AC220V
Operation voltage range	AC140V-300V
Rated frequency	50/60Hz
Hysteresis	Over voltage and asymmetry:5V
	Under voltage:3V
Asymmetry trip delay	10s
Voltage measurement accuracy	$\leq 1\%$ (over the whole range)
Rated insulation voltage	450V
Output contact	1NO
Electrical life	$10^5$
Mechanical life	$10^5$
Protection degree	IP20
Pollution degree	3
Altitude	$\leq 2000\text{m}$
Operating temperature	$-5^{\circ}\text{C}-40^{\circ}\text{C}$
Humidity	$\leq 50\%$ at $40^{\circ}\text{C}$ (without condensation)
Storage temperature	$-25^{\circ}\text{C}-55^{\circ}\text{C}$

## SYMBOL



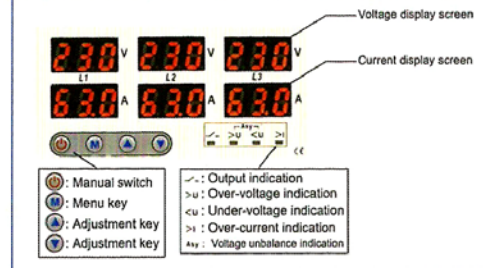
## OPERATING RANGE

Technical parameter	Setting range	Factory setting	Step	Function description
Power-on delay time	1s-500s	10s	1s	After external power cut,the time needed for power-on when power recovery.
Over-voltage protection value	230V-300V	270V	1V	When the voltage is higher than the set value, the protector will cut off the line.
Over-voltage recovery value	225V-295V	265V	1V	When the voltage is lower than the set value, the protector will automatically reset, and the set value must be less than the over-voltage protection value by more than 5V.
Over-voltage recovery delay time	1s-500s	30s	1s	After voltage recovery,the time needed for automatic reset.
Over-voltage protection action time	0.1s-30s	1.0s	0.1s	When the voltage is higher than the set value,the time needed for protection action.
Under-voltage protection value	140V-210V	170V	1V	When the voltage is lower the set value, the protector will cut off the line.
Under-voltage recovery value	145V-215V	175V	1V	When the voltage is higher than the set value, the protector will automatically reset, and the set value must be more than the under-voltage protection value by more than 5V.
Under-voltage recovery delay time	1s-500s	30s	1s	After voltage recovery,the time needed for automatic reset.
Under-voltage protection action time	0.1s-30s	1.0s	0.1s	When the voltage is lower than the set value,the time needed for protection action.
Three phase voltage error value	-9.5%-9.5%	0		Correct the three phase voltage error.
Three phase voltage unbalance value	20V-99V	20V	1V	When the error among the three phase voltage is bigger than the set value,the protector will cut off the line.
Three phase voltage unbalance recovery value	15V-94V	15V	1V	When three phase voltage unbalance value is lower than the set value,the protector will automatically reset.
Phase sequence protection switch	OFF/ON	ON		Switch on or on the phase sequence protection function.
Over-current protection value	1A-63A 1A-100A	30A	1A	When the current is higher than the set value, the protector will cut off the line.
Over-current recovery delay time	1s-500s	30s	1s	After current recovery,the time needed for automatic reset.
Over-current protection action time	0.1s-30s	1.0s	0.1s	When the current is higher than the set value,the time needed for protection action.
Three phase current error value	-9.5%-9.5%	0		Correct the three phase current error.
Times of continuous over current protection	0-20	OFF	1	When the times of continuous over-current protection exceeds the set value,the protector will cut off the line,then it needs to be opened manually.
Phase-loss protection	ON			One of the three-phase voltages is losing,the protector will cut off the line.

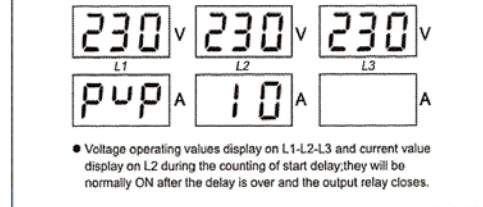
## 3 PHASE VOLTAGE AND CURRENT PROTECTOR

Please read complete instructions prior to installation and operation of the device.

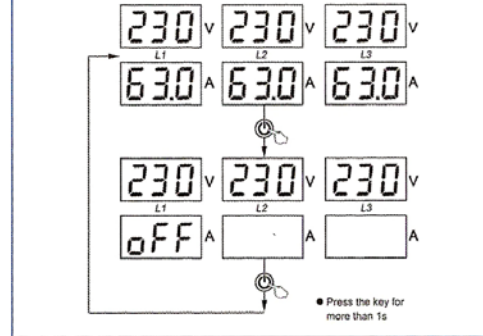
### FRONT-FACE PANEL



### Reset/start delay display



### Switch on/off manually



### Indication for incorrect phase sequence

