

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

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 corrode 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

- True RMS measurement.
- Double 3 digit display for operating voltage and current value.
- Protect electrical device against over/under voltage, overcurrent and overheat faults
- Parameters setting by keys.
- 1-63A adjustable.
- 2 Modules, DIN Rail mounting.

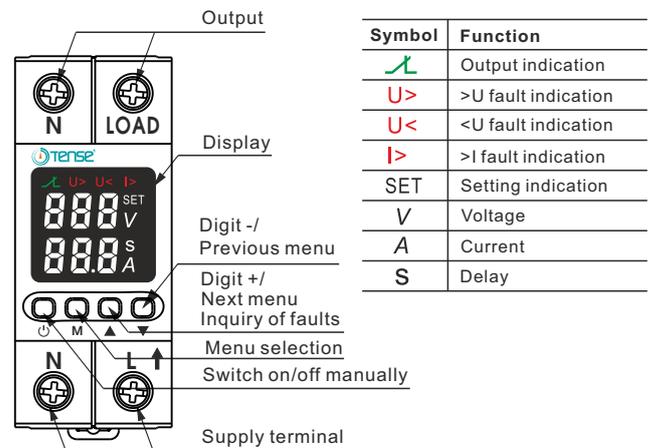
TECHNICAL DATA

Rated supply voltage	AC 220V
Operation voltage range	AC 50V~450V
Rated frequency	50/60Hz
Overvoltage(U>) setting range	220~300V/OFF
Overvoltage trip delay setting(t-o)	0s~5s
Undervoltage(U<) setting range	OFF/80~210V
Undervoltage trip delay setting	0.1s~5.0s
Overcurrent(I>) setting range	1~63A
Maximum operating current I _{max} (within 10min)	90A
Max. power of load	13.9kW
Hysteresis	>U: 5V; <U: 3V
Power on delay setting(t-P)	1s~300s
Reclose delay setting(t-r)	1s~600s
Trip delay for overcurrent faults(ta)	0s~600s
Trip delay for short circuit fault(tsd)	0*s-5.0s
Overvoltage(U>) trip delay	<305V:0s-5.0s; ≥305V: 0.02s
Undervoltage(U<) trip delay	≥80V:0.1-5.0s, <80V:0.02s
Overcurrent(I>) trip delay	I _r **>2I _{set} (max.90A);T _{sd} ;I _r ** ≤ 1.25I _{set} ;T _a ; 1.25I _{set} <I _r ** ≤ 2I _{set} ; 5s(T _a ≤5s)
Overheat setting range	70-80 /OFF
Overheat trip delay	1s~300s
Overheat hysteresis	10
Continuous overcurrent times setting	OFF-1~20
Voltage measurement accuracy	<1%
Rated insulation voltage	450V
Output contact	1NO
Electrical life	10 ⁴
Mechanical life	10 ⁶
Protection degree	IP20
Pollution degree	3
Altitude	≤2000m
Operating temperature	-20 ~55
Humidity	≤50% at 40 (without condensation)
Storage temperature	-30 ~70

* 0s is real 0.04s

** Operating current value

FRONT-FACE PANEL



Technical parameter	Setting range	Step	Factory default
Overvoltage trip value	220V-300V	1V	250V
Overvoltage trip delay	0s-5.0s	0.1s	0s
Undervoltage trip value	80V-210V	1V	170V
Undervoltage trip delay	0.1s-5.0s	0.1s	0.5s
Overcurrent trip value	1A-63A	1A	63A
Power on delay(t-P)	1s-300s	1s	5s
Trip delay for overcurrent fault(ta)	0s-600s	1s	90s
Trip delay for short circuit fault(tsd)	0s-5.0s	0.1s	0.2s
Overheat setting range	70-80 /OFF	1	70
Overheat trip delay	1s-300s	1s	10s
Reclose delay setting(t-r)	1s-600s	1s	15s
Continuous overcurrent faults times	OFF-1~20	1	3
Auto-reclose setting	ON/OFF		ON
Reset to factory default	ON/OFF		OFF

● Display of power on and reclose delay



- Operating voltage and delay time display during the counting of power on and reclose delay; they will be normally ON after the delay is exhausted and the output relay closes.

● Display for continuous I> faults

Display for continuous overcurrent faults after power on and recovery delay is exhausted.



- Disconnect the overload device.
- Press M for 0.5s to reclose manually.

● Main menu



● Main display

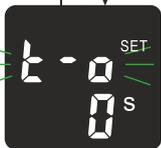


● Overvoltage trip value setting V

220 → 300 → OFF

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

OFF: turn off the function;



● Overvoltage trip value delay s

0 → 50

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

0s is real 0.04s.



● Undervoltage trip value setting V

OFF → 80 → 2 10

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

OFF: turn off the function;



● Undervoltage trip value delay s

0.1 → 50

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

0s is real 0.04s.



● Overcurrent value setting A

1 → 63

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.



● Overcurrent fault trip delay setting S

0 → 600

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.



● Overheat trip value setting

70 → 80 → OFF

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

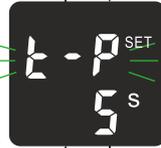
OFF: turn off the function;



● Overheat trip delay setting S

1 → 300

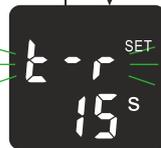
Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.



● Power on delay setting S

1 → 300

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.



● Reclose delay setting S

1 → 600

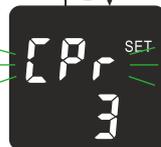
Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.



● Trip delay setting for short circuit fault S

0 → 5.0

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

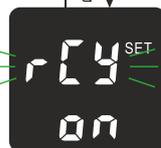


● Setting of continuous overcurrent fault times

OFF → 1 → 20

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

OFF: turn off the function;

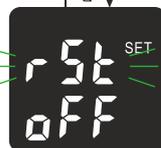


● Auto reclose setting

ON → OFF

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

OFF: turn off the function;
ON: turn on the function;



● Reset to factory default

ON → OFF

Press (M) to activate the setting. Change the setting value by pressing (▼) (▲) keys and confirm with pressing (M) again.

OFF: turn off the function;
ON: turn on the function;

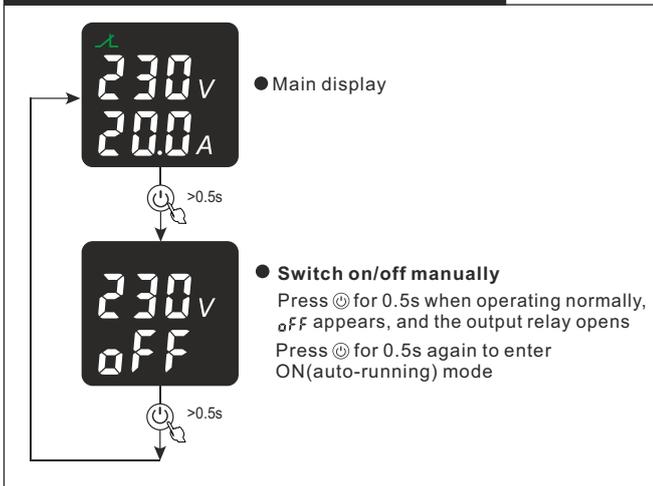


● End setting, press (M) to exit from settings

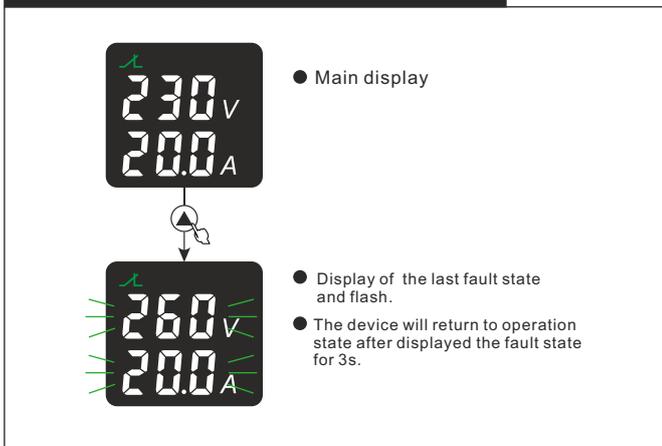
● Long press (▼) (▲) can increase or decrease rapidly.

● The relay will automatically exit from the menu and not save the modified value if not pressing the keys for continuous 60s during setting.

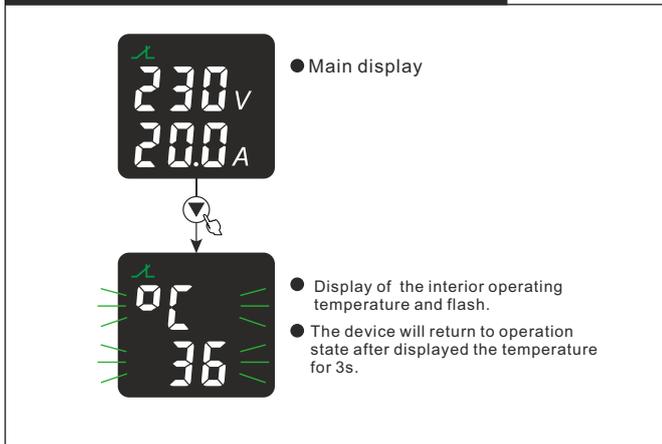
● Switch on/off manually



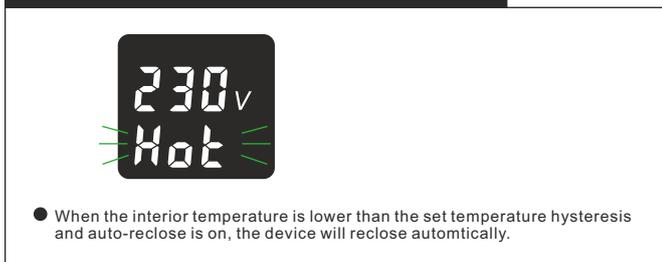
● Inquiry of voltage and current faults



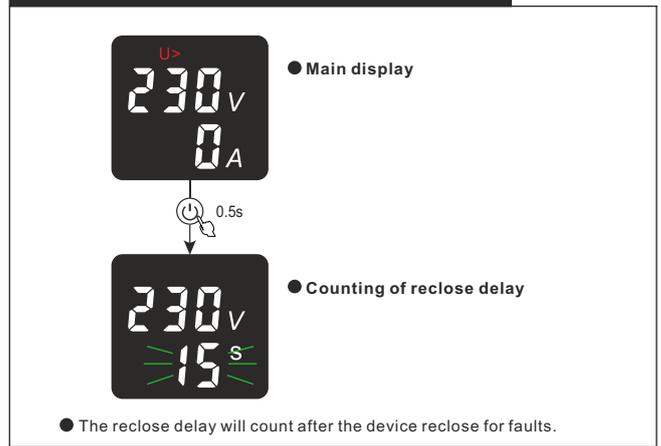
● Inquiry of interior operating temperature



● Display for overheat fault



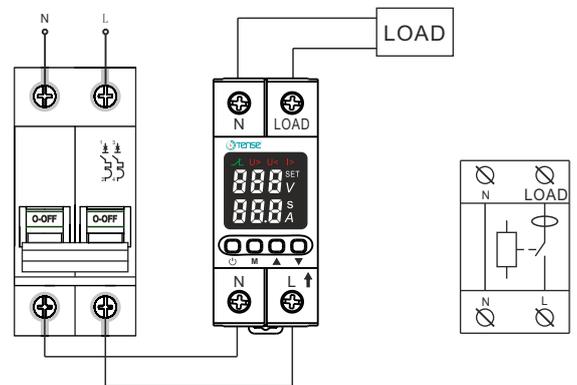
● Reclose manually (auto reclose is off)



OPERATING INSTRUCTIONS

- If a voltage fault was detected when the power on delay is counting, the fault indication symbol lights up and counting stops. The device will re-start counting of the delay after returned to normal state.
- The operating voltage and current values will be displayed on screen when the relay is operating normally. If a voltage, current or temperature fault was detected, the output relay opens and fault indication symbol lights up.
- Voltage fault(auto-reclose is ON): if input voltage was detected to have returned to **Hys** after tripped for voltage faults, the device will reclose automatically and begin the counting of reclose delay.
Current fault(auto-reclose is ON): After the device tripped for current faults, it will reclose automatically and begin the counting of reclose delay.
Overheat fault(auto-reclose is ON): if temperature was detected to have returned to **Hys** after tripped for overheat fault, the device will reclose automatically and begin the counting of reclose delay.
- When the device is used for motor protection(like air conditioner), user can adjust the short circuit trip delay **tsd** to avoid the instant tripping which caused by that the start current of motor is higher than $2 \times I_{set}$.

WIRING DIAGRAM



- Rated operating current of circuit breaker is 75% maximum current of the relay $I_e = 0.75 \times I_{max}$

DIMENSIONS

