

## 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 and overcurrent.
- Password protection available.
- Parameters setting by keys.
- 1-63A adjustable.
- 2 Module, DIN Rail mounting.

## TECHNICAL DATA

Rated supply voltage	AC 230V
Operation voltage range	AC 50V~450V
Rated frequency	50/60Hz
Overvoltage(U>) setting range	220~280V
Undervoltage(U<) setting range	80~210V
Overcurrent(I>) setting range	1~63A
Maximum operating current I <sub>max</sub> (within 10min)	80A
Max. power of load	13.9kW
Hysteresis	>U: 5V; <U: 3V
Reset/start delay	Ton: 5s~600s
Overcurrent faults trip delay range	Ta: 0s~600s
Overvoltage(U>) trip delay	≤285V:0.04s; >285V: 0.02s
Undervoltage(U<) trip delay	≥80V:0.5s, <80V:0.02s
Overcurrent(I>) trip delay	I <sub>r</sub> >2I <sub>set</sub> (max.80A):0.02s; I <sub>r</sub> ≤1.25I <sub>set</sub> : Ta; 1.25I <sub>set</sub> <I <sub>r</sub> ≤2I <sub>set</sub> : 5s(Ta<5s)
Voltage measurement accuracy	<1%
Rated insulation voltage	400V
Output contact	1NO
Electrical life	10 <sup>4</sup>
Mechanical life	10 <sup>6</sup>
Protection degree	IP20
Pollution degree	3
Altitude	≤2000m
Operating temperature	-5°C~40°C
Humidity	≤50% at 40°C(without condensation)
Storage temperature	-25°C~55°C

\* Operating current value

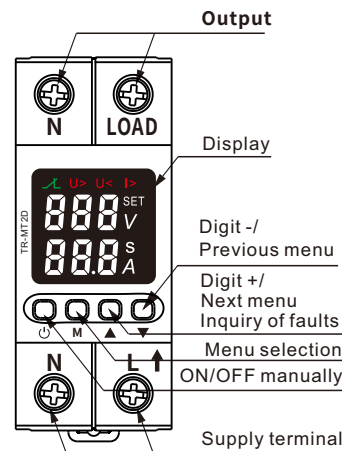
Technical parameter	Setting range	Step	Factory setting
Overvoltage trip value	220V~280V	1V	250V
Undervoltage trip value	80V~210V	1V	170V
Reset/start delay	5s~600s	1s	5s
Overcurrent faults trip delay	0s~600s	1s	90s
Automatic reset	ON/OFF		ON
Password function	ON/OFF		OFF
Password setting	000~999	1	000

## TR-MT2D

## VOLTAGE AND CURRENT PROTECTOR

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

### FRONT-FACE PANEL



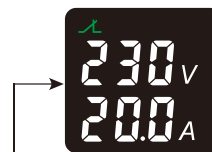
Symbol	Function
	Output indication
U>	>U fault indication
U<	<U fault indication
I>	>I fault indication
SET	Setting indication
V	Voltage
A	Current
S	Delay

### ● Reset/start delay display



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

### ● Stop/start manually



- Main display

>0.5s



- Stop/start manually

Press for 0.5s when operating normally, OFF appears, and the output relay opens. Press for 0.5s again to enter ON(auto-running) mode.

>0.5s

### ● Display for three continuous I> faults

Display for three continuous overcurrent faults after reset/start delay is over



- Disconnect the overload device
- Press for 0.5s to reset manually



● Main display

M >2s Password enable



● Enter password. If correct, continue menu setting

000 → 999

Press M to enter menu setting.

Increase or decrease the digit by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Overvoltage trip value setting V

220 → 280

Press M to activate overvoltage setting. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Undervoltage trip value setting V

80 → 210

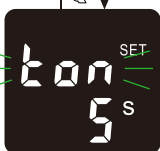
Press M to activate undervoltage setting. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Overcurrent value setting A

1 → 63

Press M to activate overcurrent setting. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Reset/start delay setting S

5 → 600

Press M to activate reset/start delay setting. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Overcurrent fault trip delay setting S

0 → 600

Press M to activate setting of overcurrent fault trip delay. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● Automatic reset setting

on → off

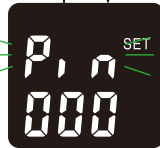
Press M to activate setting of overcurrent fault trip delay. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.  
OFF: turn off the function;  
ON: turn on the function;



● Password enable/disable setting

on → off

Press M to enter setting of password enable/disable. Change the value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.  
OFF: password not enabled;  
ON: password enabled



● Password setting

000 → 999

Press M to activate setting of password. Change the setting value by pressing  $\downarrow$ / $\uparrow$  keys and confirm with pressing M again.



● End setting, press M to exit from settings

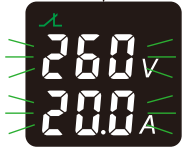
● Long press  $\downarrow$ / $\uparrow$  can increase or decrease rapidly.

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

### ● Inquiry of faults



● Main display



- Display of the last fault state and flash.
- The device will return to operation state after displayed the fault state for 3s.

### ● Manual reset(auto reset is off)



● Main display



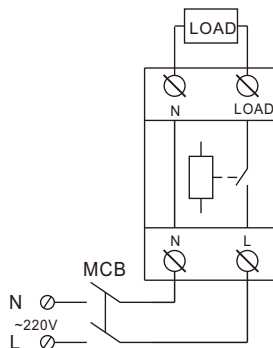
● Counting of reset/start delay

- The reset/start delay will count after the device reset from faults.

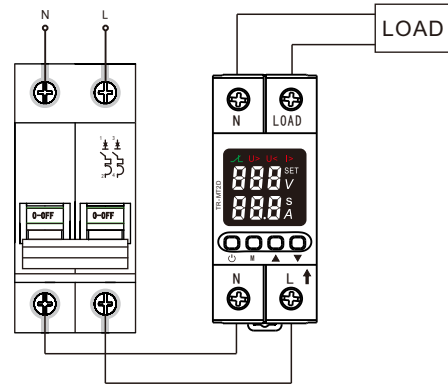
### OPERATING INSTRUCTIONS

- If a voltage fault was detected when the reset/start delay is counting, the output relay opens and faults indication symbol 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 symbol lights 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, faults indication symbol goes out.
- Current faults: After the relay tripped for current faults, it will reset automatically. During the counting of reset/start delay, fault indication symbol goes out.

### SYMBOL



### WIRING DIAGRAM



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

### DIMENSIONS

