

General

The TRM-30M voltage protected digital overload relay is designed to protect devices with sensitive operating voltage values from errors that may arise from mains voltage and overload.

Device Usage and Principle of Operation

Make the connections of the device according to the connection diagram. Otherwise, the device may be damaged. Adjust the high current setting of the device according to the operating current values of the load you will use. When the device is energized; During the first one second, the High Current Set value set on the upper display and the Error Waiting Time are displayed on the lower display. Phase-neutral voltage value is shown on the upper display and the current drawn from the network is shown on the lower display after one second.

With the A> knob (high current) you can make the overload setting. While setting with A> knob, the value set on the upper display is displayed. You can set the error waiting time from the "sec" knob. While setting with "sec" knob, the value set on the lower display is displayed. When the device is energized, the NO contact is energized and the "OUT" led lights on.

When the device goes into an error state, the related display flashes, "OUT" led turns off, "NO" contact is de-energized and "NC" contact is energized.

Contacts: When the device is not in case of error state, the "NO" contact is energized. When the device is in case of error state, the "NC" contact is energized.

Reset Button: When the device is in error, reset button must be pressed for 3 seconds to restart. After the device is reset, goes out of error state. The "NO" contact is energized and the OUT led lights on.

- **In case of high voltage error;** If the voltage value is between 245V and 250V, the device allows manual reset.
- **In case of low voltage error;** If the voltage value is between 150V and 155V, the device allows manual reset.
- **In case of high current error;** If the current value is lower than the high current set value, the device allows manual reset.

Required Settings:

A> : High Current Set Value can be adjusted with this knob.

sec. : This knob sets the time to wait before entering the High Current error.

Error Notifications:

Upper display flashing: This display flashes when the device enters a high or low voltage error state.

Lower display is flashing: This display flashes when the device enters a high current error state.

OUT LED: This LED is on when the device is not in error state. "NO" contact is energized.

Contact States According to Error Status	State	NO Contact	NC Contact
	The device is de-energized.	Open Circuit	Closed Circuit
	The device is energized. There is an error.	Open Circuit	Closed Circuit
	The device is energized. No error.	Closed Circuit	Open Circuit

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 switch and circuit breaker as releasing connection for device.

Maintenance

Switch off the device and release from connections. Clean the trunk of device with a swab. Don't use any conductor or chemical might damage the device. Make sure device works after cleaning.

Protection Functions

High Current Protection - To enter the error state: When the current drawn from the network exceeds the high current set value, the device waits for the error waiting time and then enters the error state. In case of error; The NO contact is de-energized, the lower display flashes, the "OUT" led turns off and the NC contact is energized.

High Current Protection - Exiting the error state: If the current drawn from the network falls below the high current set value, the device exits the error state by pressing the reset button for 3 seconds. In normal operating condition; The NO contact is energized, the lower display lights up steadily, the "OUT" led lights up and the NC contact is de-energized.

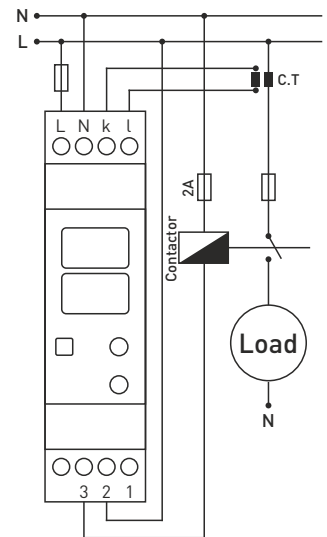
High Voltage Protection - To enter the error state: When the voltage value exceeds 250V, the device waits for 2 seconds and then enters the error state. In case of error; The NO contact is de-energized, the upper display flashes, the "OUT" led turns off and the NC contact is energized.

High Voltage Protection - Exiting the error state: The device automatically exits the error state 2 seconds after the voltage values falls below 245V. In normal operating condition; The NO contact is energized, the upper display lights up steadily, the "OUT" led lights up and the NC contact is de-energized.

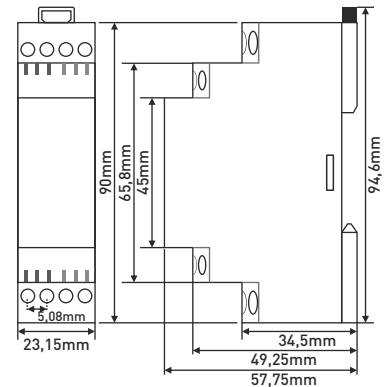
Low Voltage Protection - To enter the error state: When the voltage value falls below 150V, the device waits for 2 seconds and then enters the error state. In case of error; The NO contact is de-energized, the upper display flashes, the "OUT" led turns off and the NC contact is energized.

Low Voltage Protection - Exiting the error state: The device automatically exits the error state 2 seconds after the voltage values exceed 155V. In normal operating condition; The NO contact is energized, the upper display lights up steadily, the "OUT" led lights up and the NC contact de-energized.

Connection Diagram



Dimensions



Technical Specifications

Operating Voltage(Un)	: 230V AC 50/60Hz.
Operating Frequency	: 50/60 Hz.
Operating Power	: <6VA
Operating Temperature	: -20°C.....+55°C
Display	: 2x3 digit display, 1x LED
High Current (Overload)	: 0.5A - 30A
Current Setting Increase	: 0.5A
Error Waiting (t)	: 1sec. - 20 sec.
High Voltage	: 250V (L-N)(Fixed)
Low Voltage	: 150V (L-N)(Fixed)
Voltage Hysteresis	: 5V(Fixed)
Voltage Error Waiting	: 2sec.(Fixed)
Voltage Error Reset	: 2sec.(Fixed)
Connection Type	: Terminal connection
Contact	: 5A/250V AC (Resistive Load)
Cable Diameter	: 2.5mm²
Weight	: <150gr.
Mounting	: Assembled on the din rail.
Operating Altitude	: <2000 meters