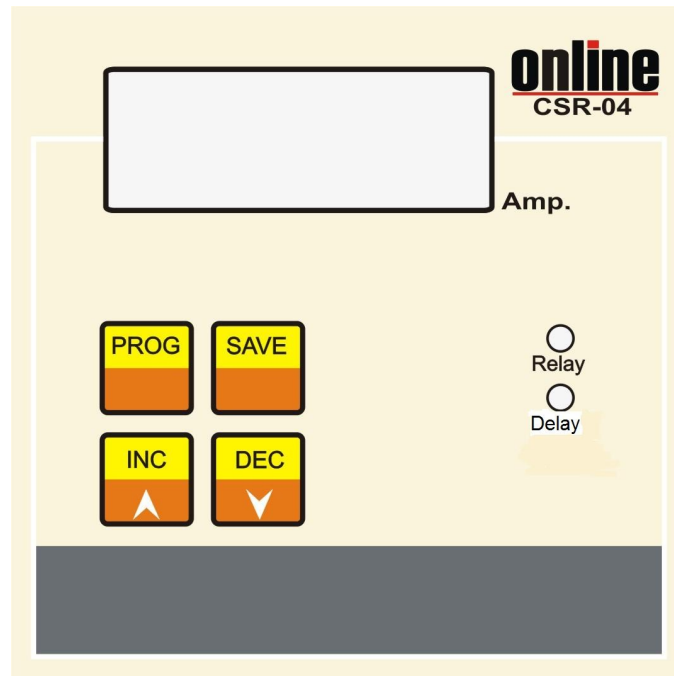


## Current Sensing Relay - CSR-04



### Basic Operation

CSR-04 is a microprocessor based programmable current sensing relay. It continuously monitors the load current and switches on or off its output relay depending on the set low current and high current limits. The load current is sensed by an XXX/5 CT connected to one of the phase of the load. The current is displayed on the 4 digit LED display of the relay.

The relay has two current set limits and two time delay limits. The following parameters are user settable using the programming keypad of the controller.

- 1) Cut-in current (High) (in Amps)
- 2) Cut-out current (Low). (in Amps)
- 3) Time delay for Cut-in current (in seconds)
- 4) Time delay for Cut-out current (in seconds)

When the load current increases beyond the set cut-in current limit, and remains higher for more than the cut-in current time delay, The relay turns on. When the delay is active, the Delay LED will be flashing.

When the load current reduces and goes lower than the set cut-out current limit, and remains lower for more than the cut-out current time delay, the relay turns off. When the delay is active, the delay LED will be flashing.

### Display

- 4 digit LED 7 segment
- Relay LED Indicator (On/Off)
- Delay LED Indicator (Flashing while active delay / OFF)
- Keypad : Prog, Save, Inc (up), Dec (down)

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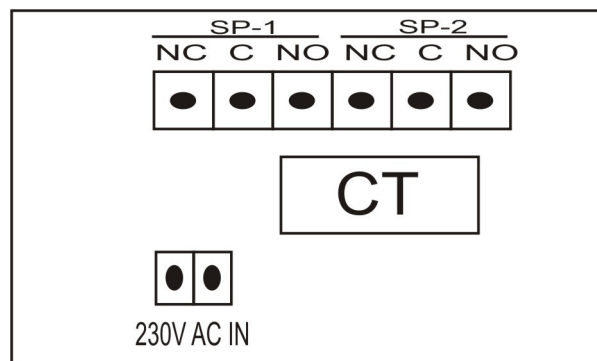
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## Applications

This relay is most suitable to switch in/out a capacitor bank in presence/absence of a load. Since capacitor switching requires a delay to allow the capacitor to discharge before it is reconnected again, the cut-in delay feature of the relay is ideally suited for this application. One can set the cut-in current and cut-out current. The cut-in current is the limit when the relay will switch on, and the cut-out current is the limit when the relay will switch off. For proper operation, the cut-out current should be lower than the cut-in current.

## Connections

The following diagram shows connection to be made to operate the relay.



## Terminals

1. 230 V AC – Auxilliary Supply (Phase and Neutral)
2. CT - Load CT secondary wire should be passed through CSR-04 sensor CT
3. SP1 (O/P1) – potential free C/O contacts of Output Relay (current capacity – 2 amps @ 240 VAC)
4. SP2 (O/P2) - (Not connected)

### Wiring Diagram Using CSR-04 Relay

