

EOCR SSD – Solid State Protection Relay Analog Type With Digital Display



Features

- 2 CT based Digital Protection Relay – Directly replaces the SS model
- Current Display of max. current in any Phase
- 7 Segment LED Diagnostic Display
- Highly accurate protection for Phase Loss and Locked Rotor

- Space-Efficient Form Factor (Micro-Compact Design)
- Independent settings for D-Time, O-Time and Current
- Suitable for 1 Phase or 3 Phase motors
- Universal Power Supply Mode for AC/DC (24-240V)

Specifications

Current Setting	Type	Range
	05	0.5-6A
	30	3-30A
	60	10-60A
Starting Delay Time (D-Time)	1-30 sec	
Operating Time (O-Time)	1-10 sec	
Reset	Manual/Remote	
Overcurrent Trip	Definite	
Control Voltage	24-240V AC/DC	
Contact Rating	2 SPST 3A/250VAC	
Fault Diagnosis	7 segment LED Display	
Mounting	35mm DIN Rail/Base	

Over Current Operation Time Characteristic Curve

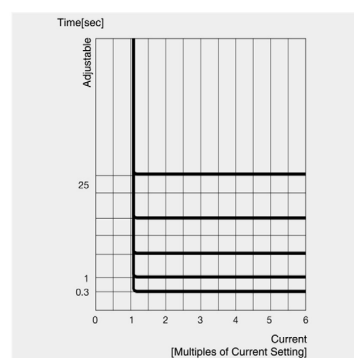
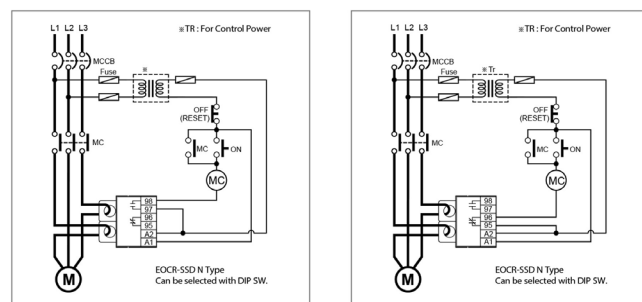


Table 1. Over Current Protection Definite Operation

Protection Function

Protection Function	Operation Time
Over Current	Operates after O-Time
Phase Loss	Operates within 3 sec
Locked Rotor	Immediately operates if 200% or more of the set current continues after D-Time

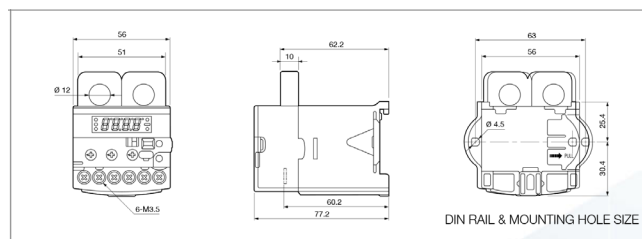
Example Wiring Diagram



Trip Cause Display and Check Method

Operation Display (Trip Indication)		
Trip Cause	Trip Cause Display	Description
Over Current	10.0	Trips after detecting the over current of 10A during operation.
Phase Loss	PL-1	Trips by L1 (R) phase loss.
	PL-2	Trips by L2 (S) phase loss.
	PL-3	Trips by L3 (T) phase loss.
Locked Rotor	LLC	Trips when a stall is detected.

Dimension



Know your Relay

D-TIME (starting Delay Time)

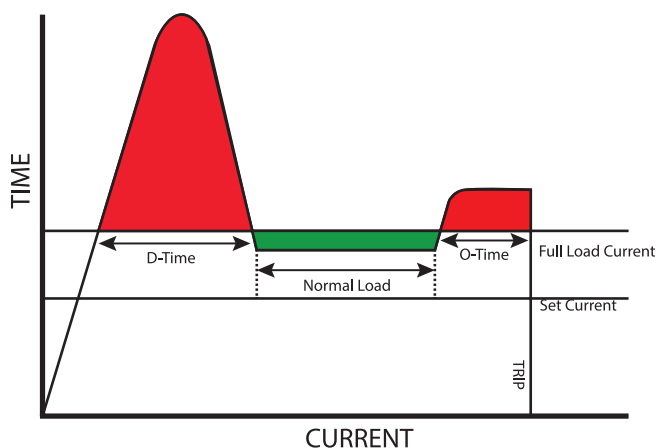
The D-Time is the time taken by the motor before it reaches its normal running current. During start the motor draws much higher levels of current and D-Time setting is to ensure that the EOCR does not cause any nuisance tripping's before this set time has elapsed.

O-TIME (Operating Time on Overload)

O-Time is the operating time in the event of Overload. When motor current exceeds the desired set current value, the EOCR detects the increase and trips the motor within the set O-Time preventing excess heating and long periods of Overload.

TEST FUNCTION

The TEST function facility on the front face of the relay is provided to check the health status of the relay without electrically energizing the relay. On pressing the TEST button the internal relay will trip after the D-Time + O-Time setting have elapsed. After using this test facility, the RESET button has to be pressed to operate the relay.



RESET FUNCTION

By pressing the RESET button or disconnecting the electrical supply will trip the relay immediately. Once the relay has tripped due to any Over Load or any fault, the relay has to be reset to start the motor again.

Looping Option

Looping option is required in case the amount of current measurement is desired to be more accurate and precise. The wire from the main line when passing through the internal EOCR CT is looped one or more times depending upon the current range of the relay to suit the application.

EXTERNAL CT OPTION

By using External CT's with Secondary rating of 5A the EOCR can be used to monitor and protect motors with normal running currents of upto 600A. This is used with an 05 Type relay with current setting range of 0.5-6A. In digital models the display current values are selectable as desired.

(A)	1x	2x	3x	4x	5x
~ 05	0.5 - 6	0.25 - 3	0.17 - 2	0.13 - 1.5	0.1 - 1.2
~ 30	2.5 - 30	1.25 - 15	0.83 - 10	0.62 - 7.5	0.5 - 6
~ 60	5 - 60	2.5 - 30	1.7 - 20	1.25 - 15	1 - 12

