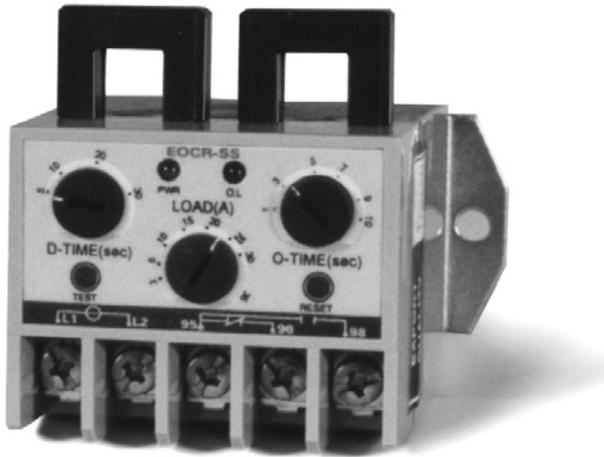


Overload Relay/Electronic Shearpin



Features

- Overload and phase loss protection
- Independent starting and trip delay adjustment
- Wide current adjustment range
- Power on and trip indication LEDs
- Remote electrical reset
- Low energy consumption/Compact design
- Operates in wide ambient temperature range

Benefits

- Reliable motor protection
- Allows high inertia starting/Electronic shearpin
- Reduced spares inventory
- Assists in fault finding
- Safe remote reset
- Less cubicle space required
- Consistent accuracy

The Samwha EOCR-SS electronic motor protection relay has been designed to suit most 3 phase motor protection and shearpin applications. Current ranges from 0.5 amps to 60 amps are achieved by just three relays reducing the need for large numbers of spares. Two of the three motor cables are fed through integral current transformers mounted on the body of the relay. Motors up to 600 amps full load current can be protected by using the EOCR-SS-05 relay in conjunction with standard metering class current transformers (5 amp secondary). The secondary of the external current transformers feeds through the integral current transformers. The EOCR-SS has a UL approval for motor protection and is a proven performer as an electronic shear pin. Typical shearpin applications are where small motors in conjunction with high ratio gearboxes are destroyed if a jam occurs. Conventional thermal overload relays may not detect very small changes in motor current which eventually either destroys the motor or causes mechanical damage to the load. The EOCR-SS can be adjusted to look at normal running current for the process and to trip instantaneously if this figure is exceeded. It is simple to install being DIN rail or surface mounting and is comparable in price to thermal overload relays. The relay can be reset either manually or electrically allowing remote reset as standard and is a proven, effective motor overload protector.

Ordering Information

EOCR-SS - N -

- Control Voltage 24, 220, 440
- Fail Safe
- Current range 05, 30, 60 or 100-600 amp with external current transformers

For further details please contact your Samwha distributor.

Specifications

TRIP TIMES

Overload Definite time 0.2-10 sec
Starting 0.2 - 30 sec

CURRENT SETTING RANGE

05 Type 0.5 - 5 amps
30 Type 3.0 - 30 amps
60 Type 5.0 - 60 amps
100-600 Type with external current transformers

CURRENT SENSING 2 CT

CONTROL VOLTAGES

24 24V ac/dc
220 90 - 260 Vac
440 180 - 480 Vac

FREQUENCY 50/60 Hz

OUTPUT RELAY

1 changeover contact
3A/250 Vac resistive

OPERATING CHARACTERISTIC

Definite time

TRIP INDICATION Red LED

POWER INDICATION Green LED

TOLERANCE

Current +/- 10%
Time +/- 15%

AMBIENT TEMPERATURE

Storage -30 - 80 °C
Operation -25 - 70 °C
Humidity 45 - 85 % without condensation

INSULATION

Between casing and circuits
Over 10MΩ @ 500 Vdc

DIELECTRIC STRENGTH

Casing & circuit 2kV
Between contacts 1kV
Between circuits 2kV

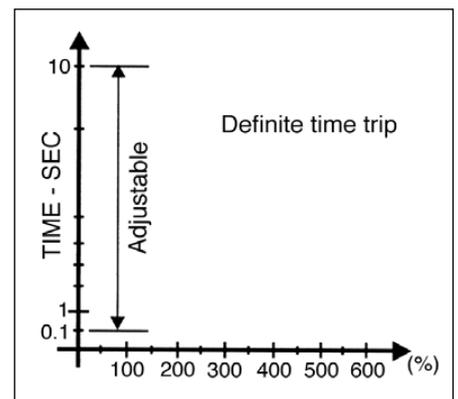
POWER CONSUMPTION Less than 2 VA

MOUNTING

35mm DIN rail/surface



N2256



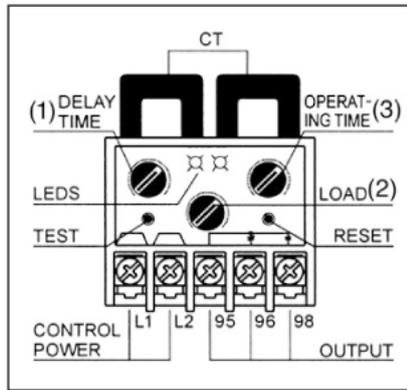
Time current characteristics

Adjustments

The relay has three adjustments:

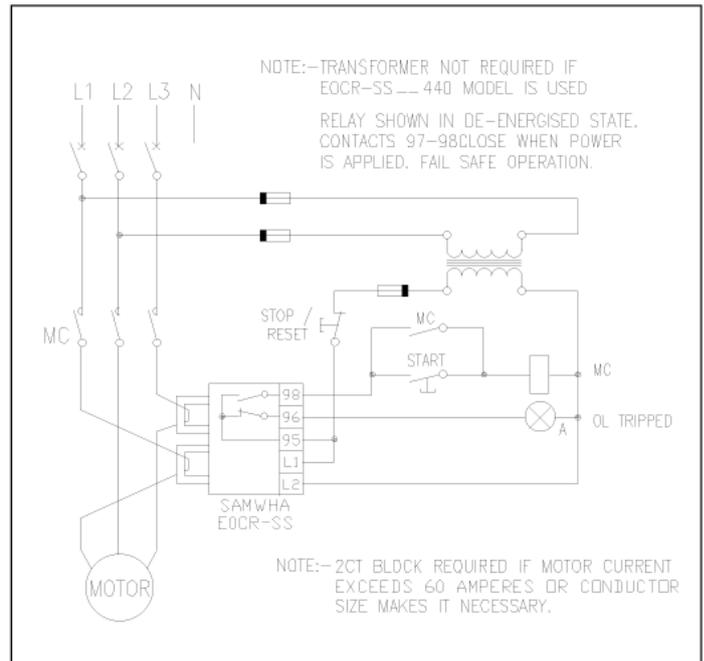
- 1 Starting trip delay time
- 2 Current adjustment
- 3 Trip time adjustment

Each adjustment is calibrated so the relay can be accurately set with no control power applied.



Mounting

The EOCR-SS is 35mm DIN rail mounting and is supplied with a bracket for surface mounting if required. It can be mounted in any orientation without affecting performance.



Typical wiring diagram

Indication

The EOCR-SS provides control power available via a green LED and trip indication via a red LED mounted on the front facia.

Motor Protection Application

- Set the starting trip time delay (1) to the desired time.
- Set the current adjustment (2) 110%-115% above the motor full load current is recommended.
- Set the trip time adjustment (3) to the required trip time.
- Once all connections to the relay have been made in accordance with the typical wiring diagram control power can be applied (green LED on).
- Press and hold down test button (red LED on). The relay will trip (green LED off) after the sum of the starting trip delay time (1) and the trip time (3) has elapsed.
- Press reset button (red LED off, green LED on).

The red LED can also be used to determine actual load current being drawn from the supply without the need for an ammeter. By turning the current adjustment (2) anti-clockwise from the fully clockwise position, the red LED will begin to flash when the actual load current is reached. The current can be determined by reading the calibrated scale and is an advantage where high accuracy or shearpin application is required.

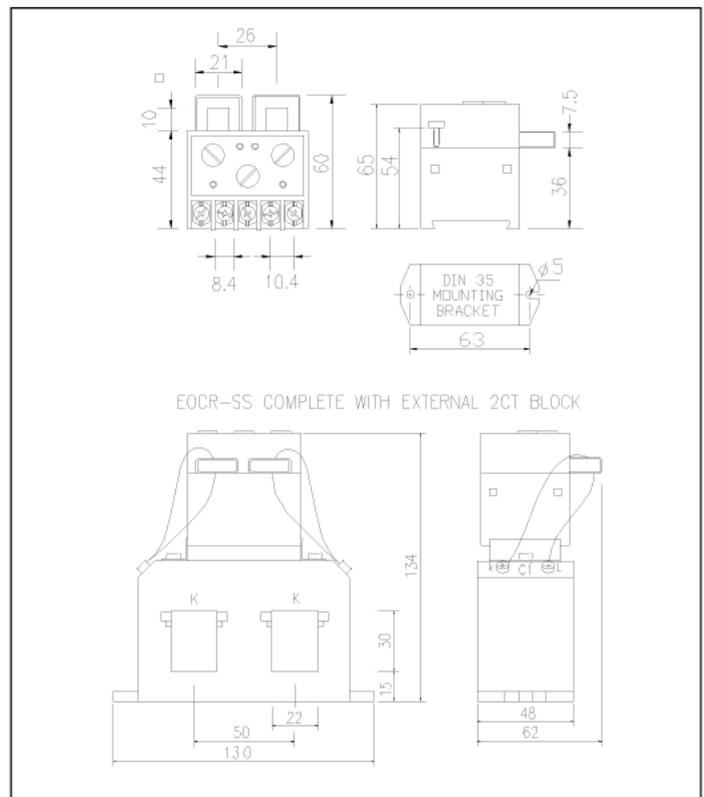
Shear Pin Application

- Set the starting trip delay time adjustment (1) to just above the motor normal run up time.
- Follow the above procedure to obtain actual load current.
- Set the current adjustment (2) to just above actual load current.
- Set the trip adjustment (3) to minimum.

Any load current above the preset level will cause the EOCR-SS to trip instantaneously after the start trip delay time has elapsed.

Test and Reset

Via two push buttons on the front facia. The test button allows the operator to test the functionality of the relay without current injection. The reset button allows the relay to be reset instantaneously. Remote electrical reset is also possible by interrupting the control power supplied to terminals L1 and L2.



Dimensions

Details may be subject to change without notice.