

EOCR-3DIS-AU Overload and Short Circuit Relay

Samwha



Applications

- Designed specifically for mining substation outlet protection although may be applied to other applications
- Protect circuits where one device should trip under overload conditions and another for short circuit

Features

- Microprocessor based Inverse overload
- Short circuit current adjustment from 3 to 20 times the overload setting
- Fail safe operation (DIP switch selectable for either overload or short circuit output relays)
- Calibrated adjustment
- Remote electrical reset

Benefits

- Proven technology, accurate motor protection
- Easy coordination with other protection devices
- Relay can be adjusted with no power applied
- Safe remote reset

The Samwha EOCR-3DIS-AU overload/short circuit relay has been designed to suit mining outlet and many other protection applications. The relay has a current range from 0.5 amps to 5.0 amps and is used in conjunction with the Samwha SR-3CT current transformer block or existing protection class current transformers (5P5F20 recommended). This wide adjustability is very desirable where small loads are to be connected to a large capacity outlet, then only an adjustment is required to adequately protect the load. The short circuit adjustment is linked to the overload setting and therefore has a direct relationship.

If for example system shutdown is required if the short circuit fault current exceeds 10 times the overload setting, then the short circuit adjustment is set to 1000% of the overload setting. This makes setting very simple. The relay can be reset either manually or electrically allowing remote reset as standard.

Ordering information

SR-3CT _ _ _ : _

EOCR-3DIS-05-220-AU

Ratios

100:5,150:5,200:5,300:5,400:5 (others on request)

For further details contact your Samwha dealer.

Specifications

TRIP TIMES

Overload See time/Current curves
Short circuit Instantaneous (0.05 sec)

CURRENT SETTING RANGE

0.5 - 5 amps

CONTROL VOLTAGES

220 (85 - 250 Vac/dc)

OUTPUT RELAY

Overload 1-N/O,1N/C 5A/250
Vac Resistive
Short circuit 1-N/O,1N/C 5A/250
Vac Resistive

OPERATING CHARACTERISTIC

Overload Inverse
Short Circuit Definite time

TRIP INDICATION 4 digit display

FAULT INDICATION 4 digit display

TOLERANCE

Current +/- 5%

Time +/- 5%

(add 0.5 secs for overload trip delay)

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 60Hz, 1 minute

Between contacts 1kV 60Hz, 1 minute

Between circuits 2kV 60Hz, 1 minute

POWER CONSUMPTION

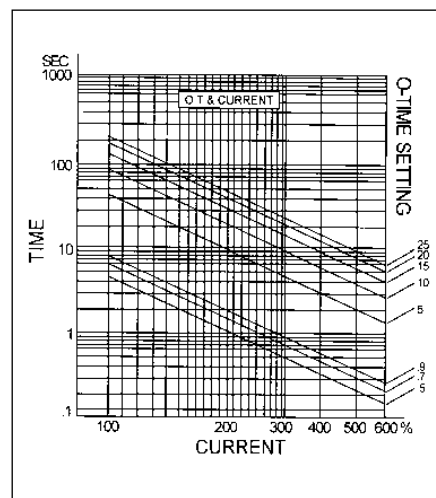
Less than 3VA

MOUNTING

35mm DIN rail/surface



N2256



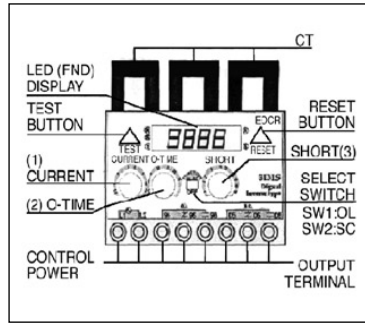
Time current characteristics

Adjustments

The relay fascia has three adjustments.

- 1) Current adjustment
- 2) Trip time adjustment
- 3) Short circuit adjustment

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



Indication

The EOCR-3DIS-AU gives indication of phase loading via a 4 digit display on the relay fascia. In normal operation, the secondary current from current transformers in each phase is displayed in turn every 3 seconds. If an overload occurs, information such as "O" for overload, which phase is effected and the intensity of the overload in amps are displayed. Similar indication is given for short circuit function. When the test button is pressed, "C" for current, "O" for overload trip time and "S" for short circuit plus the value for each is displayed.

Setting Instructions

Once all connections to the EOCR-3DIS-AU have been made in accordance with the typical wiring diagram, and the relay is in position:

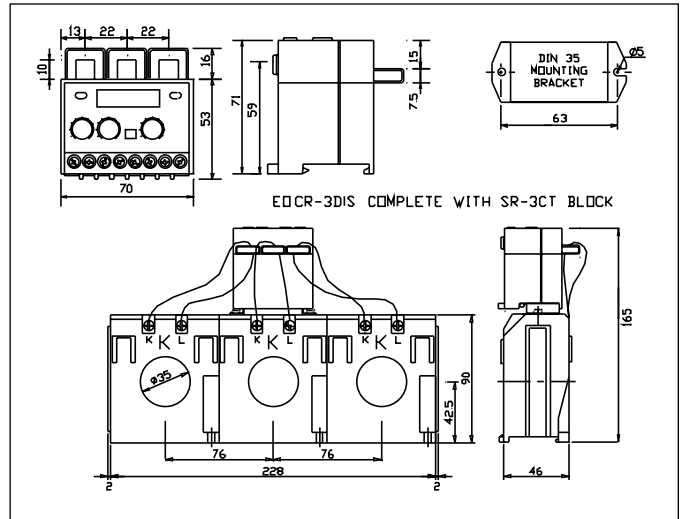
- Set the current adjustment (1) to approximately the full load current rating considering the ratio of the current transformers. Each relay is individually calibrated with a black dot near the corresponding current value. If control power is available to terminals L1 and L2, the 4 digit LED display will indicate current setting between 0.5-5 amps.
- Set the trip time adjustment (2) according to the required trip time curves shown on page 1. If 5 is selected, the 5 second curve is selected.
- Set the short circuit value as required between 300% and 2000% of the overload setting.
- Set DIP switches for Fail Safe or Non Fail Safe for each function as required.

Test and Reset

A local TEST push buttons is located on the relay fascia. Each time the test button is depressed the EOCR-3DIS 4 digit LED will display the following:

- 1 Current adjustment setting
(0.5-5 amps use multiplier for CT ratio)
- 2 Trip time adjustment (Seconds)
- 3 Short circuit setting between 300-2000% of overload setting
- 4 TEST

The relay will count down until the trip time has elapsed, the output contacts change state and END is displayed. If the relay is in use and current is drawn by the load, the adjustment settings



Dimensions (current transformers can be supplied separately)

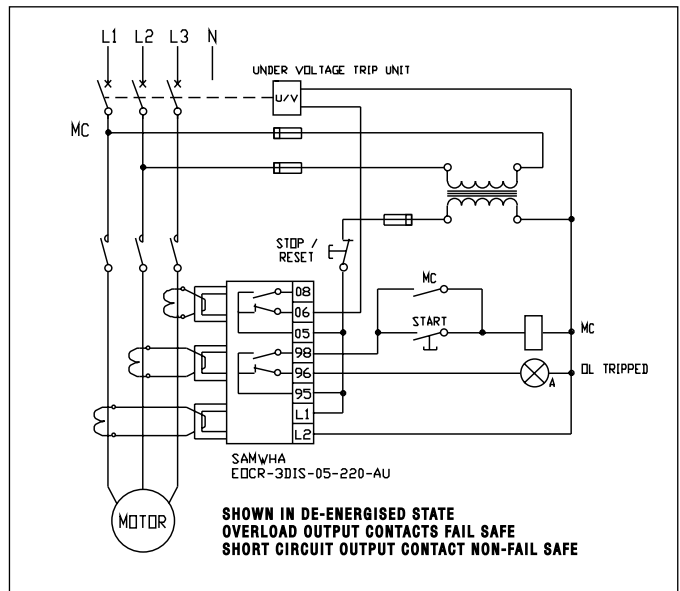
will be displayed without tripping the relay. The EOCR-3DIS-AU can now be reset ready for use.

Reset

A local RESET push button is located on the relay fascia. Remote electrical reset is carried out by interrupting the control power supplied to terminals L1 and L2.

Mounting

The EOCR-3DIS-AU is 35mm DIN rail mounting and is supplied with a bracket for direct mounting to the SR-3CT block. It can be mounted remotely from the SR-3CT block (as close as practical is recommended) and in any orientation without effecting performance.



Typical wiring diagram

Details may be subject to change without notice.

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Australian Distributors

R&D Technology PTY LTD
PO Box 192
Wickham NSW 2293
PHONE 02 4962 1282
FAX 02 4962 1522
EMAIL sales@rdtechnology.com.au

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