Direct Current Sensing Relay

The **CR5395** series, Direct Current Sensing Relay provides a precision and cost effective method for monitoring Direct Current. Magnetic Modulator Technology is utilized for the current sensing to provide a stable and highly repeatable current trip. The current-carrying wire is routed through the opening extending from the top of the case. When current reaches the level set by the trip point adjustment, the relay trips and starts the adjustable timer. After the timer cycles the electro-mechanical relay energizes.

Applications

- DC motor drives
- Battery chargers
- Power supply management
- Uninteruptable power systems
- Mobile application

Features

- Variable trip point and time delay
- Bi-polar
- Monitors currents from 1.0 Adc to 100 Adc
- Electrical isolation between circuits
- Output relay rated up to 20 Amps
- LED trip status indicator
- Dead band prevents relay chatter
- Calibrated dial
- External current transformers available

Specifications

Mounting:
3/16" dia. clearance holes on 1-15/16" by 2-15/16" centers

Environmental:
Operating Temperature: -30°C to +70°C
Storage Temperature: -55°C to +85°C
0-95% RH, Non-condensing

Input Supply Power:
Terminals: 2 - 1/4" Male Q C

Sensed Current:
Max. Continuous: 200% Full Scale

Output Options:

The Relay is available with three different output configurations, electromechanical relay, opto-isolated NPN transistor or zero-crossing opto-isolated triac. Specify desired selection in part number.

Relay (-ELR)

Arrangement: 1 Form C (SPDT)
Contact Material: Silver-cadmium oxide
Terminals: 3 - 1/4" Male Q C
Mechanical Life: 10 million operations, typ.@ rated load
Electrical Life: 100,000 operations, typ. @ rated load
Initial Contact Resistance:
50 milliohms max. @ 500 mA, 12 Vdc
Contact Rating: UL508/873 & CSA

VOLTAGE	LOAD TYPE	N.O. CONTACT	N.C. CONTACT
240 Vac	Resistive	20A	10A
240 Vac	Motor	2HP	1/2HP
125 Vac	Motor	1HP	1/4HP
28 Vdc	Resistive	20A	10A

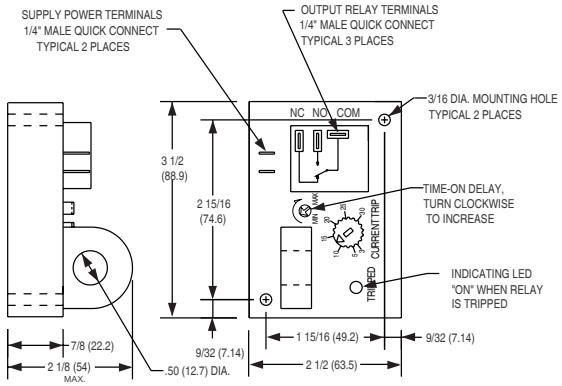
DC Switching (-NPN)

Vce (full off): 30 Vdc max.
Isink (full on): 120 mAdc max.@ rated full-on
Vce (full on): 1.5 Vdc @ 120 mAdc Isink
Off state leakage current: 5 ua @ 30 Vdc (typical)
Terminals: 2- 1/4" Male Q C

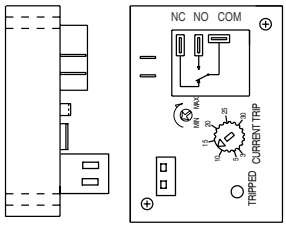
AC Switching (-TRC)

Off state voltage: 240 Vac RMS max.
Minimum switch voltage: 24 Vac RMS
On state current: 500 ma. RMS max. continuous
Switching mode: Zero crossing
Off state leakage: 60 ua @ 240 Vac max.
Terminals: 2- 1/4" Male Q C

Outline Drawing

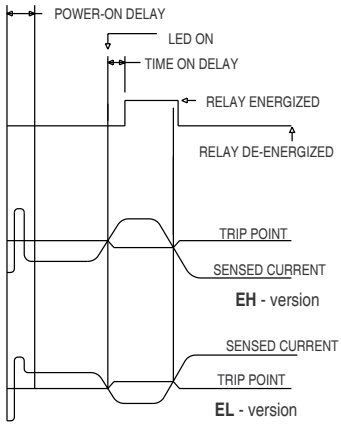


Shown with Internal Transformer Option (-I)



Shown with Remote Transformer Option (-R)

Timing Drawing



Part Numbers

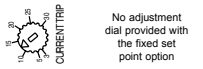
CR5395 - ❑❑ - ❑❑❑ - ❑❑❑ - ❑ - ❑❑ - ❑❑❑ - ❑ DIRECT CURRENT SENSING RELAY

TRIP STATUS
EH - Energized on High, trips when sense current is above trip point and returns to non-trip status when sense current is below the trip point.
EL - Energized on Low, trips when sense current is below trip point and returns to non-trip status when sense current is below the trip point.
LH - Latch on High, trips when sense current is above trip point and remains tripped until supply power is removed.
LL - Latch on Low, trips when sense current is below trip point and remains tripped until supply power is removed.

TRIP RANGE
110 - 1.0 to 10 Adc
330 - 3.0 to 30 Adc
660 - 6.0 to 60 Adc
101 - 10 to 100 Adc

The trip ranges shown are for one wire pass through the window opening. The trip range may be proportionally lowered with additional wire passes through the window.

TRIP POINT DIAL
CD - Calibrated Dial
FP - Fixed Trip Point
(Specify value of fixed trip-point with order)



No adjustment dial provided with the fixed set point option

- CD **- FP**

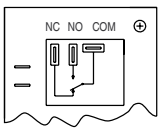
-330 trip range shown

I - Internal Transformer
R - Remote Transformer

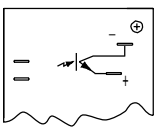
SUPPLY VOLTAGE
ACV - 85 to 265 Vac
24D - 24 Vdc ±10%

TIME ON DELAY
A - .5 to 6 Sec.
B - 2 to 25 Sec.
C - .1 to 1 Sec.
X - none
Time-on delay is the time from when the relay trips to when the output energizes. The ranges are guaranteed minimum, actual range may be slightly greater.

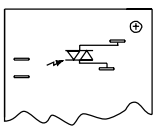
OUTPUT OPTIONS



ELR
Electro-mechanical Relay



NPN
Opto-isolated NPN Transistor



TRC
Zero Crossing Opto-isolated Triac

CR Magnetics, Inc. 544 Axminister Dr. Fenton MO USA 63026 V: 636.343.8518 F: 636.343.5119
Web: http://www.crmagnetics.com Email: sales@crmagnetics.com