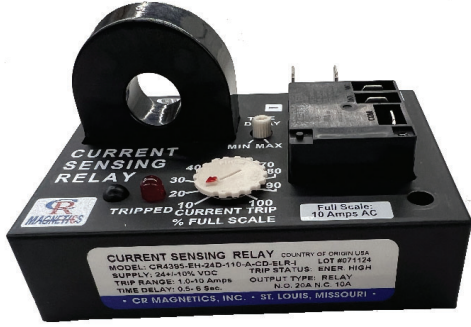


Direct Current Sensing Relay

CR5395 Series



The CR5395 Series, Direct Current Sensing Relay, provides a reliable and cost effective method for monitoring Direct Current. Magnetics 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 CT aperture extended through 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 electromechanical relay energizes.

The Relay is available with three different output configurations, Electromechanical relay, optoisolated NPN transistor or optoisolated Triac. Specify desired selection in part number.

RELAY (-ELR)

Arrangement: 1 Form C (SPDT)
 Contact Material: Silver-cadmium Oxide
 Terminals: 3 - 0.25" Male QC
 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

DC SWITCHING (-NPN)

V_{CE} (full off): 30 Vdc max.
 I_{sink} (full on): 120 mADC max @ rated full-on
 V_{CE} (full on): 1.5 Vdc @ 120 mADC I_{sink}
 Off state leakage current: 5ua @ 30 Vdc (typical)

AC SWITCHING (-TRC)

Off state voltage: 240 Vac, RMS max
 Minimum Switch Voltage: 24 VAC RMS
 On state current: 0.5 AAC RMS max. continuous
 Switching Mode: Zero Crossing
 Off state leakage: 60 ua @ 240 Vac max.
 Terminals: 2 @ 1/4" Male QC

VOLTAGE	LOAD TYPE	N.O. CONTACT	N.C. CONTACT
240 VAC	RESISTIVE	20A	10A
240 VAC	MOTOR	2HP	1/2 HP
125 VAC	MOTOR	1HP	1/4 HP
28 VDC	RESISTIVE	20A	10A

Applications

DC Motor Drives
 Battery Chargers
 Power Supply Management
 Uninterruptible Power Systems
 Motor Applications
 UL 508A Panels

Features

Variable Trip Point and Time Delay
 Bi-polar
 Monitor DC 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
 Operating Temperature: -30 C to + 70 C
 Storage Temperature: -55 C to +85 C
 0-95% RH, Non-condensing.
 Hysteresis: 5% Max
 Input Supply Power: Typical 80 mA Max 100 mA

*Units can incur a performance degradation from nuisance or unwanted relay tripping when subjected to conducted or radiated RF - this can be mitigated by the use of power line EMI filters and Metal enclosures upon installation

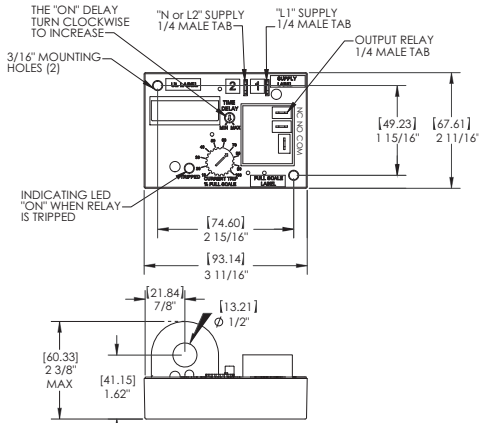
Sensed Current: 200% Full Scale Max Continuous
 Altitude: 2000 Meters Max. Contact Factory for High Altitude Applications
 Weight: 0.5 lbs. (Relay and Internal CT only)

Regulatory Agencies

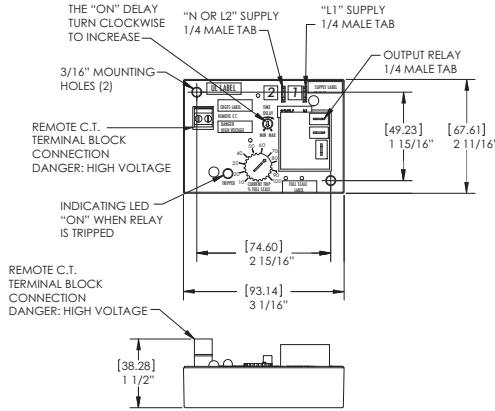


Direct Current Sensing Relay

Outline Drawing

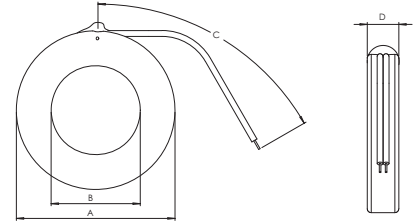


Top view shown with Internal Current Transformer



Top view shown with External Current Transformer

CRGFS	A	B	C	D
-100	2.88 73.16	1.60 40.58	12 304.8	0.79 20.07
-200	3.25 82.55	1.60 40.58	12 304.8	0.82 20.83



PART NUMBER

CR5395

TRIP STATUS

EH - Energized on High, trips when sensed current is above trip point and returns to non-trip status when sensed current is below the trip point.

EL - Energized on Low, trips when the sensed current is below trip point and returns to non-trip status when sensed current is above the trip point

LH - Latch on High, trips when the sensed current is above trip point and remains tripped until supply power is removed.

LL - Latch on Low, trips when sensed current is below trip point and remains tripped until supply power is removed.

SUPPLY VOLTAGE

ACV - 85 TO 265 VAC/
VDC
24D - 24 VDC

All supply voltage tolerances are +/- 10%

TRIP RANGE

110 - 1.0 TO 10 AAC
330 - 3.0 TO 30 AAC
660 - 6.0 TO 60 AAC
101 - 10 TO 100 AAC

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

TRIP ON DELAY

A - 0.5 TO 6 Sec.
B - 2 to 25 Sec.
C - 0.1 to 1 Sec.
X - None

Time-on delay is the time from the relay changes state to when the output energizes. The ranges are guaranteed minimum and actual range may be slightly greater.

I - INTERNAL TRANSFORMER

R1 - CRDCS-100 Remote Transformer (1.60" Aperture)

R2 - CRDCS-200 Remote Transformer (1.75" Aperture)

TRIP POINT DIAL

CD - CALIBRATED DIAL

FP - FIXED POINT

(Specify value of fixed trip point with order)

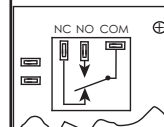


No adjustment dial provided with the fixed set point option.

- CD

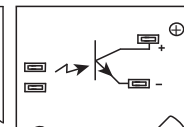
- FP

OUTPUT OPTIONS



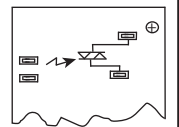
ELR

Electromechanical Relay



NPN

Optoisolated NPN Transistor



TRC

Optoisolated Triac, Zero Crossing

Example Part Numbers:

CR4395-EH-120-110-A-CD-ELR-I (Relay with Internal CT)

CR4395-EL-240-330-A-CD-NPN-R1 (Relay with External CRDCS-100)