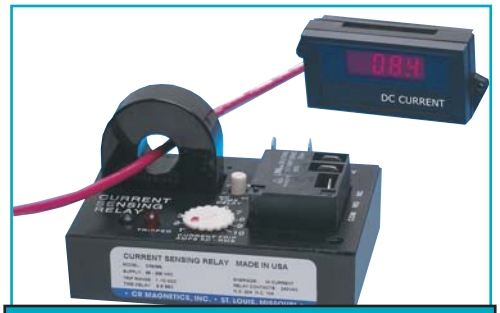
CR5395 Series



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 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.

OUTPUT OPTIONS

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

RELAY (-ELR)

Arrangement: 1 Form C (SPDT)
Contact Material: Silver-cadmium oxide
Terminals: $3^{1/4}$" 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)

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: 5ua @ 30 VDC (typical)
Terminals: $2^{1/4}$" Male QC

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 QC

Applications

DC motor drives
Battery Chargers
Power Supply Management
Uninterruptible Power Systems
Motor 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°
0-95% RH, Non-condensing
Input Supply Power:
Typical 80mA Max 100mA
Sensed Current: Max. Continuous: 200% Full Scale
Altitude: 2000 meters max.
(Contact factory for High Altitude applications)
Weight 0.5 LBS.

Regulatory Agencies

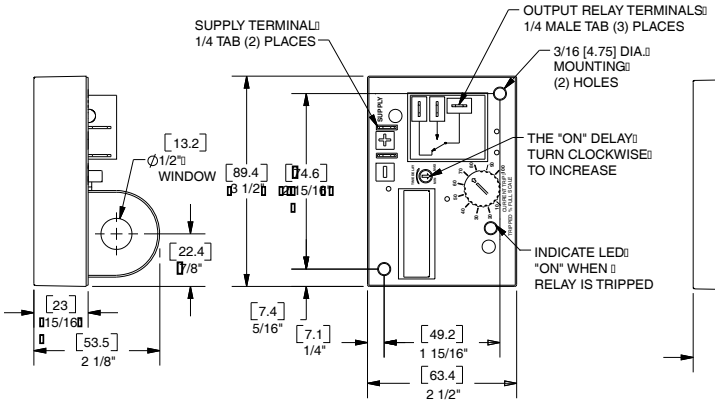
c UL us E234389

RoHS 2002/95/EC

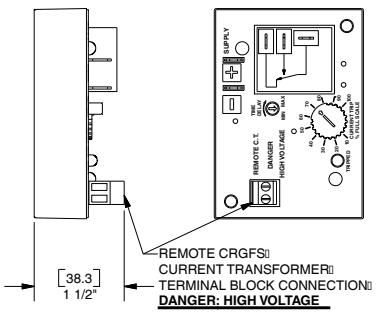
VOLTAGE	LOAD TYPE	N.O. CONTACT	N.C. CONTACT
240 VAC	Resistive	20A	10A
240 VAC	Motor	2HP	1/2 HP
125 VAC	Motor	1HP	1/4 HP
28 VDC	Resistive	20A	10A

OUTLINE DRAWING

CR5395 Series

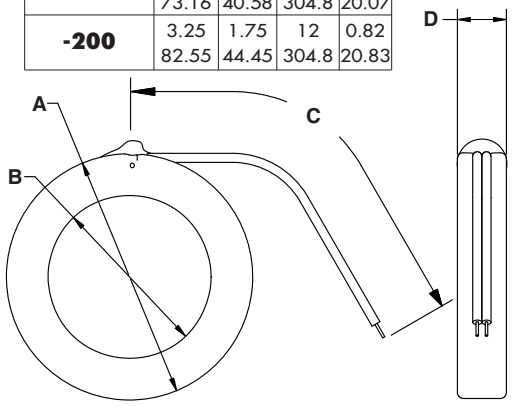


Top view of Current Sensing Relay



Shown with Remote Current Transformer Option (-R)

CRDCS	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	1.75 44.45	12 304.8	0.82 20.83



Remote Current Transformers CRDCS - Series

PART NUMBER

CR5395	-			-				-				-				-				-		

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 above 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.

SUPPLY VOLTAGE

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

All supply voltage tolerances are ± 10 %

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.

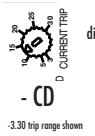
TRIP ON DELAY

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.

TRIP POINT DIAL

CD - Calibrated Dial
FP - Fixed Trip Point
(Specify value of fixed trippoint with order)



No adjustment dial provided with the fixed set point option

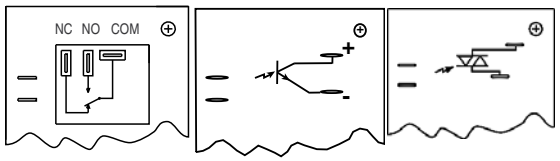
- CD - FP

-3.30 trip range shown

I/O

I - INTERNAL TRANSFORMER
R1 - REMOTE TRANSFORMER w/ CRDCS-100 (1.60" window diameter)
R2 - REMOTE TRANSFORMER w/ CRDCS-200 (1.75" window diameter)

OUTPUT OPTIONS



ELR Electromechanical Relay
NPN Optoisolated NPN Transistor
TRC Optoisolated Triac, Zero Crossing

Example Part Numbers:
CR5395-EH-ACV-110-CD-ELR-I (Relay with CT on board)
CR5395-EL-24D-330-CD-NPN-R1 (Relay with external CRGFS-100)