

Current Sensing Relay

CR4395 Series



OUTPUT OPTIONS

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 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)

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

The **CR4395** Series, Current Sensing Relay provides an effective and highly stable method for monitoring electrical current. 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 electromechanical relay is energized. A precision voltage reference circuit ensures a highly repeatable trip point.

Applications

Monitor Electrical Heater Elements
 Sense Motor Over/Under Loads
 Detect Lamp burn-out
 Indicate Phase Loss

Features

Variable Trip Point and Time Delay
 Monitors Currents from 1 AC to 100 AC Amps
 Electrical Isolation Between Circuits
 Output Relay Rated up to 20 Amps
 LED Trip Status Indicator
 Dead Band Prevents Relay Chatter
 Calibrated Dial Option Available
 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 +60° C
 Storage Temperature: -55° C to +85° C
 Power-On Delay: 100 MS MAX
 Hysteresis: 5% Max.
 Input Supply Power:
 Typical 80mA Max 100mA
 Sensed Current:
 Max. Continuous: 200% Full Scale
 Frequency: 60-400 Hz *
 *All specifications for operation at 60 Hz only
 Altitude: 2000 meters max.
 (Contact factory for High Altitude applications)
 Weight 0.5 LBS.

Regulatory Agencies



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



3500 Scarlet Oak Blvd. St. Louis MO USA 63122 V: 636-343-8518 F: 636-343-5119

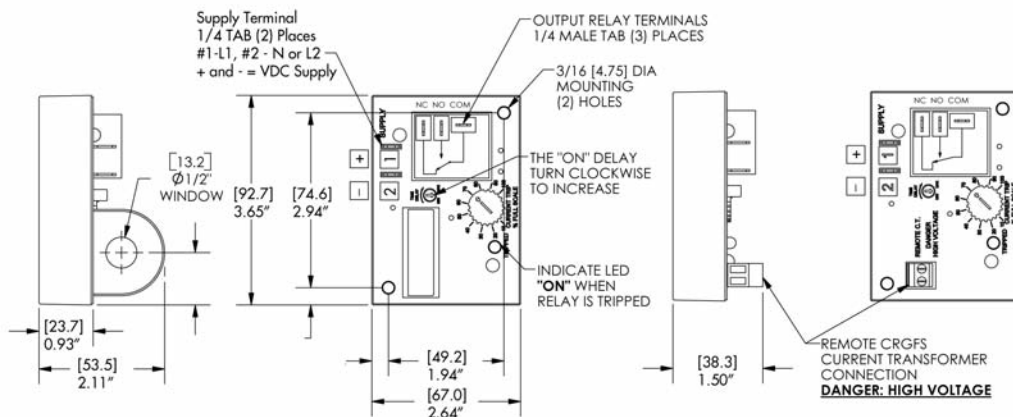
Web: <http://www.crmagnetics.com>

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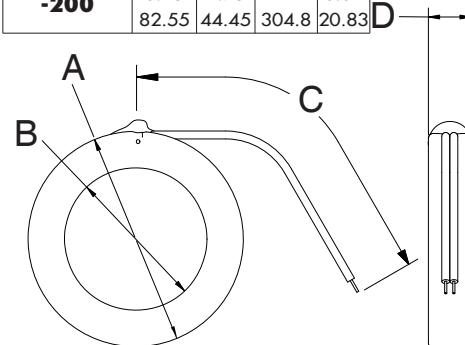
E-mail: sales@crmagnetics.com



OUTLINE DRAWING



CRGFS	A	B	C	D
-100	2.88	1.60	12	0.79
	73.16	40.58	304.8	20.07
-200	3.25	1.75	12	0.82
	82.55	44.45	304.8	20.83



Top view of Current Sensing Relay

Shown with Remote Current Transformer Option (-R)

Remote Current Transformers CRGFS - Series

PART NUMBER

CR4395

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

AC

120 - 120 VAC

240 - 240 VAC

DC

24D - 24 VDC

All supply voltage tolerances are $\pm 10\%$

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 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

3.30 trip range shown

I - INTERNAL TRANSFORMER

R1 - REMOTE TRANSFORMER w/ CRGFS-100

(1.60" window diameter)

R2 - REMOTE TRANSFORMER w/ CRGFS-200

(1.75" window diameter)

TRIP ON DELAY

A - .5 to 6 Sec.

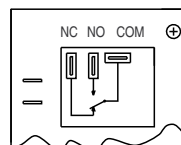
B - 2 to 25 Sec.

C - .1 to 1 Sec.

X - none

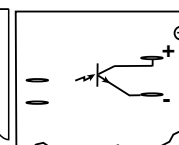
Time-on delay is the time from when the relay trips to when the output energizes. The ranges are guaranteed minimum, actual range may be slightly greater.

OUTPUT OPTIONS



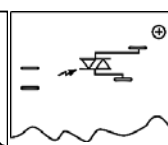
ELR

Electromechanical Relay



NPN

Optoisolated NPN Transistor



TRC

Optoisolated Triac, Zero Crossing

Example Part Numbers:

CR4395-EH-120-110-CD-ELR-I (Relay with CT on board)

CR4395-EL-240-330-CD-NPN-R1 (Relay with external CRGFS-100)