

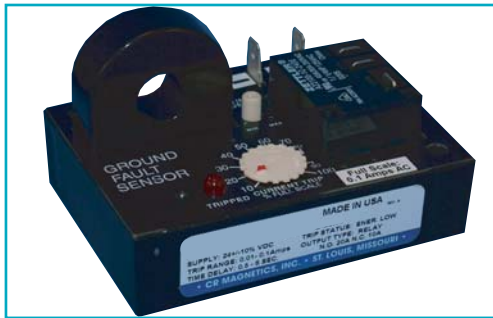


**THE DATASHEET OF  
CR7310-EH-24D-0.11-A-CD-ELR-I**



# Ground Fault Sensor

## CR7310 Series



### OUTPUT OPTIONS

The Relay is available with three different output configurations, electromechanical relay, optoisolated NPN transistor or zero-crossing 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 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 QC

The **CR7310** Series, Ground Fault Sensor provides a reliable and cost effective method for sensing ground faults. The current-carrying wires are routed through the opening extending from the top of the case. When ground current reaches the level set by the trip point adjustment, the relay trips, illuminates the tripped LED and provides an output signal. A precision voltage reference circuit ensures a highly repeatable trip point. The Sensor is rated as a Class 1 device.

### 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 10mAAC to 100 AAC 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  
 Vibration Tested To:..... IEC 60068-2-6,1995  
 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          |



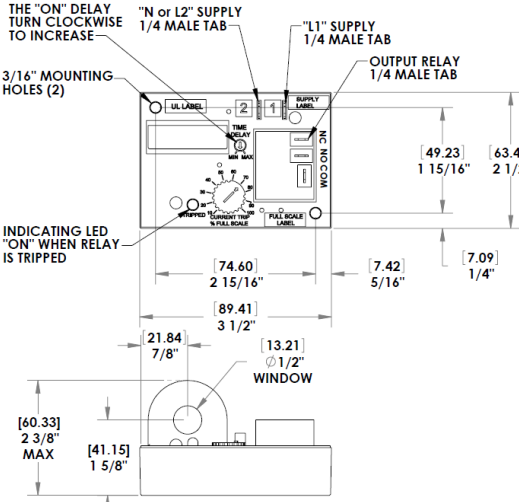
3500 Scarlet Oak Blvd. St. Louis MO USA 63122 V: 636-343-8518 F: 636-343-5119

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

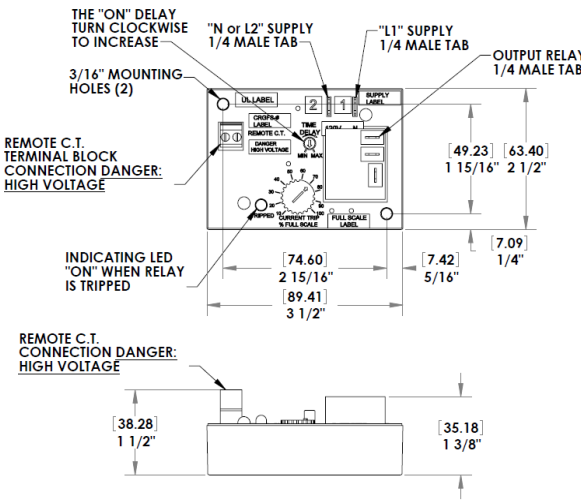
E-mail: [sales@crmagnetics.com](mailto:sales@crmagnetics.com)



## OUTLINE DRAWING



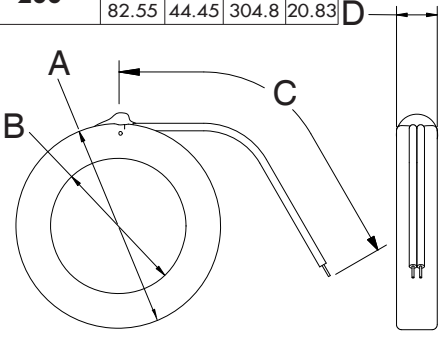
Top view of Current Sensing Relay



Shown with Remote Current Transformer Option (-R)

## CR7310 Series

| 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 |



Remote Current Transformers CRGFS - Series

| PART NUMBER |   |   |   |   |   |   |   |   |   |   |   |
|-------------|---|---|---|---|---|---|---|---|---|---|---|
| CR7310      | - | - | - | - | - | - | - | - | - | - | - |

**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.

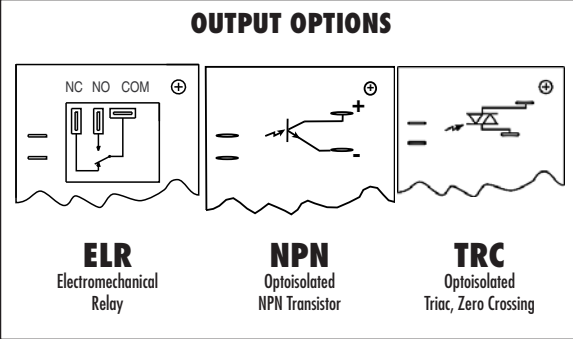
**SUPPLY VOLTAGE**  
**AC**  
**120** - 120 VAC  
**240** - 240 VAC  
**DC**  
**24D** - 24 VDC  
 All supply voltage tolerances are ± 10 %

**TRIP RANGE**  
**.011** - .01 to 0.1 AAC  
**.11** - 0.1 to 1.0 AAC  
**110** - 1.0 to 10 AAC  
**330** - 3.0 to 30 AAC  
**660** - 6.0 to 60 AAC  
**101** - 10 to 100 AAC

**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** - 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.



**Example Part Numbers:**  
**CR7310-EH-120-.011-A-CD-ELR-I (Relay with CT on board)**  
**CR7310-EL-240-.11-A-CD-NPN-R1 (Relay with external CRGFS-100)**



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

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D Relays, Switches, & Sensors

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