

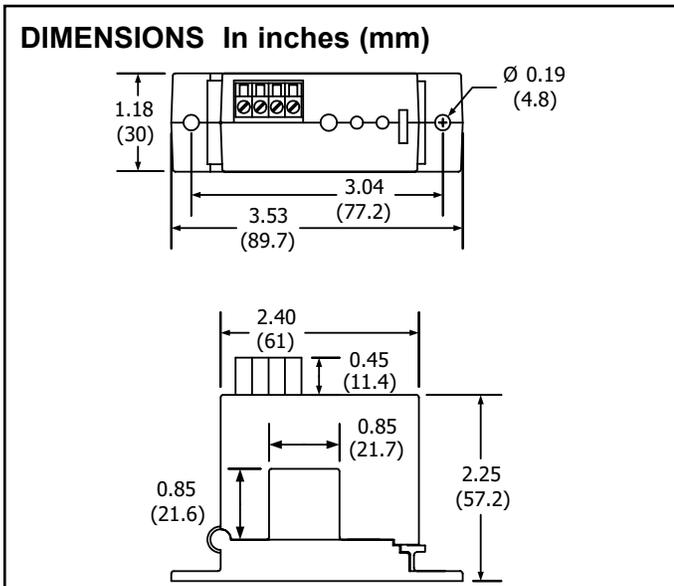
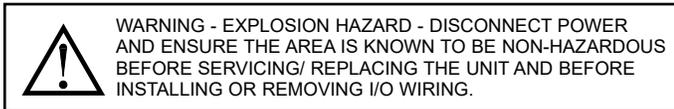
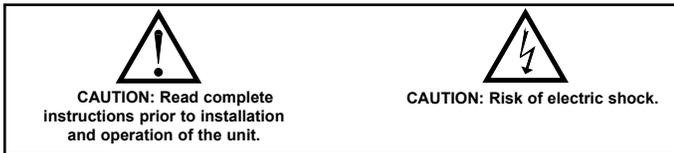
## MODEL CTD - DC CURRENT TRANSDUCER

- *THREE JUMPER SELECTABLE INPUT RANGES*
- *OUTPUT IS MAGNETICALLY ISOLATED FROM THE INPUT*
- *INTERNAL POWER REGULATION*
- *SPLIT-CORE CASE FOR EASY INSTALLATION*



### GENERAL DESCRIPTION

CTD transducer combines a Hall Effect sensor and a signal conditioner into a single package. This provides higher accuracy, lower wiring costs, easier installation and saves valuable panel space. The CTD has jumper selectable current input ranges and industry standard 4-20 mA output with a split-core case.



### SAFETY SUMMARY

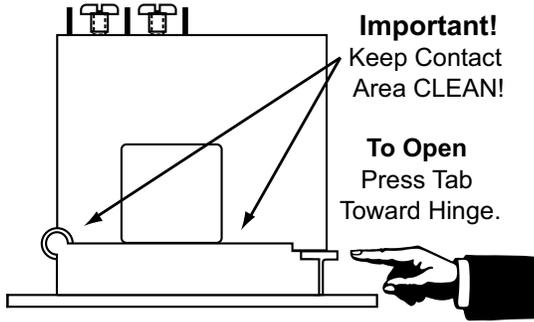
All safety related regulations, local codes and instructions that appear in the literature or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use this unit to directly command motors, valves, or other actuators not equipped with safeguards. To do so, can be potentially harmful to persons or equipment in the event of a fault to the unit.

### SPECIFICATIONS

1. **OUTPUT SIGNAL:** 4-20 mA
2. **OUTPUT LIMIT:** 23 mA
3. **ACCURACY:** 1.0% FS
4. **REPEATABILITY:** 1.0% FS
5. **RESPONSE TIME:** to 90% of step change 100 msec
6. **FREQUENCY RANGE:** DC
7. **POWER SUPPLY:** 22 – 26 VAC/VDC, 50 – 60 Hz  
 Power input and output signal are not isolated.  
 24 VDC powered device: A fuse rated a maximum of 5 A shall be placed in series with the main input power terminal.  
 24 VAC powered device: A fused rated a maximum of 2.75 A shall be placed in series with the main input power terminal.  
 Copper busbars shall be sized at 1000 Amperes per square inch.
8. **POWER CONSUMPTION:** 2 VA
9. **LOADING:** 650 Ω max.
10. **ISOLATION VOLTAGE:** 3 kV (monitored line to output)
11. **LINEARITY:** 0.75% FS
12. **CURRENT RANGES:** Three selectable Ranges: 0 – 50 A  
 0 – 75 A  
 0 – 100 A
13. **CASE:** UL 94V-0 Flammability rated thermoplastic
14. **ENVIRONMENTAL:** -4 to 122 °F (-20 to 50 °C)  
 0-95% RH, non-condensing  
 Altitude: Up to 2000 meters  
 Installation Category II, Pollution Degree 2 as defined in IEC/EN 60664-1.

## INSTALLATION



Run wire to be monitored through opening in the sensor. Be sure the monitored current flows in the same direction as the arrow on the sensor. The arrow is just above the hinge, with the “+” symbol on the left, the “-” symbol on the right. The CTD transducers work in the same environment as motors, contactors, heaters, pull-boxes, and other electrical enclosures. They can be mounted in any position or hung directly on wires with a wire tie. Just leave at least one inch (25.4 mm) distance between sensor and other magnetic devices.

### Split-Core Versions

Press the tab in the direction as shown to open the sensor. After placing the wire in the opening, press the hinged portion firmly downward until a definite click is heard and the tab pops out fully.

### KEEP SPLIT-CORE SENSORS CLEAN.

Silicone grease is factory applied on the mating surfaces to prevent rust and improve performance. Be careful not to allow grit or dirt onto the grease in the contact area. Operation can be impaired if the mating surfaces do not have good contact. Check visually before closing.

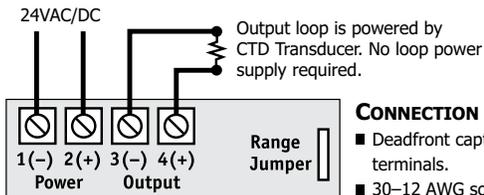
## INPUT AND OUTPUT WIRING

Connect control or monitoring wires to the sensor. Use 30 to 12 AWG copper wire rated at 75 °C. Terminals should be tightened to 5 to 7 in-lbs torque.

### 4-20mA:

The current loop is powered by the CTD Transducer.

Maximum loop impedance is 650 Ω.



#### CONNECTION NOTES:

- Deadfront captive screw terminals.
- 30–12 AWG solid or stranded.
- Observe polarity.

## RANGE SELECT

CTD transducers feature field selectable ranges. The ranges are factory calibrated, eliminating time consuming and inaccurate field setting of zero or span.

1. Determine the normal operating amperage of your monitored circuit.
2. Select the range that is equal to or slightly higher than the normal operating amperage.
3. Place the range jumper in the appropriate position.

## TROUBLE SHOOTING

### 1. Output Signal Too Low

- A. The jumper may be set in a range that is too high for current being monitored. Move jumper to the correct range.
- B. Power supply is inadequate. Check power supply. Make sure it is of sufficient voltage with all loads at maximum. CTD Series draw 2.0 VA.
- C. Output load too high. Check output load, be sure it is no more than 650 Ω.

### 2. Output Signal is always at maximum

- A. The jumper may be set in a range that is too low for current being monitored. Move jumper to the correct range.

### 3. Sensor has no output

- A. Polarity is not properly matched. Check and correct wiring polarity
- B. Monitored load is not DC or is not on. Check that the monitored load is DC and that it is actually on.
- C. Split Core models: The core contact area may be dirty. Open the sensor and clean the contact area.

## RED LION CONTROLS TECHNICAL SUPPORT

If for any reason you have trouble operating, connecting, or simply have questions concerning your new unit, contact Red Lion’s technical support.

Support: [support.redlion.net](http://support.redlion.net)

Website: [www.redlion.net](http://www.redlion.net)

Inside US: +1 (877) 432-9908

Outside US: +1 (717) 767-6511

## ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PART NUMBERS
CTD	DC/DC, Split Case	CTD00000

## LIMITED WARRANTY

- (a) Red Lion Controls Inc. (the “Company”) warrants that all Products shall be free from defects in material and workmanship under normal use for the period of time provided in “Statement of Warranty Periods” (available at [www.redlion.net](http://www.redlion.net)) current at the time of shipment of the Products (the “Warranty Period”). **EXCEPT FOR THE ABOVE-STATED WARRANTY, COMPANY MAKES NO WARRANTY WHATSOEVER WITH RESPECT TO THE PRODUCTS, INCLUDING ANY (A) WARRANTY OF MERCHANTABILITY; (B) WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE; OR (C) WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS OF A THIRD PARTY; WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE.** Customer shall be responsible for determining that a Product is suitable for Customer’s use and that such use complies with any applicable local, state or federal law.
- (b) The Company shall not be liable for a breach of the warranty set forth in paragraph (a) if (i) the defect is a result of Customer’s failure to store, install, commission or maintain the Product according to specifications; (ii) Customer alters or repairs such Product without the prior written consent of Company.
- (c) Subject to paragraph (b), with respect to any such Product during the Warranty Period, Company shall, in its sole discretion, either (i) repair or replace the Product; or (ii) credit or refund the price of Product provided that, if Company so requests, Customer shall, at Company’s expense, return such Product to Company.
- (d) **THE REMEDIES SET FORTH IN PARAGRAPH (c) SHALL BE THE CUSTOMER’S SOLE AND EXCLUSIVE REMEDY AND COMPANY’S ENTIRE LIABILITY FOR ANY BREACH OF THE LIMITED WARRANTY SET FORTH IN PARAGRAPH (a).**