



## Current Sensing Board

Model C10748-XXX

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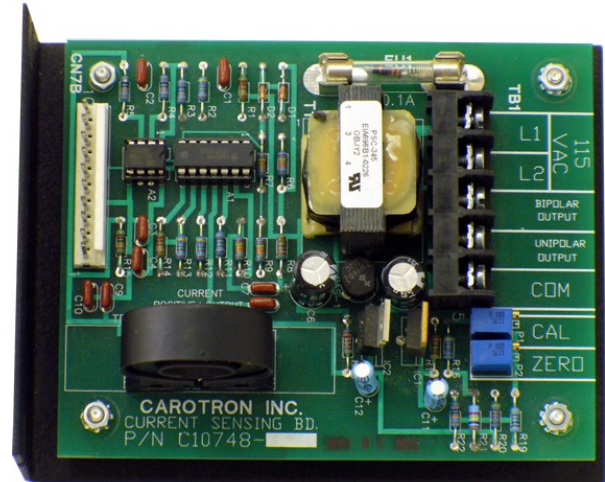
The model C10748-XXX Current Sensing Board is a means of sensing AC and DC Current while providing isolation. It makes it possible to measure current in a system conductor without breaking the wire. There is a minimum of 1500 Vrms isolation between the sensed conductor and the card output.

This unit is intended for use in systems to measure current in DC motors and line operated AC motors. It is not intended to measure output current from AC Variable Frequency Drives. It is able to measure motor current out of Electronic Soft Starters. In this case, the current range must be considered and the start current must stay in the range of this unit.

When the unit is used to measure DC, its output can have the same polarity as the current or it can have positive only output to indicate absolute level. The scaling is adjustable up to 10 volts full scale. The Bipolar Output matches the waveform of an AC signal within its rise time limitation. The Unipolar output is rectified and filtered so only a DC voltage is available indicating the level of the current.

When the unit is used for single phase applications, the bipolar output is to be 4 volts or less to avoid saturation of the current transducer or the amplifier stage after it due to the form factor of the current. The current range can exceed 600 amps depending on the current waveform and can handle a maximum of less than 10 amps by using multiple turns through the sensor.

Calibration of the unit is dependent on use of an accurate shunt and voltmeter or ammeter to set the scaling. A screw type terminal strip and square pin MTA connector is available for connection to the 115VAC power and to connect to the output. The input connection is provided by passing the conductor to be measured through the hole in the current transducer. The sensitivity of the sensing is able to be increased by the number of times the wire passes through the hole. The polarity of the voltage output is dependent on



the current direction through the hole of the current transducer.

### Current Sensing Board Models:

**C10748-000**  
**C10748-001**  
**C10748-002**

### Specifications

#### AC Input

115VAC  $\pm$ 10%, 50, 60 Hz, 1.2VA max.,  
0.1A Fuse provided on power input.

#### Isolation

1500Vrms power input to signal output  
and sensed conductor.

#### Current Range

AC(50/60Hz):

- Model C10748-000: 200 Amps Max.
- Model C10748-001: 290 Amps Max.
- Model C10748-002: 570 Amps Max.

**DC:**

- Model C10748-000: 225 Amps Max.
- Model C10748-001: 330 Amps Max.
- Model C10748-002: 650 Amps Max.

**Bipolar Output**

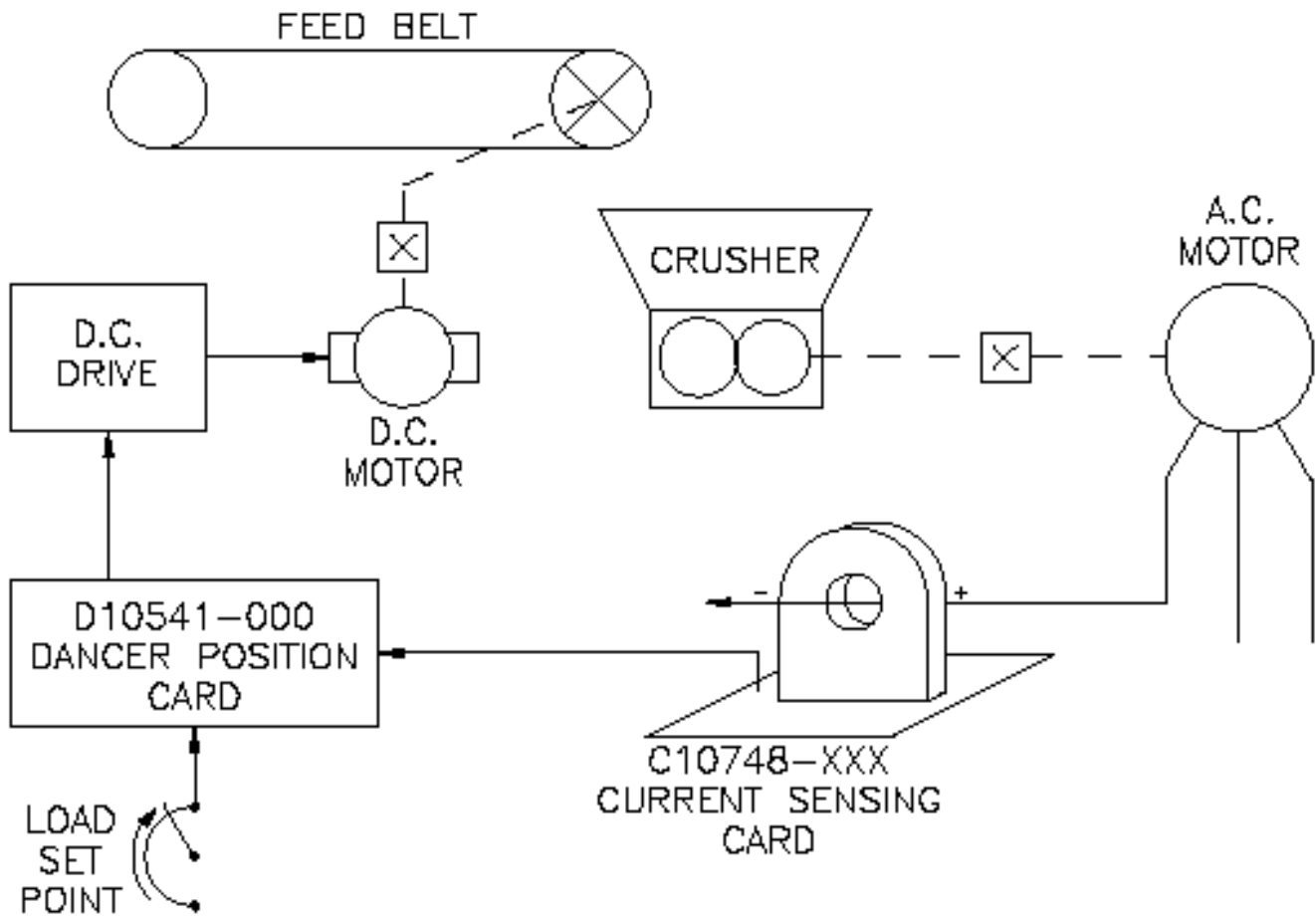
- 0 to 8 VAC (AC input)
- 0 to +\ -4 VDC (Single phase full wave DC drive input)

- 0 to +\ -10 VDC (Three phase 3 or 6 Pulse DC drive input)

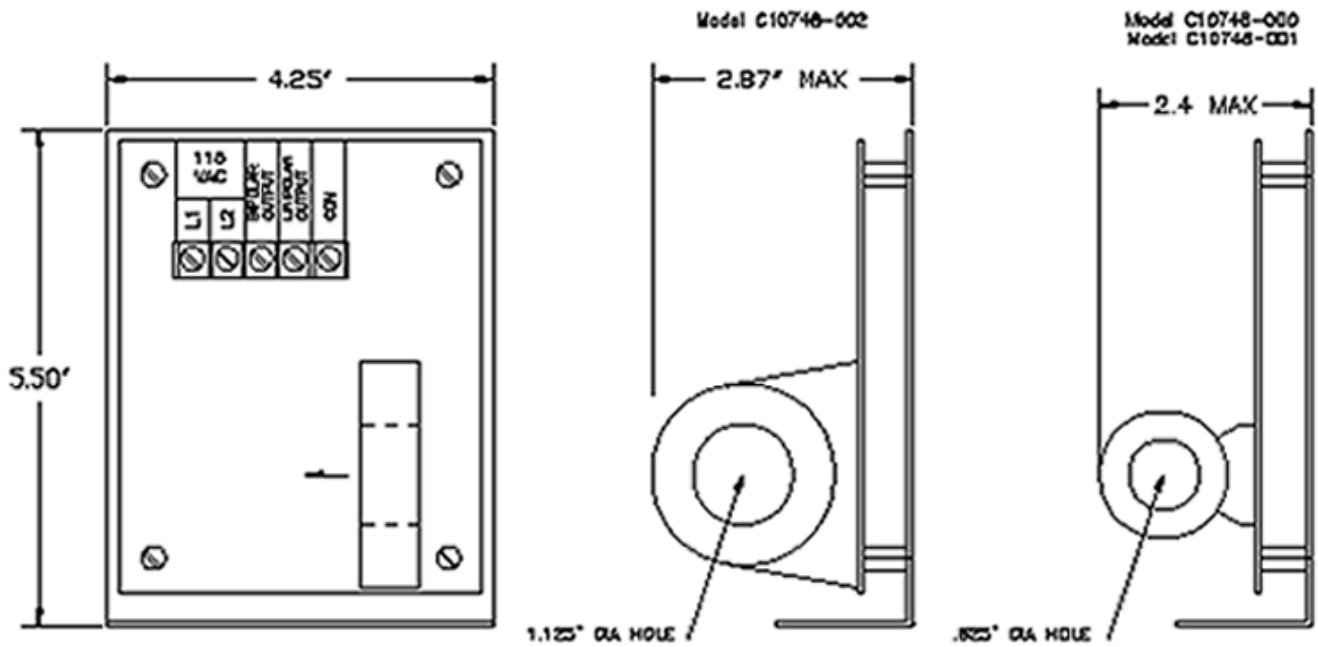
**Unipolar Output**

- 0 to 8 VAC (AC input)
- 0 to +\ -4 VDC (Single phase full wave DC drive input)
- 0 to +\ -10 VDC (Three phase 3 or 6 Pulse DC drive input)

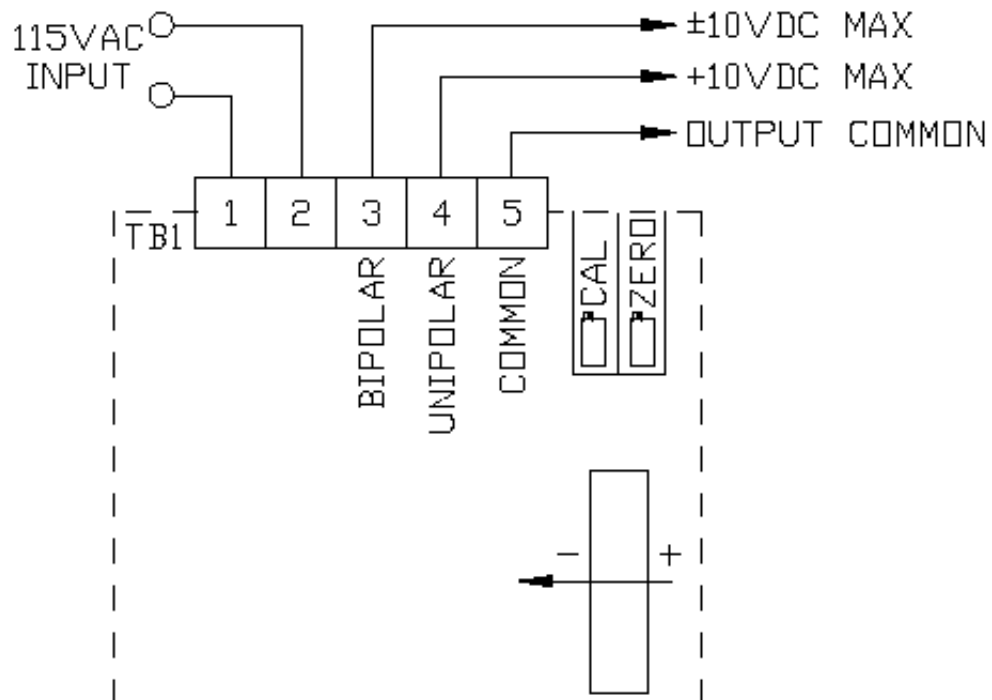
**Application Example**



## Dimensions



## Connections



NOTE,  
CURRENT FLOW IN DIRECTION  
OF THE ARROW WILL PRODUCE  
A POSITIVE OUTPUT.

## **Current Sensing Board Model C10748-XXX**

View or download the complete C10748-XXX Instruction Manual (MAN 1030-00) from [www.carotron.com](http://www.carotron.com) .



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