



CT-100 is a unique Universal Current Transducer with built in Split Core Current Transformer. It measure up to 100 Amps. It can be set for 5 current measurement range (0-2.5, 0-10, 0-20, 0-50 and 0-100 Amps) via program dip switch. Each range corresponds to 4-20 mA output.

Example: If the range is selected for 0-2.5 Amps, the transducer output will be 4 mA when no current and 20 mA when the measured load current is 2.5 Amps.

CT-100 can be used for many applications for monitoring and sub-metering.

Split Core CT will allow Installations without disconnecting the load wires it.

CT-100 is accurate to +/- 1% (full scale) for all selected current ranges (2.5 to 100 Amps).

CT-100 has built in output current limiter. The maximum output current is **25 mA**.

CT-100 is very linear and repeatable. It has better than +/- 0.5% linearity.

The very latest State of the Art Technology allows the **CT-100** to be very low cost and having outstanding performance specifications.

CT-100 has built in status LED that changes its intensity and light output based on the amount of load current passing through the split CT.

CT-100 is very small in size (1.250" L x 1.00" W x and 2.000" H) to fit very small spaces.

CT-100 is a low cost and yet has many outstanding performance specifications. Even better than much higher cost commercially available transducers.

UNIVERSAL CURRENT (4-20 mA)

TRANSDUCER

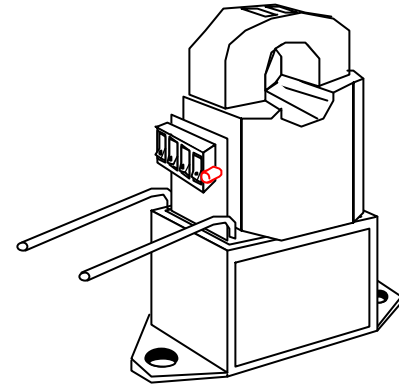
One Transducer 5 - Current Ranges

0 - 2.5 A = 4-20 mA

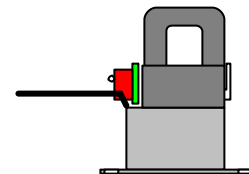
0-10 A = 4-20 mA

0-20 A = 4-20 mA

0-50 A = 4-20 mA



Model :
CT - 100



GENERAL:

CT-100 is designed to measure up to 100 Amps Load Current for 50 or 60 Hz main power. Its unique design allows 4-20 mA signal output for 5 current ranges.

These are: 1. 0-2.5 Amps 2. 0-10 Amps 3. 0-20 Amps 4. 0-50 Amps 5. 0-100 Amps

Each selected range via 4 position Dip Switch generate independent 4-20 mA signal Output.

CT-100 is designed to be a break through in technology for its versatility for coverage of current ranges, accuracy, linearity and cost. It is designed to be used for any load monitoring, sub-metering and preventive maintenance applications. Due to its very broad range of operation (0-100 Amps), it will cover for all applications above. Further, **CT-100's** split current transformer allows for the load wires to be clapped without disconnecting the loads. It is quick, easy and low cost labor to install.

CT-100 has many features and operational specifications that can only be found on much costly and bigger size transducers. It has a very small to be able to mount in very tight and limited spaces. It has built in power on status indicator that change its intensity based on the load current. It has exceptional accuracy, linearity and repeatability.

CT-100 has built in current limiter that is not found even on similar and much more expensive transducers. It does not allow the transducer output to exceed 25 mA current so that it would not damage input circuitry of a receiving controller.

SPECIFICATIONS:

Electrical:

1. Output Signal: 4-20 mA for selected current range. (0-2.5/0-10/0-20/0-50/0-100 Amps)
2. Load Current Measured: 0 - 100 Amps 50 or 60 Hz
3. Measurement Accuracy: **+/- 1% F.S.**
4. Linearity **+/- 0.5%**
5. Accuracy over temperature **0.5%** change over the entire operating temperature and humidity range
6. Operating Voltage: 10 to 30 VDC
7. Max Output signal: 25 mA +/- 5%
8. Primary Load Voltage: Any voltage (make sure that load wire has proper insulation for the voltage specified)
9. Power Consumption: 4 to 25 mA for 4-20 mA applications
10. Current Transformer: Split type with a latch clamping and
11. Status Output: LED that changes its light intensity with the load current passing

Mechanical:

1. Dimensions: L 1.250" x W 1.000" x H 2.000"
2. Flanged mounted to any surface via 2 # 6 screws
3. CT has built in latch for closing and locking the split core

Environmental:

1. Operating Temperature: -20 to + **150** ° F
2. Storage Temperature: -40 to + 170 ° F
3. Operating Humidity: 0 - 99 % RH Non Condensing
4. Storage Humidity: 0-100 % RH Non Condensing

INSTALLATION AND WIRING:

The following steps should be taken to install **CT-100** Current Transducer:

- I. Mount the **CT-100** via 2 mounting holes for Flanged mounting for a suitable place close to the Load wire being measured .
- II. Set the DIP Switch for the intended load current measurement. The Dip Switch setting is shown on the label attached to the **CT-100** housing.
- III. Open the Split CT latch

- VI. Connect **CT-100** RED wire to +10 to +30 VDC regulated (or unregulated where the DC peak does not exceed +32 VDC) power supply.
 Note: Full or half way rectified DC without a filter Cap will not work as a DC power supply. The unregulated voltage must have min. of 10 VDC bottom voltage for ripple.
- VII. Connect **CT-100** BLACK wire to the sensor input of a Controller.
- VIII. Make sure that the termination resistance is not too high. You can use the following formula to determine the max. termination resistance (4-20 mA) termination resistance:

$$R \text{ [termination resistance]} = [\text{DC applied voltage to RED wire} - 7.00 \text{ VDC}] / 0.02 \quad \text{in Ohms}$$

$$\text{Max termination resistance} = \text{DC Supply voltage minus 7.0 VDC divide by 0.020 Amps (20 mA)}$$

Example: If we power from 12 VDC and what is the max. termination resistance is

$$12 - 7 = 5.0 / 0.020 = \mathbf{250 \text{ Ohms}}$$

Make sure that the negative (return side) of the applied voltage to RED wire is same as the Sensor Input Common.

- IX. If need to test the **CT-100** current output, you can put your DVM in Current (DC) mode (0-200 mA range) and connect the **CT-100** BLACK wire to DVM's RED (positive leads) and DVM Black Lead (common lead) to Controller's Common to measure the actual 4-20 mA generated by CT-100. This will not hurt **CT-100**. Also, if you know the termination resistance value internally to the controller, you can measure the **CT-100** output by measuring the Sensor DC voltage divide by the Termination resistance. In this case you do not need DVM with mA range (not all DVMs may have DC Current range)
- X. The drawings for installation is attached below :

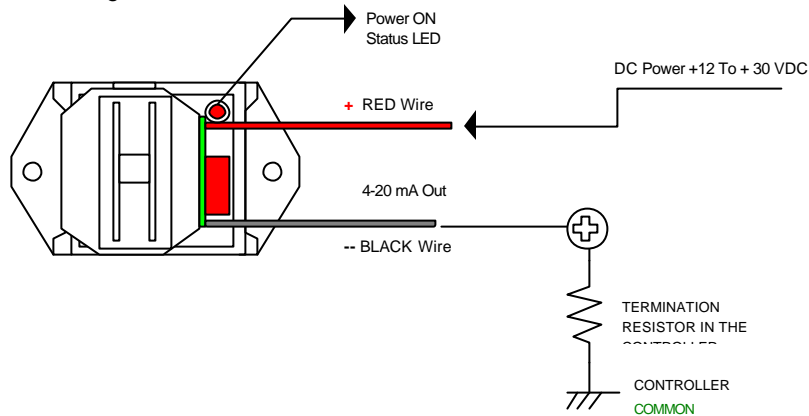
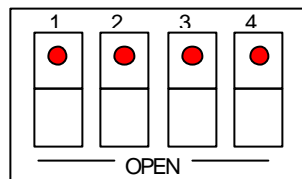
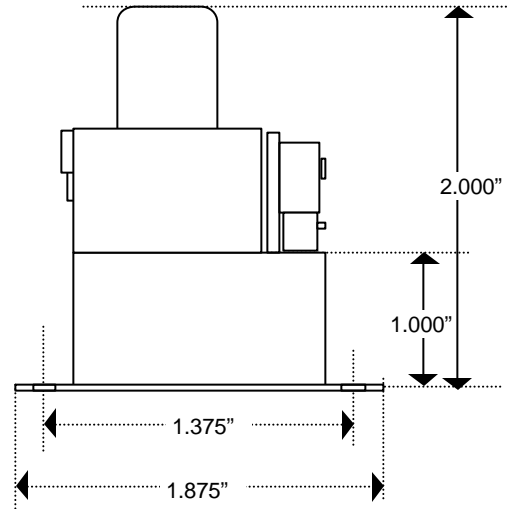
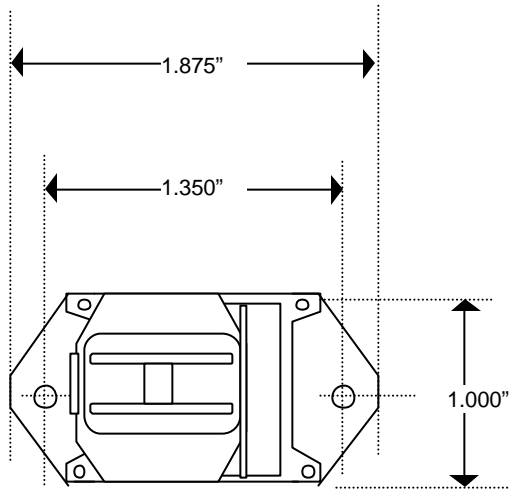


FIG-1: **CT-100** 4-20 mA Signal Output Wiring



- | | |
|--------------------------------------|--------------------------|
| 1. All Switches Are Open: | 0 - 2.5 Amps = 4 - 20 mA |
| 2. ONLY Switch - 1 is closed: | 0 - 10 Amps = 4 - 20 mA |
| 3. ONLY Switch - 2 is closed: | 0 - 20 Amps = 4 - 20 mA |
| 4. ONLY Switch - 3 is closed: | 0 - 50 Amps = 4 - 20 mA |
| 5. ONLY Switch - 4 is closed: | 0 - 100 Amps = 4 - 20 mA |

TAB-1: 4-20 MA and Load Current range Selection via DIP Switch programming



- IV. Place the Load wire inside the split CT opening.
- V. Close the latch. Make sure that the closing is smooth and there are no objects stuck between the split section of the CT. This will change the readings drastically if the Latch is not properly closed and mates with the main CT body.

