



VIBRATION ANALYSIS HARDWARE



**CR102 Series Cable Reduction Box
16 Sensor Inputs
Product Manual**

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INTRODUCTION

CTC cable reduction box solutions offer a reliable and economic means of consolidating up to 16 vibration channels into one multi-conductor cable.

CR102 Series Cable Reduction Box Overview: *Eight to 16 accelerometer inputs (eight to 16 measurement channel outputs), fiberglass enclosure*

The CR102 fiberglass cable reduction box can reduce the individual cables of up to 16 accelerometers into one multi-conductor cable. Input wiring from each sensor is connected to the box via quick release terminal blocks. Each terminal block includes three inputs – positive, common and shield, the corresponding output terminal blocks are marked within the enclosure and also feature three connection inputs – positive, common and shield. Multi-conductor cabling with eight, 12 or 16 paired wires is wired to each output terminal block inside the enclosure. The cable exits through the bottom of the box as one single multi-conductor cable to provide input to a vibration switch box or online system for data collection.

Rated for NEMA 4X (IP66), the CR102 can withstand harsh environments including temperatures ranging from -58 °F to 180 °F (-50 °C to 82 °C). The box is also resistant to hose-directed fluid and corrosion. A snap latch is installed on the door allowing the box to be sealed from the elements when not in use.



PRODUCT DIMENSIONS

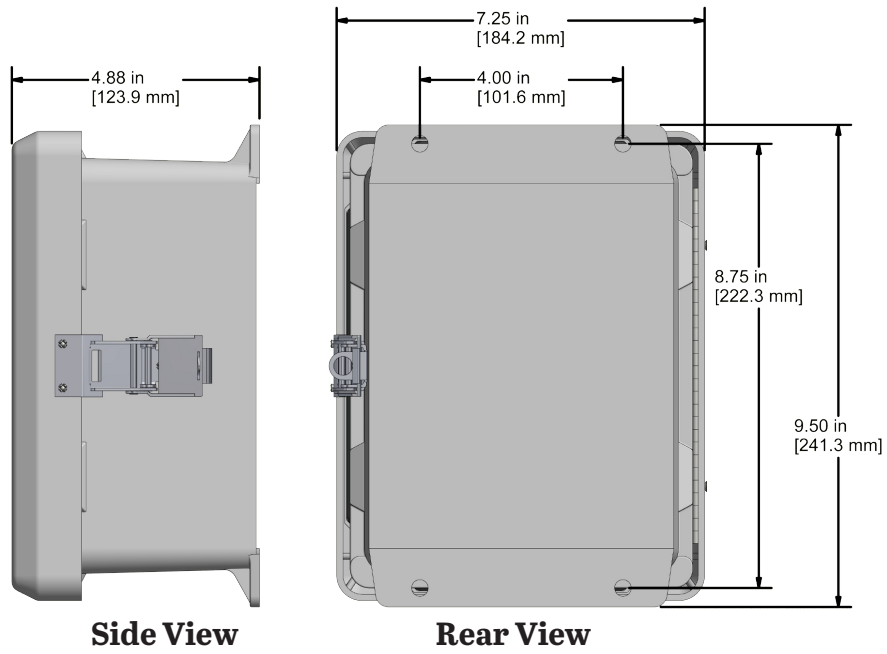
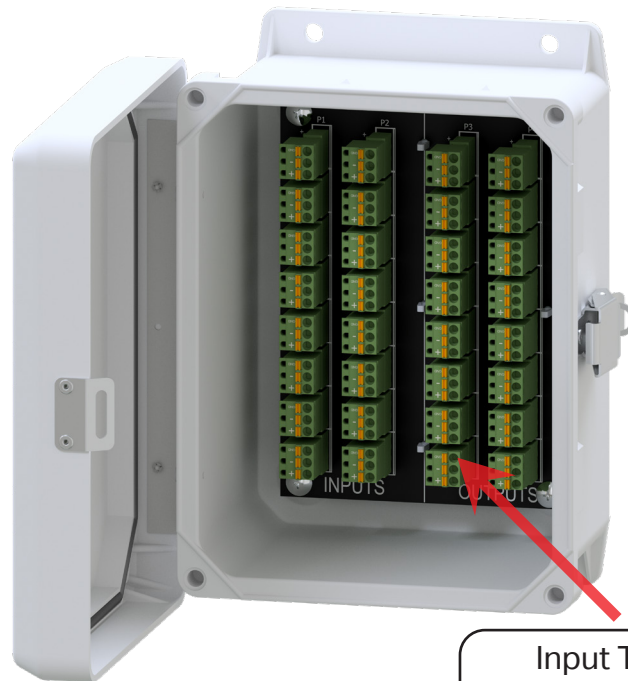


Figure 1. Dimensions



Input Terminal Strip Options

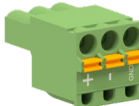
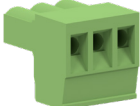
	Quick Connect Option		Screw Terminal Option
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Figure 2. Diagram

MOUNTING INSTRUCTIONS

Note: If you have purchased a cable reduction box without cable entries provided, you should add your own entry prior to mounting the cable reduction box. CTC does not recommend putting holes in the top of the cable reduction boxes due to access and moisture concerns.

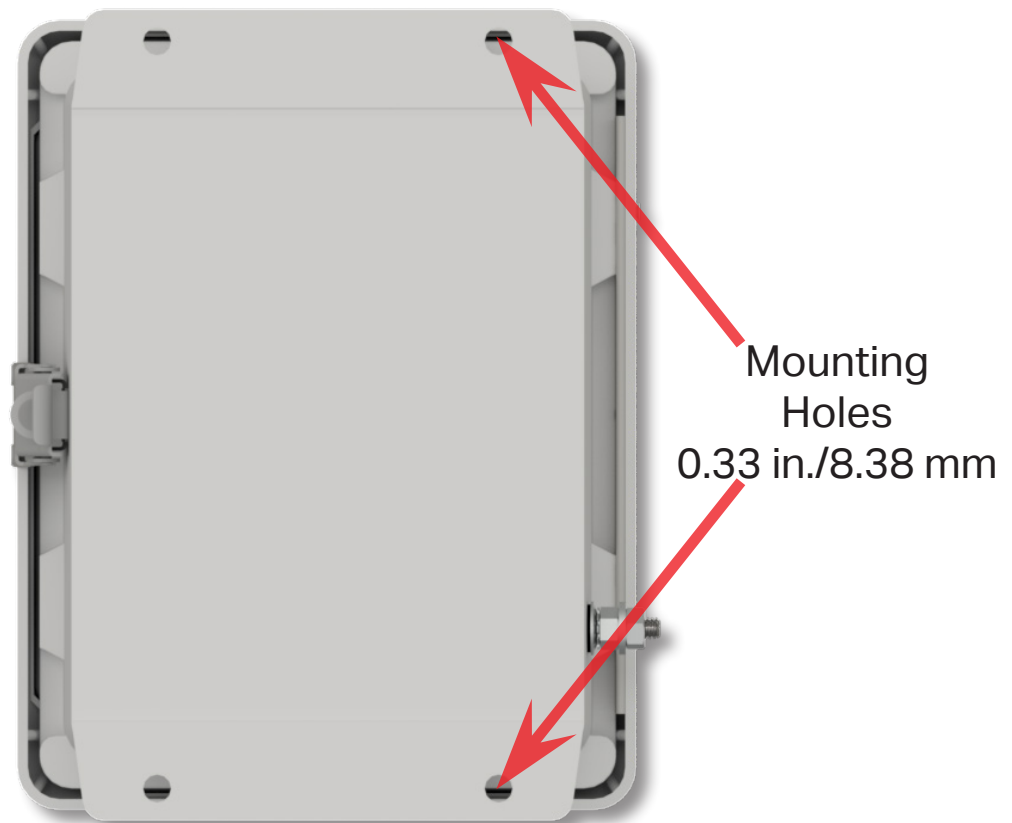


Figure 3. Cable Reduction Box Rear View

CONDUIT ENTRY

If you are running conduit to your enclosure, ensure the conduit cable entry enters from the bottom of the enclosure when mounted.

Note: To ensure moisture will not flow into the enclosure, a hole should be drilled at the lowest point in the conduit to provide drainage for any moisture.

Correct



Incorrect



Figure 4. Conduit Entry for Switch Box

GROUNDING

In order to avoid potential ground loop problems, the CR102 series is not grounded. All cabling, including the shield drain, should be passed through to the final termination point.

SENSOR INSTALLATION

Installation of Sensors/Signal Input Cable

1. Feed blunt-cut end through the cable entry at the bottom of the enclosure.

Note: It is recommended that cables are marked on both ends.

For cord grip cable entry, take off the cord grip cover with bushing and run cable into enclosure, hand tighten cord grip cover to base to prevent damage of cord grip.



Figure 7. Cord Grip Entry

1. Strip outer jacket of cable back 1¼ in. and remove all of the shielding.
2. Separate the internal wires from the shield and twist the shield.
3. Strip red and black insulation back ¼ in.

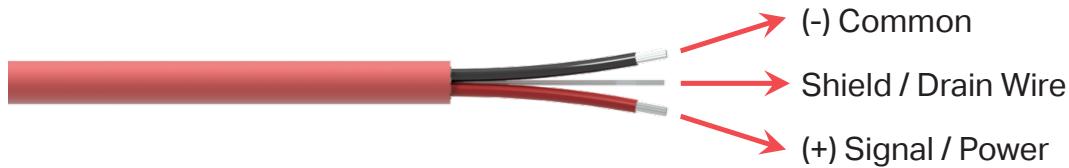
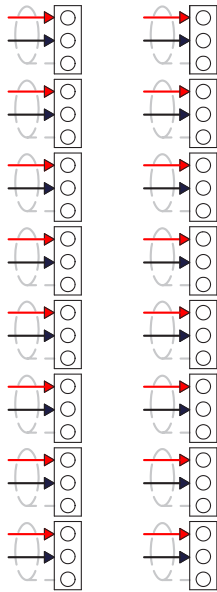


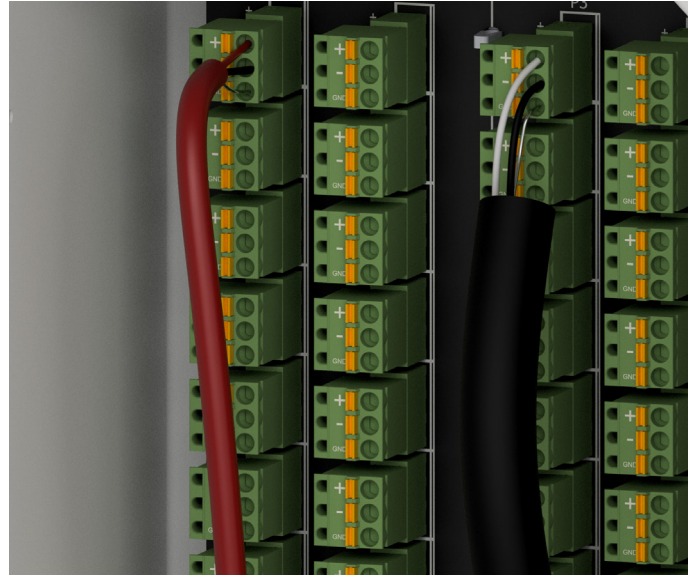
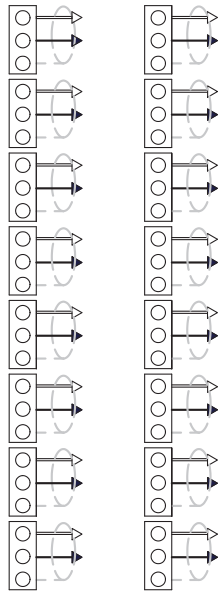
Figure 8. Stripped Wire

4. Locate the appropriate plug, identified by channel number, remove the plug and install the wires using a small flathead screwdriver. Push plug back into location. Orientation is as follows:
 - a. Red insulated conductor wire is connected to (+).
 - b. Black insulated conductor wire is connected to (-).
 - c. Shield drain wire is connected to ground (GND).
 - d. Depress selected position button to open terminal for respective wire (may require a mini flathead screwdriver).

Inputs



Inputs



SENSOR INPUTS
Red/White = Positive
Black = Common
Grey = Shield/Ground

Figure 9. Connecting Cables to Switch Box

5. Insert plug into the appropriate PC board connector and double check to ensure that the cable is going to the correct channel.

WARRANTY AND REFUND

Warranty

All CTC products are backed by our unconditional lifetime warranty. If any CTC product should ever fail, we will repair or replace it at no charge.

Refund

All stock products can be returned for a 25% restocking fee if returned in new condition within 90 days of shipment. Stock products qualify for free cancellation if your order is cancelled within 24 hours of purchase. Built-to-order products qualify for a 50% refund if returned in new condition within 90 days of shipment. Custom products are quoted and built specifically to the requirements of the customer, which may include completely custom product designs or private labeled versions of standard products for OEM customers. Custom products ordered are non-cancellable, non-returnable and non-refundable.

