

OPERATION MANUAL

CMCP310 Series Switch Boxes

REV. A 5-27-2009

Model Description:

The **CMCP310 Series** Switchable BNC Boxes are designed for terminating and switching the outputs of up to 48 sensors. Switchboxes are generally installed in a location as close to the machine as practical to reduce wiring costs and yet provide a convenient and safe way to access the vibration and temperature signals by an operator or analyst with a portable data collector or analyzer.

The **CMCP310 Series** Switchable BNC Boxes are available in three (3) types of enclosures to best suit the environment in which they will be installed.

- Fiberglass, NEMA 4X
- Powder Coated Steel, NEMA 4
- Stainless Steel, NEMA 4X

Power (Optional):

The **CMCP310 Series** Boxes are capable of powering ICP Accelerometers and Temperature Sensors through a supplied 4.2mA Constant Current Diode (CCD). An external 24VDC source is required. Contact Sales Technology for ordering power supplies.

****See Accelerometer and Temperature Sensor Powering Below****

Mounting:

Powder Coated Steel (PS) and Stainless Steel (SS) enclosures provide welded on mounting feet. Fiberglass (FG) versions are shipped with field installable mounting feet (qty. 4) inside of each enclosure.

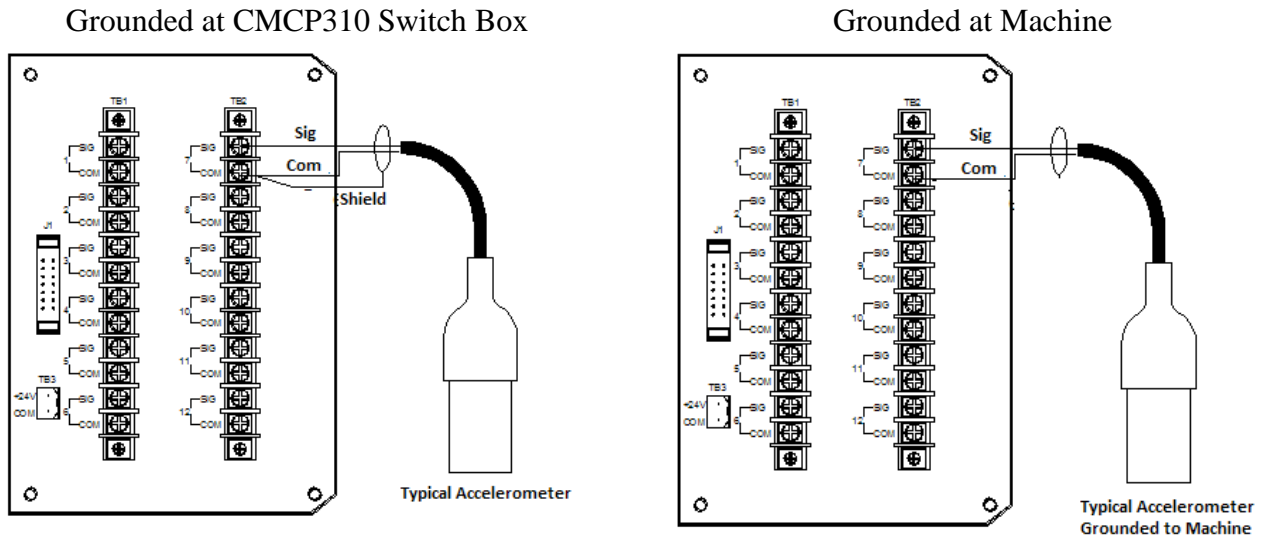
****See Pages 5-7 for Dimensions and Mounting****

Wiring:

It is strongly recommended that the **CMCP310 Series** Switch Box be mounted as close as practical to the associated machine. This will prevent signal distortion associated with current drive limitations, and will minimize interference from external electro-magnetic noise sources (EMI). A well shielded, properly installed transducer cable is absolutely necessary to obtain reliable operation. The cable should be routed as far away from other electrical circuits as possible, and run in metal conduit where possible. Twisted-shielded cables designed and pre-fitted with the proper transducer connector, and sold for this specific purpose are highly recommended. A common cable grounding scheme should be used on all sensors to avoid ground loops.

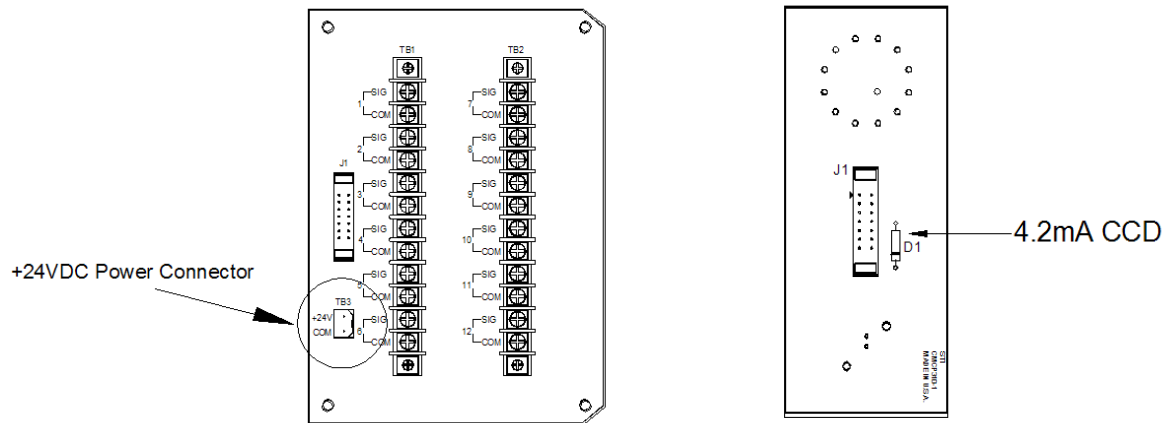
1. The cable shield should be open at the transducer end, and connected to the input common on the CMCP310 Switch Box
2. **Or** connected at the transducer end, and open at the CMCP310 Switch Box. The cable should be routed as far away from other electrical circuits as possible, and run in metal conduit where possible

Accelerometer Wiring Diagram:



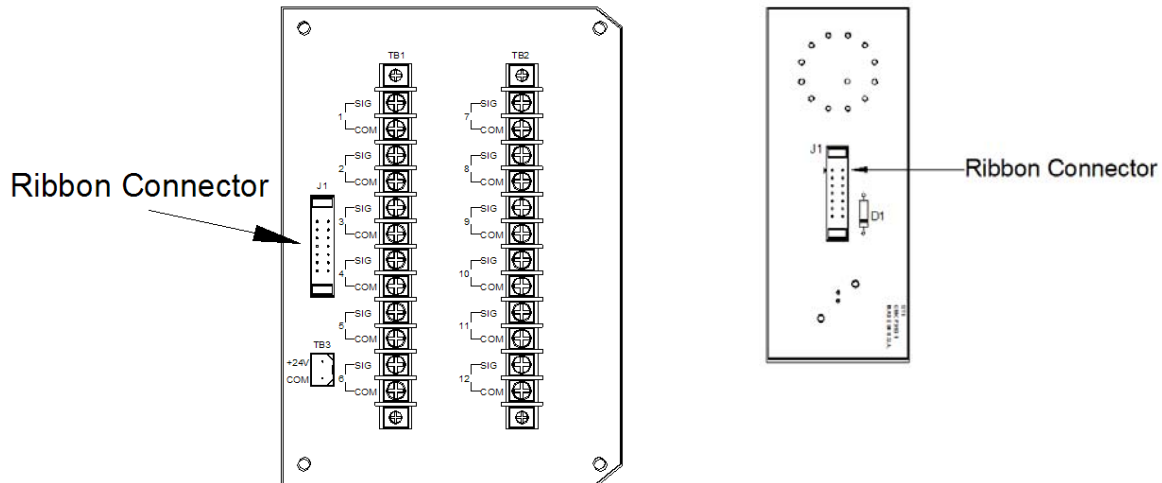
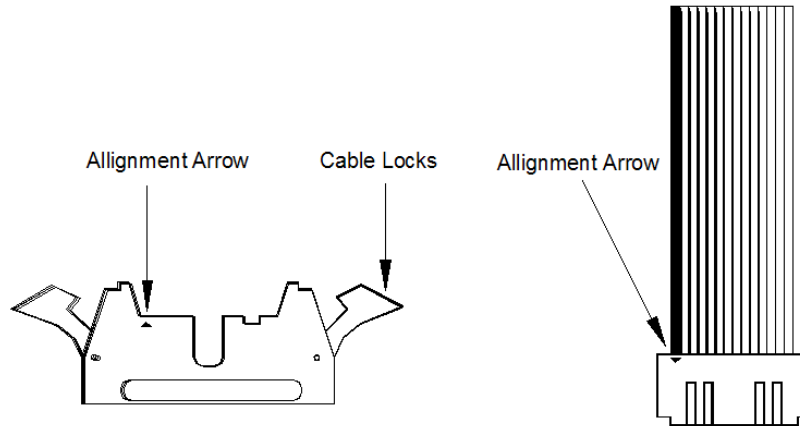
Accelerometer and Temperature Sensor Powering:

If needed, the **CMCP310 Series** Switch Box can power Accelerometers and Temperature Sensors through a 4.2mA Constant Current Diode. An external +24VDC power source is required.



Attaching Ribbon Cable:

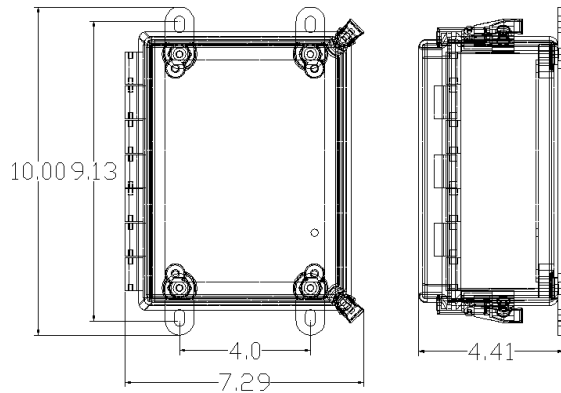
The CMCP310 Series Switch Box requires a ribbon cable to be connected between the two PC Boards. Each connector contains two (2) cable locks. To remove the cable simply push the cable locks down and the ribbon cable will disconnect. To insert the cable, line up the arrow on the cable with the arrow on the connector press in until the cable locks clamp over the top of the ribbon cable, this will ensure that the cable does not come loose during operation.



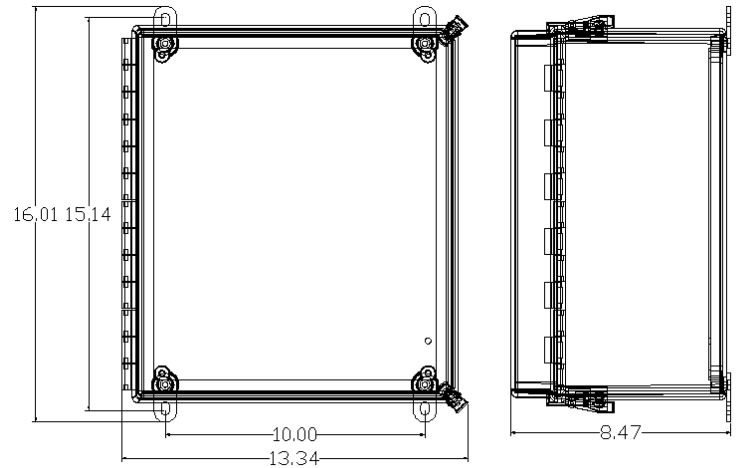
Dimensions and Ratings:

Fiberglass (FG) NEMA 4X

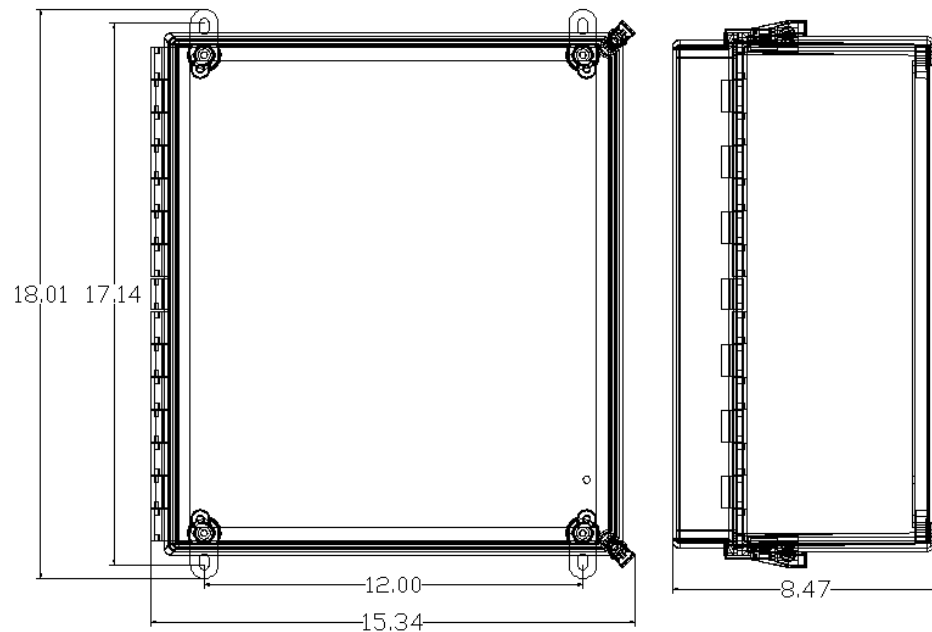
CMCP310FG-06 and CMCP310FG-12



CMCP310FG-24



CMCP310FG-36 and CMCP310FG-48



Industry Ratings:

UL 508A, File No. E61997: Type 4, 4X, 12 and 13

NEMA/EEMAC Type 4, 4X, 12 and 13

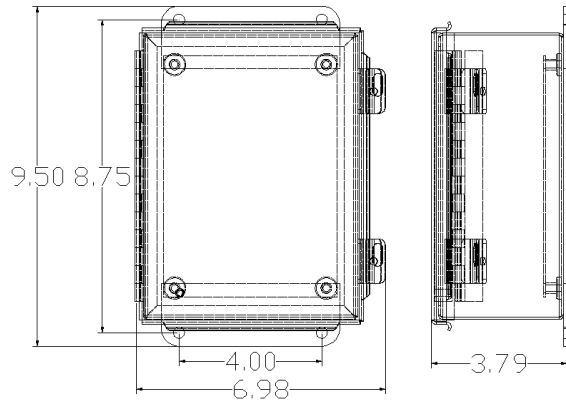
Enclosure Flammability Rating per UL 508A

CSA File No. 42186: Type 4, 4X, 12 and 13

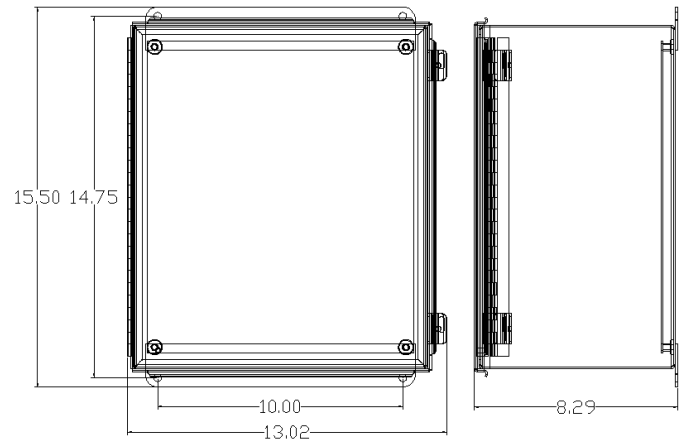
IEC 60529, IP

Painted Steel (PS) NEMA 4

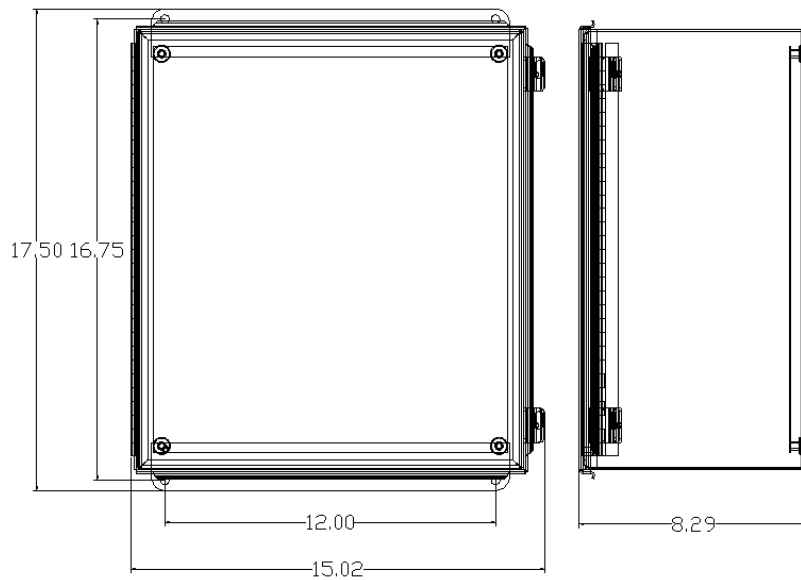
CMCP310PS-06 and CMCP310PS-12



CMCP310PS-24



CMCP310PS-36 and CMCP310PS-48

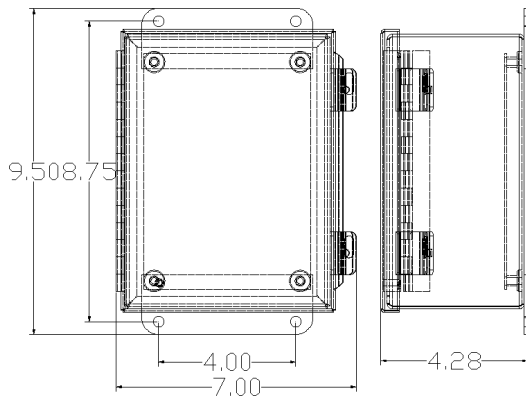


Industry Ratings:

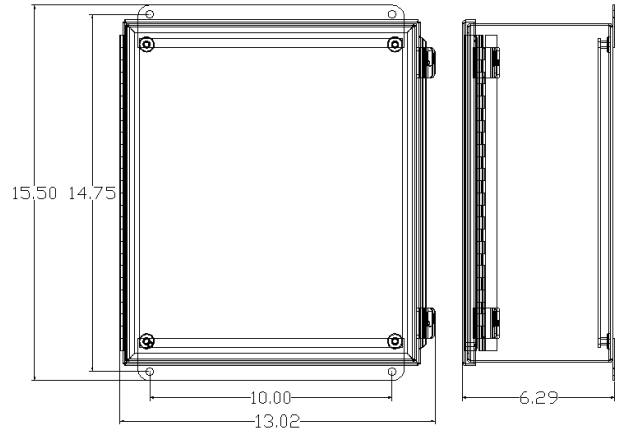
UL 50, File No. E27567: Type 4, 12, and 13
UL 508A, File No. E61997: Type 4, 12, and 13
NEMA/EEMAC Type 4, 12, and x13
CSA, File No. 42184: Type 4 and 12
IEC 60529, IP66

Stainless Steel (SS) NEMA 4X

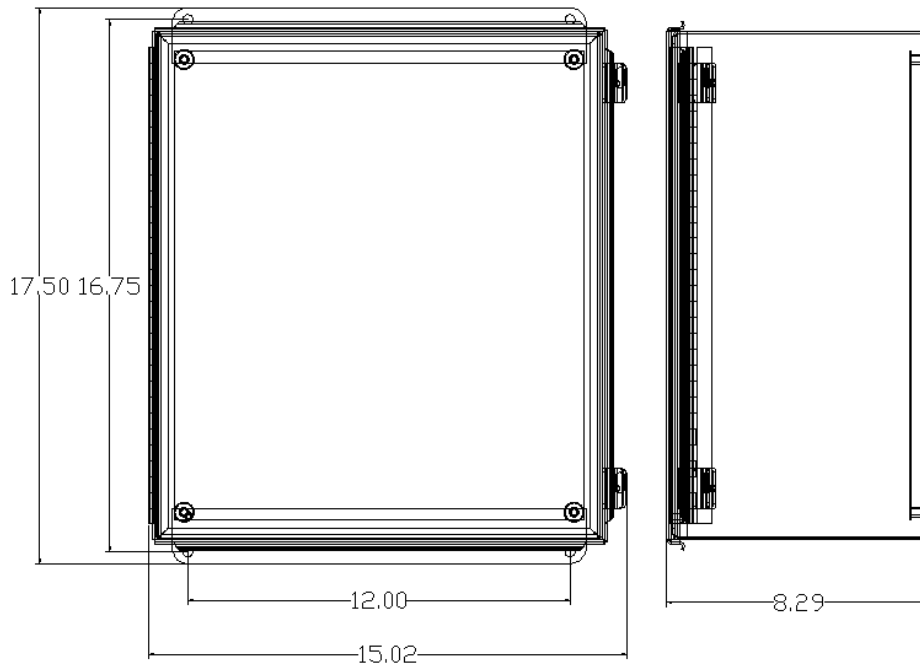
CMCP310SS-06 and CMCP310SS-12



CMCP310SS-24



CMCP310SS-36 and CMCP310SS-48



Industry Ratings:

UL 50, File No. E27567: Type 3R, 4, 4X and 12

UL 508A, File No. E61997: Type 3R, 4, 4X, and 12

NEMA/EEMAC Type 3R, 4, 4X, 12 and 13

CSA, File No. 42184: Type 4, 4X, and 12

IEC 60529, IP66

Troubleshooting Guide:

Symptom	Corrective Action
No Output	Check sensor wiring Check to be sure Ribbon Cable is clamped in and oriented properly.
Channels out of Order	Check to be sure ribbon cable is inserted correctly. Align Arrows. Make sure the output loop is complete and that the correct meter range is selected.
No Power (If Used)	Check power supply output Check Power at CCD



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