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INSTALLATION INSTRUCTIONS FOR REPLACING A COMPTROL 80-158 WITH A COMPTROL 80-166 SIGNAL CONDITIONING BOARD

The Comptrol 80-166 signal conditioning board is functionally 100% backward compatible with the Comptrol 80-158 board. The board area, mounting hole pattern, and the location of J1 thru J6 connectors are identical. However, certain improvements have been made to the board that will affect installation and setup.

1. The addition of the SW1 Power Switch for controlling input power to the board.
2. The board is shipped with two (2) fuses. The 0.2A fuse for 115 volt power, and the 0.1A fuse for 230 volt power.
3. V-I Output jumpers for selecting 4-20mA or 10VDC output.
4. The J3 connector has been changed from a 5-pin to a 6-pin connector.

The 80-158 connectors (J1 thru J6) may be used with the 80-166 board. The wiring connection table on the backside of these instructions is provided as a reference if the user decides to use the connectors supplied with the 80-166 board.

The following procedure assumes that the 80-158 J1 thru J6 connectors will be used with the 80-166 board. Therefore, it is not necessary to disconnect the wires from the screw terminals.

If a wiring diagram or schematic is not available, Comptrol suggests making a reference sketch showing the 80-158 electrical connections before beginning.

1. Turn off external power to the 80-158 board.
2. Unplug the J1 thru J6 connectors from the board. Comptrol recommends marking the connectors to facilitate re-installing them on the 80-166 board
3. Loosen and remove any fasteners securing the board.
4. Remove the board.
5. Install the correct fuse in the 80-166 fuseholder (F1). Use the 0.2A fuse for 115 volt power, and the 0.1A fuse for 230 volt power. Set the Input Power Selector switch (SW2) to correspond to the user supplied input power.

NOTE: If both lines of the input power source are hot with respect to ground, external fusing must be provided in both lines.

6. Remove the J1 thru J6 connector from the 80-166 board.
7. Install and mount the 80-166 board in position.
8. Re-install the J1-J6 connectors

NOTE: Install the J3 connector to cover the bottom 5 pins (Ch1 thru Com) .

To complete the replacement procedure, refer to the Initial Electrical Checks, Calibration, and Troubleshooting sections in the 80-166 Installation and Calibration Manual starting on Page 6.

NOTE: If replacing the 80-158 board in a Comptrol CTI-1000 or CTI-1200 tension indicator, Comptrol recommends replacing the bulb in the Power Switch on the front panel with a 24 or 28 volt LED. The LED must not draw more than 25mA of current. (Reference Comptrol Part Number CTI-1000-1B-06 or CTI-1200-1B-06.)

To replace the bulb with the LED, turn off power to the board. Open the enclosure. On the back side of the Power Switch is a two-position slotted tab. Move the tab to the unlock position and separate the contact blocks from the back of the switch to gain access to the bulb. Remove the bulb and install the LED. Align the contact blocks with the back of the switch and move the tab to the lock position.



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Connector	CTI-1000/1200 Wire Color	80-158 Terminal	80-166 Terminal
Input Power	User Supplied	J1-Gnd	J1-⊕
		J1-Neu	J1-N
		J1-Hot	J1-L
Power Switch	Red	J2-AC	J2-PS1
	Black	J2-AC	J2-PS2
Indicator Lamp	White	J2-LMP	J2-LMP
	Green	J2-LMP	J2-LMP
Tension Selector Switch			J3-+15V
	Red	J3-1	J3-Ch1
		J3-Diff	J3-Diff
	Black	J3-2	J3-Ch2
	White	J3-Sum	J3-Sum
	Green	J3-Gnd	J3-Com
Loadcell 1	Refer to Loadcell Connection below	J4-+24	J4-+24
		J4-ret	J4-ret
		J4-In-H	J4-In-H
		J4-In-L	J4-In-L
	Shield	J4-Shld	J4-Shld
Loadcell 2	Refer to Loadcell Connection below	J5-+24	J5-+24
		J5-ret	J5-ret
		J5-In-H	J5-In-H
		J5-In-L	J5-In-L
	Shield	J5-Shld	J5-Shld
Isolated Output (4-20mA or 10VDC)	User Supplied	J6-Out+	J6-Out+
		J6-Out-	J6-Out-
		J6-Shld	J6-Shld

LOADCELL CONNECTION

A Comptrol loadcell is equipped with either a 4-pin type MS connector, a terminal strip, or a pigtail. The following table shows typical wiring to each type. Connect Loadcell #1 to J4, and Loadcell #2 to J5.

J4/J5	CABLE	CONN.	TERM.	PIGTAIL
+24	1 st pair	A	1	red
ret	1 st pair	B	2	black
* In-H	2 nd pair	C	3	green
* In-L	2 nd pair	D	4	white

* Connections to the loadcell depend on the geometry of the application. If a Tensioncell is operating in compression, or a Superloadcell or Monocell is operating in tension, the connections to In H and In L in the above table must be reversed. The J Value on the Calibration Data Sheet provided with the loadcells will specify tension compression.

For single loadcell applications, connect the loadcell to J4. Install a jumper between In-H on J4 and In-H on J5. Install another jumper between In-L on J4 and In-L on J5.