

FAQ Note

Change Analog Output Range in the Field - All Models

Problem:

Occasionally the need arises to change the analog output signal range in the field. This can be accomplished by changing jumper locations on the Mother Board (bottom PCB) or, in some cases, by replacing the Mother Board.

Explanation:

There are 4 analog output signal types. These are indicated by a numbered suffix in the instrument model number:

- “-0” indicates 0-1mA output
- “-1” indicates +/-1mA output
- “-2” indicates 0-2mA output
- “-4” indicates 4-20mA output

All INCON panel instruments built since 2000 use the same PC Board family, which means that the Mother Boards are interchangeable. The first three output signal types are just different configurations of the same Mother Board, part number 010-0017. The 4-20mA output uses a separate Mother Board, part number 010-0018. This output type also requires an external DC power supply to power the current loop.

Solution:

If the signal change required involves the 4-20mA (-4) signal type, a Mother Board change will be needed.

Changing from any of the other outputs to the 4-20mA type will require the installation of Mother Board, part number 010-0018, and the use of an external 15VDC power supply (the INCON model 1945).

Changing from the 4-20mA type to any of the others will require the installation of Mother Board, part number 010-0017, and some jumper configuration to select one of the three output types. No external power supply is needed for these output types – they are self-powered.

If the signal change required is from one of the three self-powered outputs (0-1mA, +/-1mA, or 0-2mA) to another self-powered type, then a simple change of the configuration jumpers is all that is needed. The table below shows the jumper configuration for each of the output types:

Output Type:	Jumper J8	Jumper J10
0-1mA (-0)	Jumped	Not Jumped
+/-1mA (-1)	Not Jumped	Jumped
0-2mA (-2)	Not Jumped	Not Jumped

(See Figure 1 below for Jumper J8 & J10 locations.)

Application Bulletin

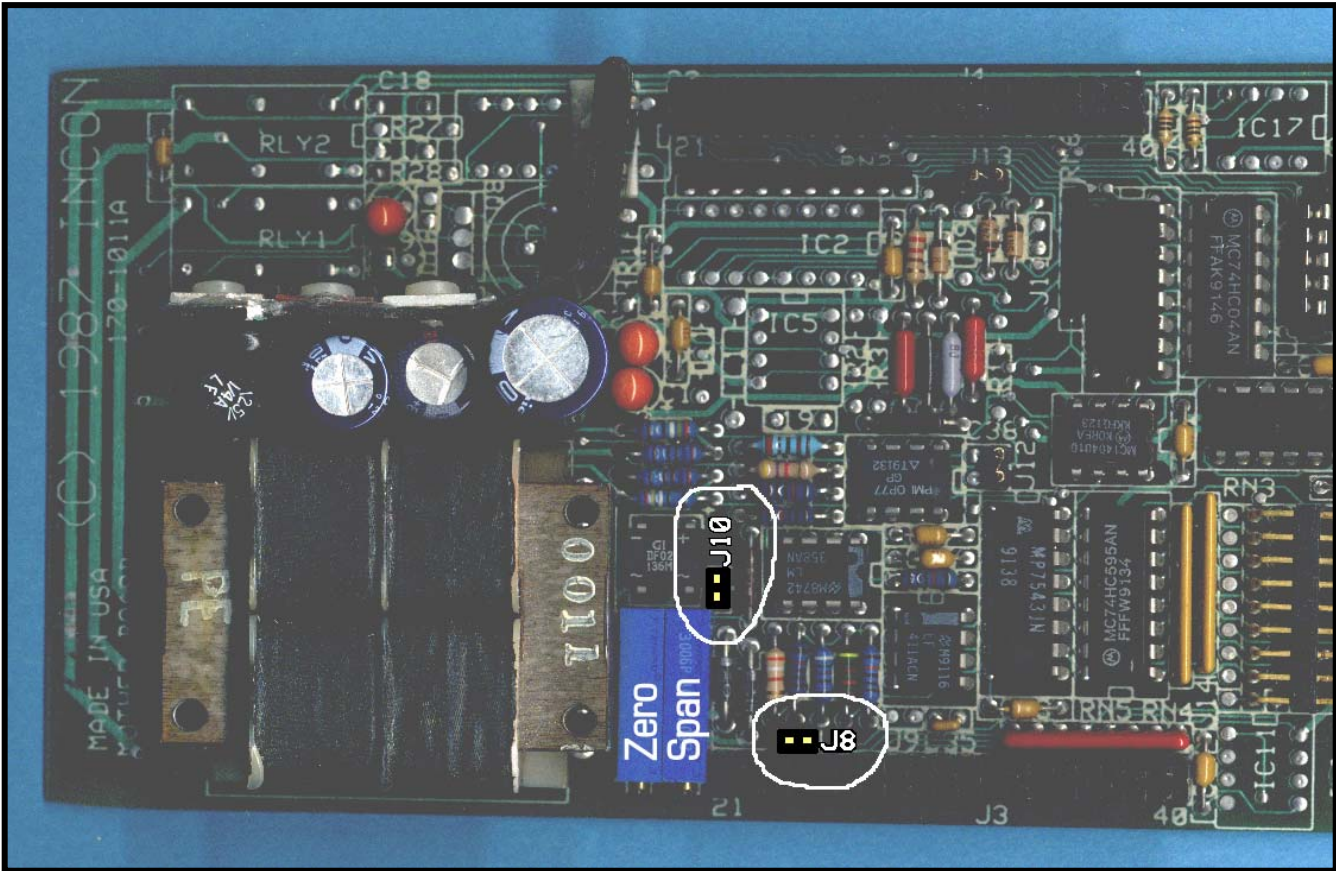


Figure 1 Mother Board Jumper Location

To change the configuration jumpers, perform the following steps:

1. Remove the monitor from its case.
2. Remove the 2 screws from the top PC board.
3. Separate the **bottom PCB** from the **middle PCB**.
4. Make necessary changes to the jumpers as indicated in the table above. Push-on (low profile computer-type) jumpers are acceptable, but wire wrap jumpers or soldered jumpers are recommended for these connections.
5. Carefully re-assemble the PCB's. Do not bend any of the interconnection pins.
6. Install the 2 screws into the top PCB and slide the unit back into its case.
7. Perform the Field Calibration Procedure found in the 1250 manual, Section 4.0.