Addendum to TI-500 Plus Setup/Operation Manual
For Analog Output Option

OVERVIEW OF CHANGES

1. This indicator provides one passive 4-20 mA or active 0-5 V analog output in lieu of the COM1 serial port. Default setting is passive 4-20 mA.
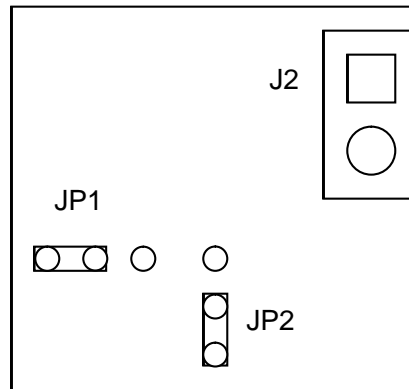
GENERAL INFORMATION

The digital indicator provides an analog output on two wires designated AA and BB. The output tracks the weight displayed on the indicator, so you must first have the indicator configured and calibrated correctly in order for it to work properly.

You can select between the two types of outputs by toggling the shunt blocks on JP1 and JP2 inside the unit. **NOTE**: The unit ships from the factory configured to passive 4-20 mA.

Once everything is connected and working, you can use the F23 procedure to fine-tune the output. See the Setup/Operation guide for instructions.

How to configure the analog output to active 0-5 V:

1. Carefully open up the unit by removing the three Phillips head screws and one drilled head screw.

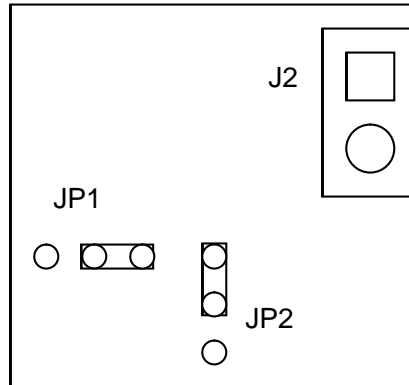2. Locate the small PCB marked "4-20mA(DAC8531) and configure JP1 and JP2 as shown in diagram below:

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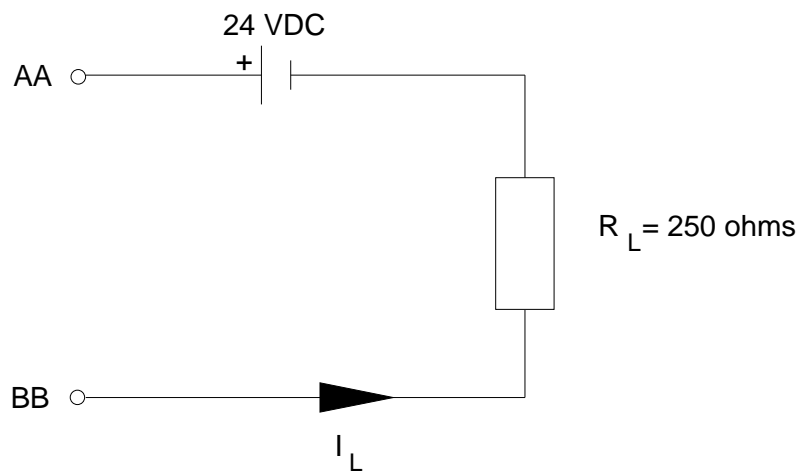
How to configure the analog output to passive 4-20 mA:

1. Carefully open up the unit by removing the three Phillips head screws and one drilled head screw.

2. Locate the small PCB marked "4-20mA(DAC8531) and configure JP1 and JP2 as shown in diagram below:

J2

JP1

JP2

Passive 4-20 mA Analog Output

A 12-bit DAC is used along with a current loop transmitter. Since the output is passive, you will need an external 24 VDC power supply. You can get the output through pins 2 and 3 of the D-SUB9 connector. Pin 2 is AA and pin 3 is BB.

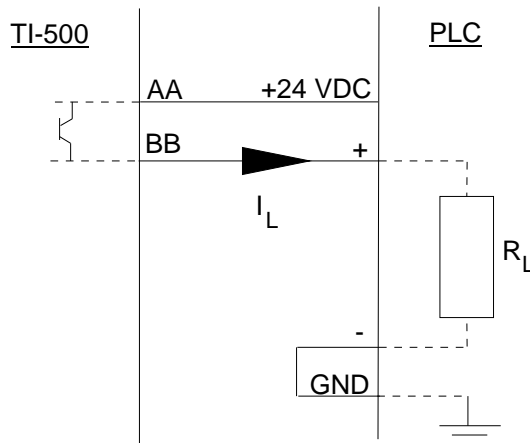Here is a working connection diagram used at the factory to test:

24 VDC

AA

R_L = 250 ohms

BB

I_L

NOTE 1: In your application, substitute the actual input device for R_L. If your input device is polarized, connect the common lead to the negative lead of the 24 VDC power supply and the positive lead to the BB wire.

NOTE 2: The AA and BB wires are not polarized. You may connect them in any manner you wish.

Here is a suggested connection diagram for a PLC:

NOTE 1: Do NOT connect the indicator ground to the PLC ground.

Here is how to test to see if it is working correctly:

1. Configure and calibrate the indicator to your load device. Ensure the weighing function is working properly.

2. Connect the AA and BB output wires to an external 24 VDC power supply and 250 Ω resistor as shown in the above test diagram.

3. When the indicator is displaying zero, the output should be 4 mA. Since V=IR, you should measure 1 VDC across R_L.

4. When the indicator is displaying the full-scale load, the output should be 20 mA. Again, since V=IR, you should measure 5 VDC across R_L.

Active 0-5 V Analog Output

You can get the output through pins 2 and 3 of the D-SUB9 connector. Pin 2 is the 0-5 V signal and pin 3 is Ground.