

# Analog Output Card Installation Instructions

PNs 67607

Use the following procedure to install an analog output card in the 520 indicators:

1. Disconnect indicator from power source.



**WARNING** Disconnect power before removing indicator backplate.

2. Place indicator face-down on an antistatic work mat. Remove screws that hold the backplate to the enclosure body.



**CAUTION** Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working inside the indicator enclosure.

3. Carefully align the large option card connector with connector J2 on the CPU board (see Figure 1). Press down to seat the option card in the CPU board connector.

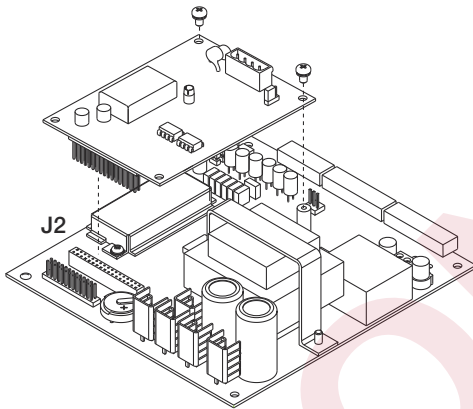


Figure 1. Installing Option Card Onto CPU Board

4. Use the screws provided in the option kit to secure the other end of the option card to the threaded standoffs on the CPU board
5. Install terminal block end of cable assembly to connector J1 of analog output option card (see Figure 2).
6. Remove existing cover plate from the back of the enclosure (see Figure 3).
7. Reuse kep nuts to secure analog cover plate to standoffs located on the inside of the enclosure backplate.
8. Set the mode select jumper (see Figure 2) for voltage (V) or current (I) output.
9. Once cabling is complete, position the cover over the enclosure and reinstall the screws.



**Note** Use the torque pattern shown in the indicator Installation Manual. Torque screws to 15 in-lb (1.7 N-m).

10. Reconnect power to the indicator.
11. Configure the analog output card as described on page 2.

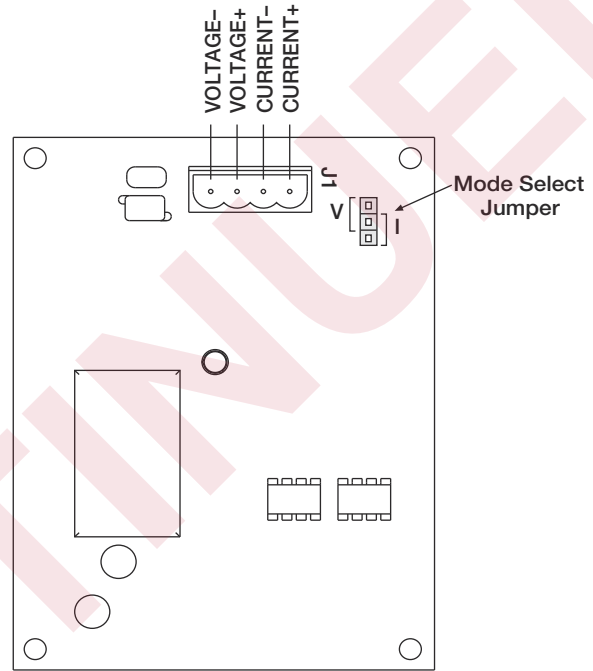


Figure 2. Analog Output Card

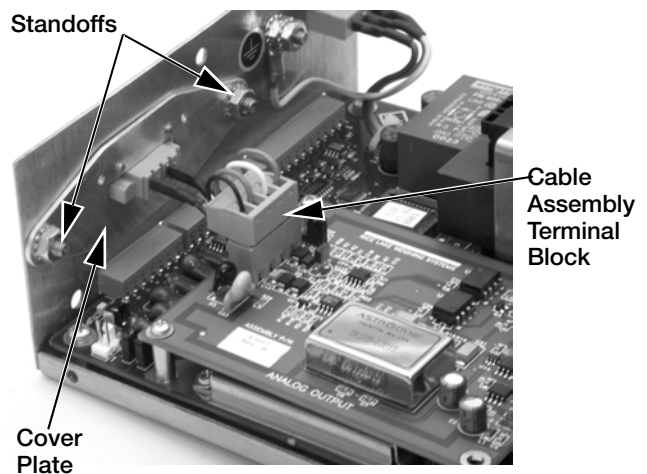


Figure 3. Analog Output Cable Assembly

The indicator automatically recognizes all installed option cards when the unit is powered on. No hardware-specific configuration is required to identify the newly-installed card to the system.

## Analog Output Calibration

The following calibration procedure requires a multimeter to measure voltage or current output from the analog output module.



**Note** The analog output must be calibrated after the indicator itself has been configured and calibrated.

- Enter setup mode and go to the ALGOUT menu (see Figure 4):
  - Set **OFFSET** to 0% for 0–10 V output; set to 20% for 4–20 mA output
  - Set mode select jumper on the analog output board to "V" for 0-10 V output, or "I" for 4-20mA output
  - Set **MIN** to lowest weight value to be tracked by the analog output
  - Set **MAX** to highest weight value to be tracked by the analog output
- Connect multimeter to connector J1 on the analog output board:
  - For voltage output, connect voltmeter leads to

pin 3 and 4.

- For current output, connect ammeter leads to pins 1 and 2.
- Adjust zero calibration: Scroll to the **TWZERO** parameter. Press  $\nabla$  to view zero value, then check voltage or current reading on multimeter. Press and hold  $\Delta$  or  $\nabla$  to adjust the zero value up or down.
  - Adjust span calibration: Scroll to the **TWSPAN** parameter. Press  $\nabla$  to view span value, then check voltage or current reading on multimeter. Press and hold  $\Delta$  or  $\nabla$  to adjust the span value up or down.
  - Final zero calibration: Return to the **TWZERO** parameter and verify that the zero calibration has not drifted. Press and hold  $\Delta$  or  $\nabla$  to re-adjust the zero value as required.
  - Return to normal mode. Analog output function can be verified using test weights.

See the *520 Installation Manual*, PN 68973, for more configuration information.

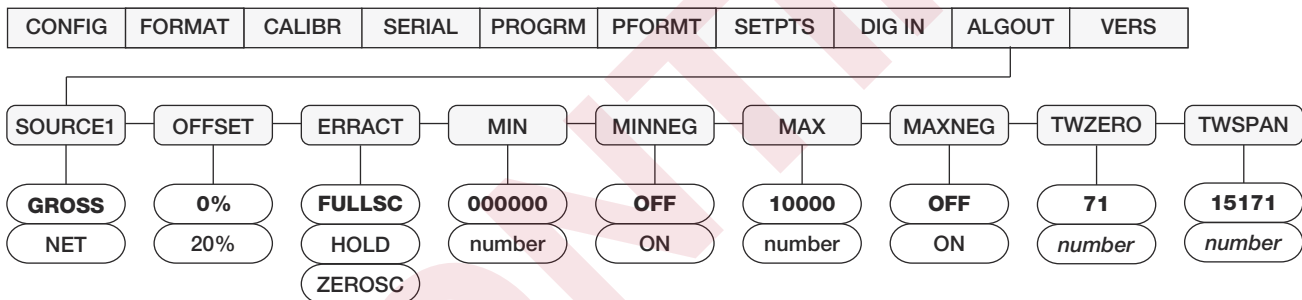


Figure 4. Analog Output Menu

### Specifications

Resolution	16-bit, monotonicity over temperature
Linearity	±0.03% of full scale input
Current Output	0–20 mA or 4–20 mA (20% offset)
Maximum Load Resistance	840 Ω
Power Consumption	3.9W (max. load @ 20 mA)
Voltage Output	0–10 VDC
Minimum Load Resistance	1.2 KΩ
Power Consumption	3.9W (max. load @ 10 VDC)
Input Protection	Short circuit protection, 300W transient voltage suppression
	Protection for ESD, EFT (electrical fast transients), tertiary lightning, and system-generated transients per IEC 60001-4-2, 60001-4-4, and 60001-4-5; European Standards EN50082 and EN61000-4



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