GSDA-AI-V4A IronHorse DC Drives Isolated Current/Voltage Analog Input Module

This option card allows for the use of either a grounded or non-grounded remote DC signal such as 0 to 5 VDC through 0 to 250 VDC, 4–20mA current, or a remote speed pot. The DC input signal type can be selected for voltage (V) or current (4–20mA) via the JP2 jumper. There is a Hi/Lo range jumper selection (JP1) that should be set to the (Lo) setting when using a 4–20mA signal, or voltage ranges of 0 to 5 VDC through 0 to 25 VDC. When using voltage ranges of 0 to 26 VDC through 0 to 250 VDC, this jumper must be set to (Hi). The GAIN trimpot is used to set full linear output in reference to the input signal range. The output of this remote signal isolation board is a linear signal that is proportional to the remote input signal being supplied.

GSDA-AI-V4A can be used with the following IronHorse GSD series DC drives:

- GSD4A-240-2C
- GSD4A-240-6C

GSDA-AI-V4A kit includes:

- (1) analog signal input module
- (1) hollow 1-inch spacer
- (1) 1-3/4 inch screw
- (1) plastic washer

NOTE: Use of this option eliminates the availability of the + and - field pins for use with DC Shunt Wound Motors.

NOTE: Potentiometer input is disabled when using the GSDA-AI-V4A.

CAUTION: DO NOT use TRIMPOT ADJUSTMENT PROCEDURE. Set pots using directions in SETUP PROCEDURE.

Installation of GSDA-AI-V4A in GSD4A DC Drives

1) Remove #6-32 5/8 zinc screw and the plastic spacer(2) from the GSD4A DC Drive. (Keep the spacer for use in steps below.)
2) Place the GSDA-AI-V4A(4) onto the GSD4A DC Drive making sure that both of the 4-position header pins and the 1/4" spade pin are properly aligned and inserted into the female headers on the GSD4A DC Drive. (See diagram at right)
3) Slide the 1" spacer(3) between the main control board and the GSDA-AI-V4A(4) as shown.
4) Place the plastic spacer (2) and the plastic washer (5) on top of the GSDA-AI-V4A as shown.
5) Place the 1-3/4" screw (6) through the spacers and board to secure the GSDA-AI-V4A(4) to the GSD4A DC Drive. Tighten screw (6), being careful not to over tighten (max torque 5.3 in-lbs).
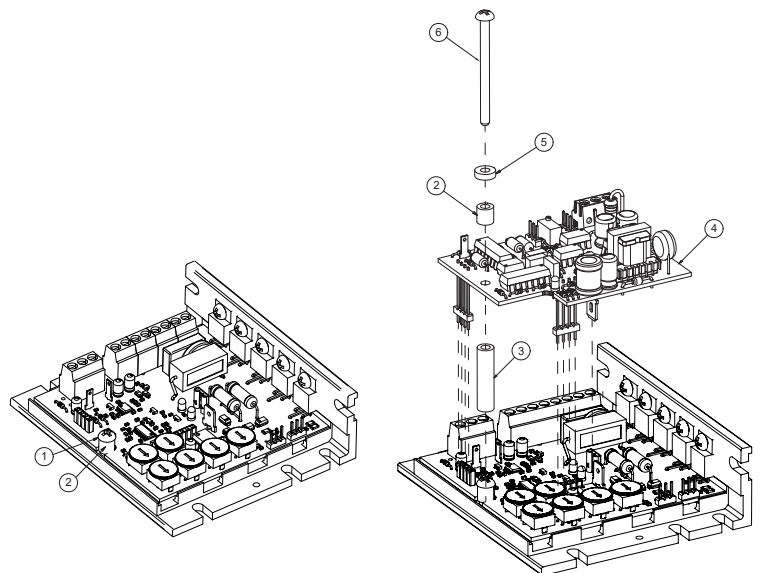
Wiring
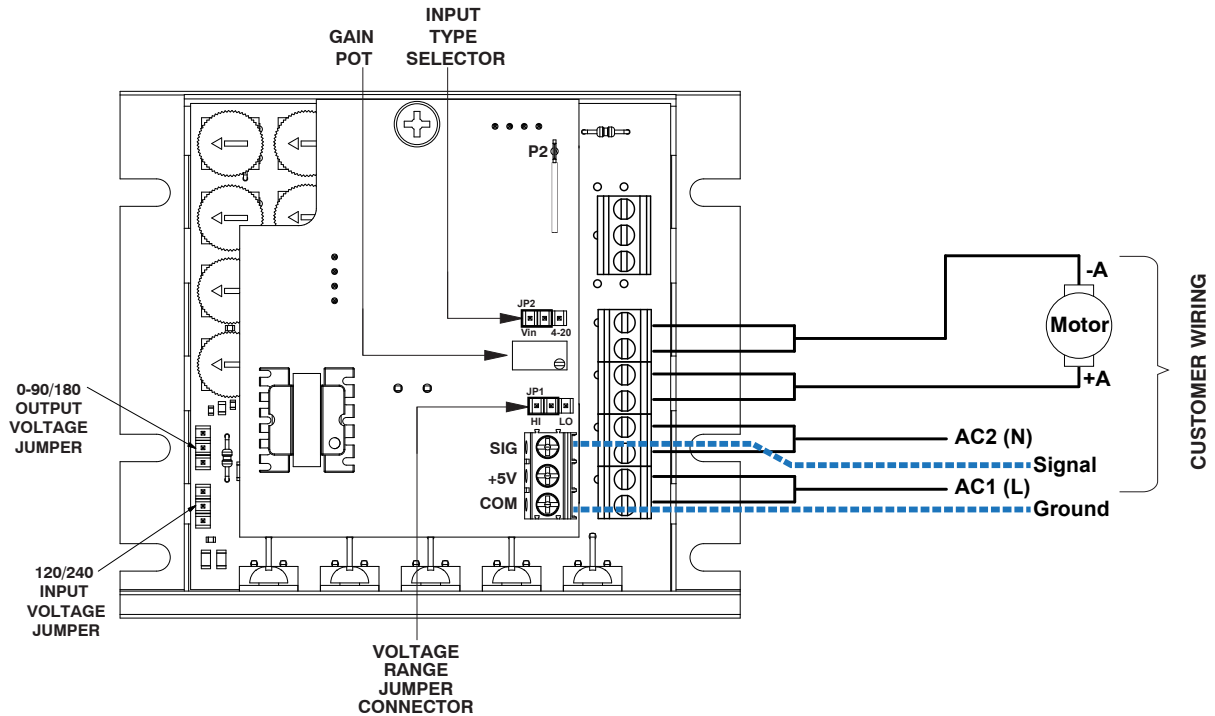
Setup Procedure for GSDA-AI-V4A

1) With NO power applied to the drive, connect a DC Voltmeter to the drive output terminals as follows:
   Meter COMMON to the -A terminal, and meter POSITIVE to the +A terminal.
   Select the meter range to match the drive output voltage range. If supplied 120VAC, then output is 90VDC. If supplied 240VAC, then output is 180VDC.
2) Preset GAIN pot on the remote signal board fully CCW.
3) Place the JP2 jumper clip in the proper position based on the input signal being used. Set "Vin" if using a potentiometer or analog voltage signal. Set "4-20" if using a milliamp analog signal.
4) Place the JP1 jumper clip in the (LO) position for 4–20mA signals or voltage signals less than 25VDC. Place the JP1 jumper clip in the (HI) position for voltage signals greater than 25VDC.
   (_NOTE: Never exceed input signals greater than 250Vdc_)
5) Make sure all connections and jumper settings are properly made per the hookup connection diagram, including the motor, and then apply AC power to the controller.
6) With the analog input at the lowest value, (0 volts or 4mA), adjust the MIN trimpot to achieve the minimum desired output voltage.
7) With the analog input at the highest value, (10VDC for example, or 20mA), adjust the GAIN pot CW as drive output voltage increases. When output voltage stabilizes, turn the GAIN pot CCW until output voltage is reduced by 5VDC.
8) Set the MAX trimpot on the drive to the desired output voltage (typically motor rated voltage).
9) Some interaction between trimpots may occur. Recheck the MIN trimpot setting and repeat steps 6 through 8 as needed.