

**GSDA-AI-A ISOLATED ANALOG CURRENT SIGNAL INPUT CARD**

The GSDA-AI-A is a 4–20 mA isolated analog current signal card that can replace the speed pot to certain GSD series drives as a speed input signal. The 4–20 mA signal input can be either grounded or ungrounded. The board sets on spacers screwed to the potentiometer HI, Wiper, and LO terminals on the main GSD drive board using long screws (included).

The current source connects to the (+) and (-) two-position terminal strip (P16-1 and -2) on the GSDA-AI-A circuit board.

The Linearity trim pot on the GSDA-AI-A option board is set at the factory for proper linearity. However, this trim pot may need to be re-set after tuning the Max and Min trim pot settings on the drive for your specific application. If needed, then refer to the setup procedure (next page).



**THE GSDA-AI-A CAN BE USED WITH THE FOLLOWING IRONHORSE GSD SERIES DC DRIVES:**

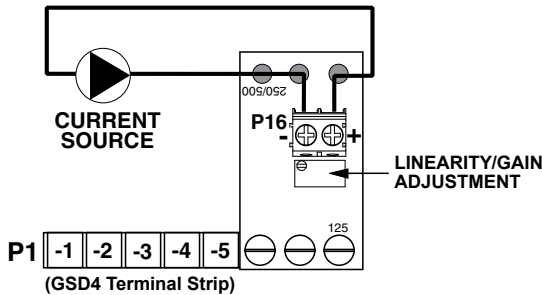
- GSD4-240-1C
- GSD4-240-5C
- GSD5-240-10C
- GSD6-240-15C

**THE GSDA-AI-A KIT INCLUDES:**

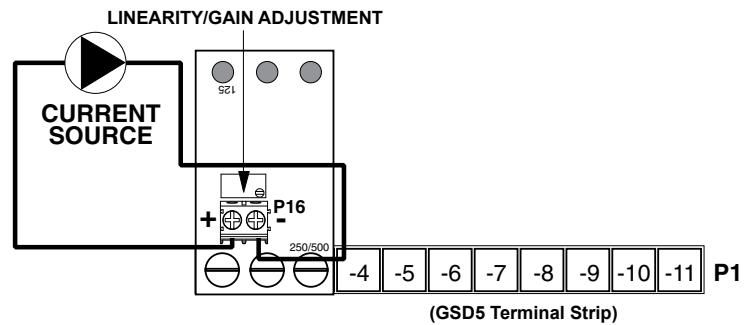
- (1) signal input card
- (3) spacers; 0.25 x 0.5 in
- (3) Phillips-head screws; #6-32 x 0.75 in
- (3) #6 lock washers

**MOUNTING AND WIRING**

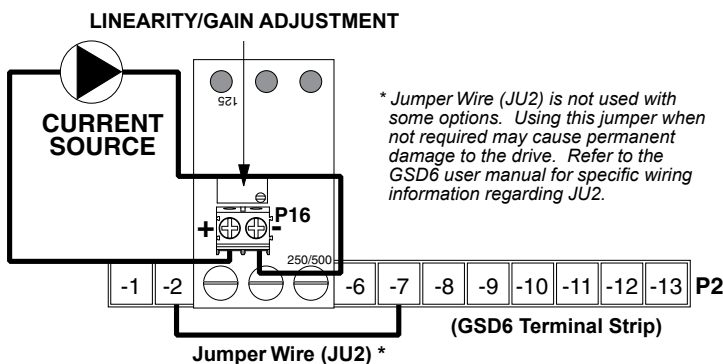
**FOR GSD4 DRIVES**



**FOR GSD5 DRIVES**



**FOR GSD6 DRIVES**



**GSDA-AI-A ISOLATED ANALOG CURRENT SIGNAL INPUT CARD****GSDA-AI-A SET UP PROCEDURE FOR IRONHORSE GSD4/5/6 DC DRIVES**

- 1) On the GSD4/5/6, adjust the Min trim pot on the drive to minimum (full CCW), and the Max trim pot on the drive to 50%. The voltage is set below the typical motor voltage to make certain the drive is NOT in saturation before setting the GSDA-AI-A board saturation point.
- 2) Set the Linearity/Gain pot on the GSDA-AI-A full CW. This is a 20-turn pot, and you should hear a clicking with each turn when fully up or just count 20 turns.
- 3) Make certain your motor is connected to +/-ARM output of the drive, and source power for the drive is turned on. (*Note: For proper tuning this setup is best done on an unloaded motor.*)
- 4) With power applied and a voltmeter monitoring motor output VDC, apply 4mA to GSDA-AI-A board. Check voltmeter reading and adjust the Linearity/Gain trim pot, R16, on the GSDA-AI-A board CCW until motor output voltage is less than 0.1VDC.
- 5) Now apply 20mA to the GSDA-AI-A board, and adjust the Max trim pot to a voltage that is 5 volts (15 volts for the GSD5 series drives) above the final desired max motor voltage output. Adjust the Linearity/gain trim pot on the GSDA-AI-A board CCW until the motor output voltage decreases to the desired max voltage set point.
- 6) Now apply 4mA to the GSDA-AI-A board again, and adjust the Min trim pot to deadband or the desired minimum motor voltage output. The deadband point is where you are at 0VDC and any further increase of the Min trim pot would result in an output to the motor. Re-apply 20mA to the GSDA-AI-A board and verify max output has not changed. A small adjustment may be needed to the Max trim pot to reset to desired max output.
- 7) Adjust 4-20 input to 12mA. If tuned properly the output voltage of an unloaded motor should be within a few volts of 1/2 output (based on max output setting above).