

# GSD6 Series DC Drives

## GSD6 Introduction



GSD6-240-15C

### GSD6 Series DC Drives

|                                                      |                   |
|------------------------------------------------------|-------------------|
| <b>Motor Rating Range @ 115/230 VAC<sub>IN</sub></b> | <b>1/8 – 3 hp</b> |
|------------------------------------------------------|-------------------|

## Overview

The reliable, versatile, and economical GSD6 DC drive is the most fully-featured IronHorse analog DC drive.

It provides many standard features typically offered as options by other DC drives.

By combining advanced engineering design, quality component selection, and rigorous quality control, the GSD6 DC drive offers an excellent off-the-shelf SCR control device. Its dependable, time-proven circuitry offers performance characteristics previously available only in more costly drives.

## Features

- Dual input voltage 115/230 VAC, 50/60 Hz via slide selector switch
- Adjustable horsepower settings
- Barrier terminal strip
- Packaged bridge supply (full wave)
- 1% speed regulation with armature voltage feedback ( $\pm 1/2\%$  with tach feedback)
- Adjustable minimum speed
- Adjustable maximum speed
- Adjustable IR compensation
- Adjustable linear acceleration
- Adjustable linear deceleration
- Adjustable current limit
- Line voltage compensation
- 5k $\Omega$  speed potentiometer with leads, dial, and knob included
- 50:1 speed range
- Overload capacity: 200% for one minute
- Transient voltage protection
- Voltage following mode or DC tachometer follower by supplying ungrounded analog input signal
- DC tachometer feedback (jumper selectable)
- Inhibit circuit – permits start and stop without breaking AC lines
- Shunt field supply provided
- AC line fuses
- +12 VDC, 12mA power supply, user accessible

## Accessories

- Replacement speed potentiometer kit
- Digital potentiometer
- Analog current input card

*Detailed descriptions and specifications for GSD accessories are available in the "GSD Series DC Drives Accessories" section.*

## Typical Applications

- Auger feeders
- Automated door actuators
- Commercial cooking equipment
- Commercial lift
- Food production
- Industrial pumping systems
- Measurement instruments
- Miniature lathes and mills
- Packaging / material-handling equipment
- Printing and labeling machines
- Small shop machine tools
- Spray / print reciprocating head

# GSD6 Series DC Drives

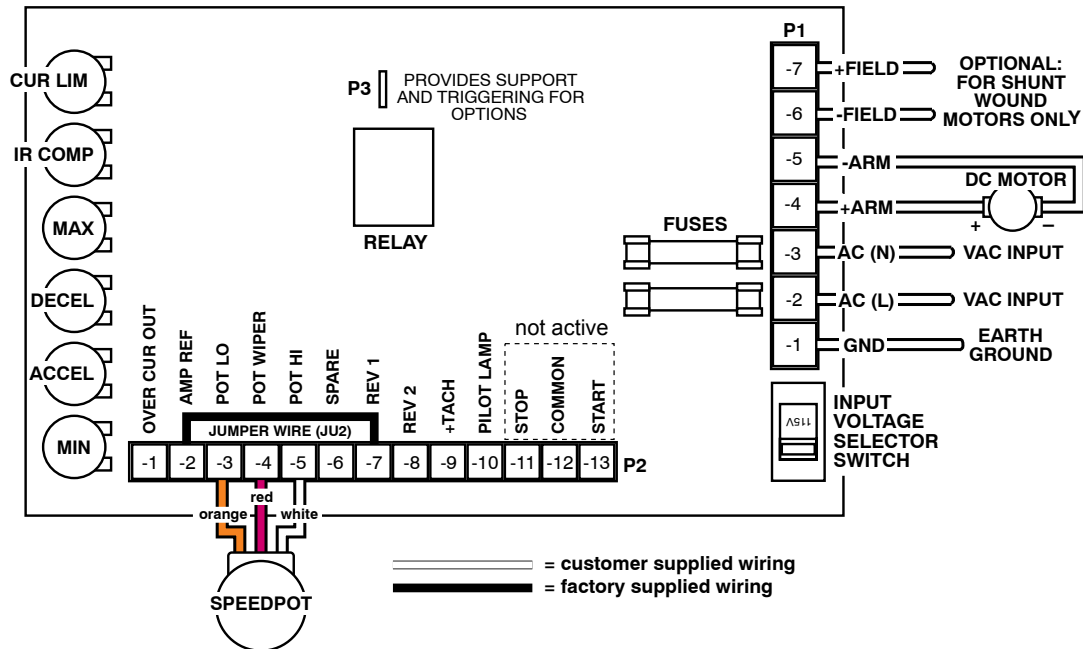
## GSD6 Selection and Specifications

| GSD6 Series DC Drives – Selection & Specifications                                                                                  |               |                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------|
| Model                                                                                                                               |               | GSD6-240-15C                                                                             |
| Price                                                                                                                               |               | \$424.00                                                                                 |
| Package Configuration                                                                                                               |               | Open frame                                                                               |
| Power Quality Form Factor                                                                                                           |               | 1.4                                                                                      |
| Input Voltage (@50/60Hz)                                                                                                            |               | 115/230 VAC ±10%                                                                         |
| Output Voltage                                                                                                                      |               | 0–90 @ 115 VAC INPUT / 0 -180 VDC @ 230 VAC input                                        |
| Shunt Field Voltage                                                                                                                 |               | 100VDC @ 115VAC input ; 200VDC @ 230VAC input ; (1.5A max)                               |
| Motor Rating (hp)                                                                                                                   |               | 1/8 – 1.5 hp @ 90VDC ; 1/4 – 3 hp @ 180VDC                                               |
| Output Current (continuous)                                                                                                         |               | 15A (DC)                                                                                 |
| Current Overload Capacity                                                                                                           |               | 200% for 60s                                                                             |
| Current Limit (adjustable)                                                                                                          |               | 2–30A (DC)                                                                               |
| Transient Protection                                                                                                                |               | Metal Oxide Varistor (MOV)                                                               |
| I.R. Compensation                                                                                                                   |               | Adjustable                                                                               |
| Speed Adjustment                                                                                                                    | Potentiometer | 5kΩ 2W potentiometer                                                                     |
|                                                                                                                                     | Current       | 4–20mA with option GSDA-AI-A                                                             |
|                                                                                                                                     | Voltage       | n/a                                                                                      |
| Speed Range                                                                                                                         |               | 50:1                                                                                     |
| Speed Regulation                                                                                                                    |               | ±1% of base speed                                                                        |
| Maximum Speed                                                                                                                       |               | Adjustable from 60% to 120% of base speed                                                |
| Minimum Speed                                                                                                                       |               | Linear ramp 0–30% of adjustable maximum speed                                            |
| Acceleration                                                                                                                        |               | Linear ramp adjustable 0.3–12s                                                           |
| Deceleration                                                                                                                        |               | Adjustable 0.6–12s                                                                       |
| Dynamic Braking                                                                                                                     |               | No                                                                                       |
| Plugging Capability **                                                                                                              |               | No                                                                                       |
| Electrical Connections                                                                                                              |               | Barrier-type terminal strip; 26–12 AWG                                                   |
| Fusing                                                                                                                              |               | (2) 20A fuses included (Bussman ABC-20 or Littlefuse 314020 ceramic fuses or equivalent) |
| Operating Temperature                                                                                                               |               | -10 to 45 °C [14 to 113 °F]                                                              |
| Thermal Protection                                                                                                                  |               | Not available                                                                            |
| Mounting Orientation                                                                                                                |               | Can be mounted in any orientation                                                        |
| Corrosive Gases                                                                                                                     |               | NOT compatible with any corrosive gases                                                  |
| Weight                                                                                                                              |               | 40 oz [1134g]                                                                            |
| Agency Approvals                                                                                                                    |               | RoHS                                                                                     |
| Optional Accessories*                                                                                                               |               |                                                                                          |
| Replacement Potentiometer                                                                                                           |               | <a href="#">GSDA-5K</a>                                                                  |
| Digital Potentiometer                                                                                                               |               | <a href="#">GSDA-DP</a>                                                                  |
| Analog Current Input Card                                                                                                           |               | <a href="#">GSDA-AI-A</a>                                                                |
| * For accessories details, refer to the "GSD Series DC Drives Accessories" section.                                                 |               |                                                                                          |
| ** Plugging is a method of rapidly changing motor direction by reversing motor armature polarity, while the motor is still running. |               |                                                                                          |

# GSD6 Series DC Drives

## GSD6 Wiring Diagrams

**GSD6-240-15C Basic Wiring Diagram** – (refer to User Manual for more detailed wiring information)



## GSD6 Dimensions — dimensions = in [mm]

### GSD6-240-15C Dimensions

