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IRONHORSE™

GSDA-DP-S Signal Conditioner/Generator User Manual

User Manual Number: GSDA-DP-S_UMP

~ WARNING ~

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PUBLICATION HISTORY

User Manual Publication History		
Issue	Date	Description
First Edition	09/18/19	Initial release
1st Ed., Rev A	01/15/2025	Correction of terminal block descriptions on page 7

CONTENTS

GSDA-DP-S User Manual Overview

Overview of this Publication

The IronHorse GSDA-DP-S User Manual describes the installation, configuration, and methods of operation of the GSDA-DP-S Signal Conditioner/Generator.

All information contained in this manual is intended to be correct. However, information and data in this manual are subject to change without notice. AutomationDirect (ADC) makes no warranty of any kind with regard to this information or data. Further, ADC is not responsible for any omissions or errors or consequential damage caused by the user of the product. ADC reserves the right to make manufacturing changes which may not be included in this manual.

Who Should Read This User Manual

This manual contains important information for those who will install, maintain, and/or operate the GSDA-DP-S Signal Conditioner/Generator.

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By Telephone: 800-633-0405 (Mon.–Fri., 9:00 a.m.–6:00 p.m. E.T.)

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Special Symbols

NOTE: When you see the "notepad" icon in the left-hand margin, the paragraph to its immediate right will be a special note.

WARNING: When you see the "exclamation mark" icon in the left-hand margin, the paragraph to its immediate right will be a WARNING. This information could prevent injury, loss of property, or even death (in extreme cases).

IronHorse GSDA-DP-S General Information

The GSDA-DP-S is a panel mounted, multi-purpose signal conditioner that allows the operator easy access to make adjustments to system operations. The GSDA-DP-S may be used in OEM equipment designs, plant operation or laboratory applications. Most other signal conditioners are DIN rail mounted inside a panel and designed to be set up once - many applications require frequent adjustments to meet application needs. The unique front-panel design of the GSDA-DP-S addresses this by making output adjustment easily accessible via convenient up and down pushbuttons and a large, easy to read LED display.

Standard Features

- Microprocessor design digital accuracy and repeatability
- Digital design offers long-term stability in a variety of environments
- Dual-Mode operation: Signal Scaling, or Signal Generation
- Works in either voltage or current output modes
- Universal power supply accepts voltages of 85-265VAC@50-60Hz without switches or jumper settings.
- Transient voltage protection protects device in harsh industrial environments
- 1/8 DIN panel mount is rated up to NEMA 4X in similarly rated panel
- Large 4 digit, 1/2" LED display is easy to read in indoor or outdoor applications
- Euro style terminal strip standard - pluggable terminal strip optional
- Wide operating temperature -10°C to +45°C (14°F to 113°F)
- Jumper selectable signal type - Voltage or Current (mA) signal
- Configurable input to lock out operator changes once set
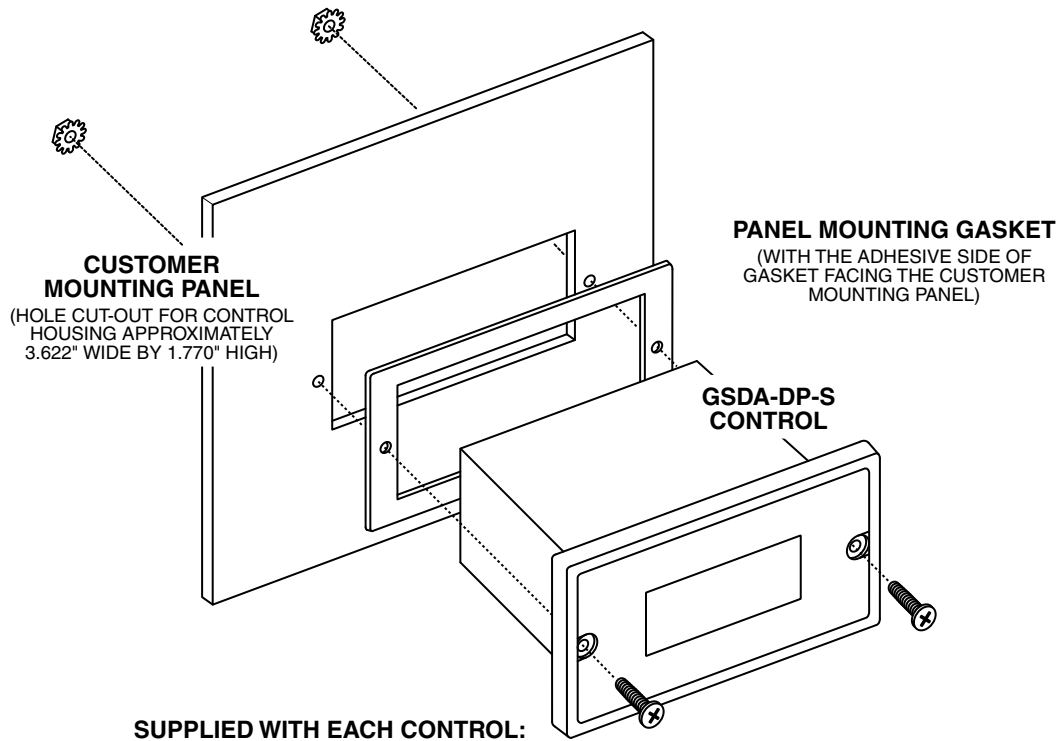
Warranty

NOTE: *Carefully check the GSDA-DP-S for shipping damage. Report any damage to the carrier immediately. Do not attempt to install the device if visible damage is evident to either the circuit or to the electronic components..*

Specifications

GSDA-DP-S Specifications		
Electrical		
Line Input Voltage		85-265 VAC
Line Input Frequency		48-62 Hz
Voltage Signal Input		0-10 VDC
Voltage Signal Output	Min:	0.1-5 VDC
	Max:	0.1-20 VDC, 10mA
mA Signal Input		4-20 mA
mA Signal Output		4-20 mA
Display Range	Default:	0-100.0%
	Max:	-9999 – 9999
Units of Operation		Programmable
Onboard Power Supply (Externally Accessible)		5V @ 500mA
Voltage Regulated Supply Output Range		24VDC ± 5%, 200mA
Mechanical		
Display Type		LED, red, 4 digit, 1/2" height
Housing Type (with supplied gasked in NEMA 4X panel)		1/8" DIN NEMA 4X
Connector Style		3.5mm and 5mm European style
Terminus Block Torque Setting		4.4 in-lb [0.5 N·m] maximum
Faceplate Material		Polycarbonate with Lexan overlay
Housing Material		Aluminum
Length (Required Panel Depth)		4.625" [117.48 mm]
Faceplate Width		4.539" [115.29 mm]
Weight		14.4 oz [408.22g]
Environmental		
Operating Temperature Range		-10°C to 45°C [14°F to 113°F]
Operating Humidity Range		95%, non-condensing

GSDA-DP-S Installation

Installation of GSDA-DP-S

CUSTOMER MOUNTING PANEL
(HOLE CUT-OUT FOR CONTROL HOUSING APPROXIMATELY 3.622" WIDE BY 1.770" HIGH)

PANEL MOUNTING GASKET
(WITH THE ADHESIVE SIDE OF GASKET FACING THE CUSTOMER MOUNTING PANEL)

GSDA-DP-S CONTROL

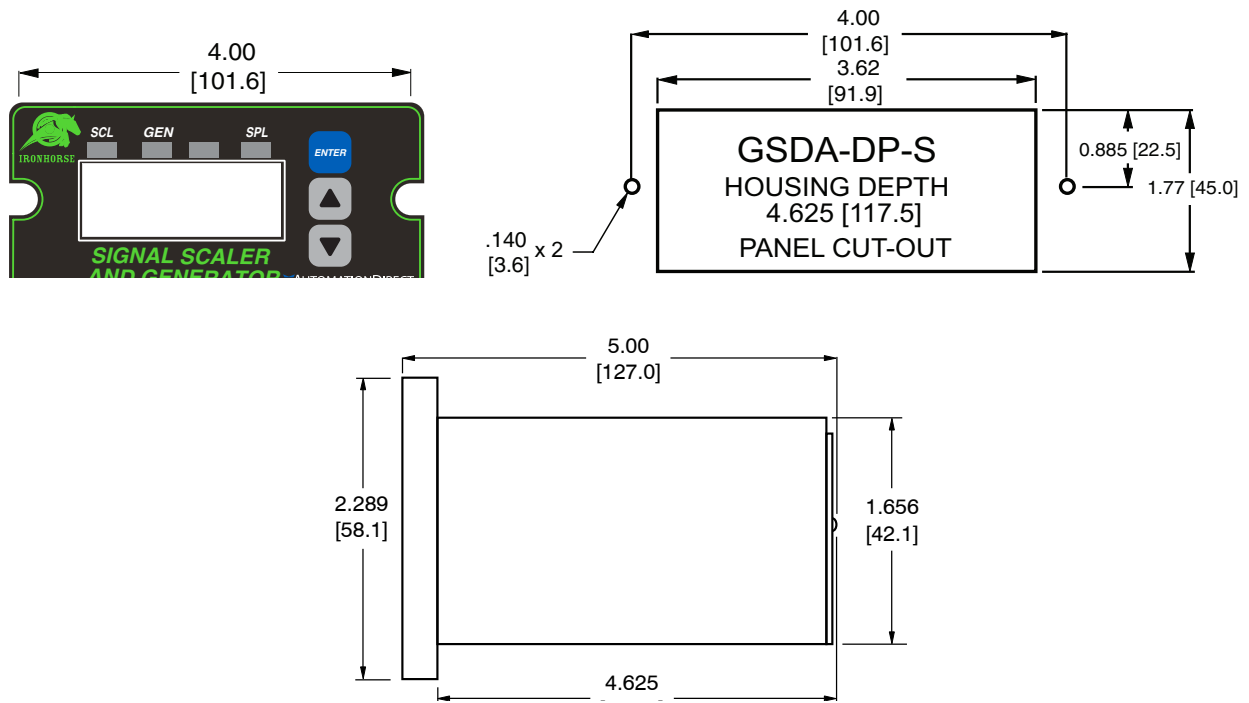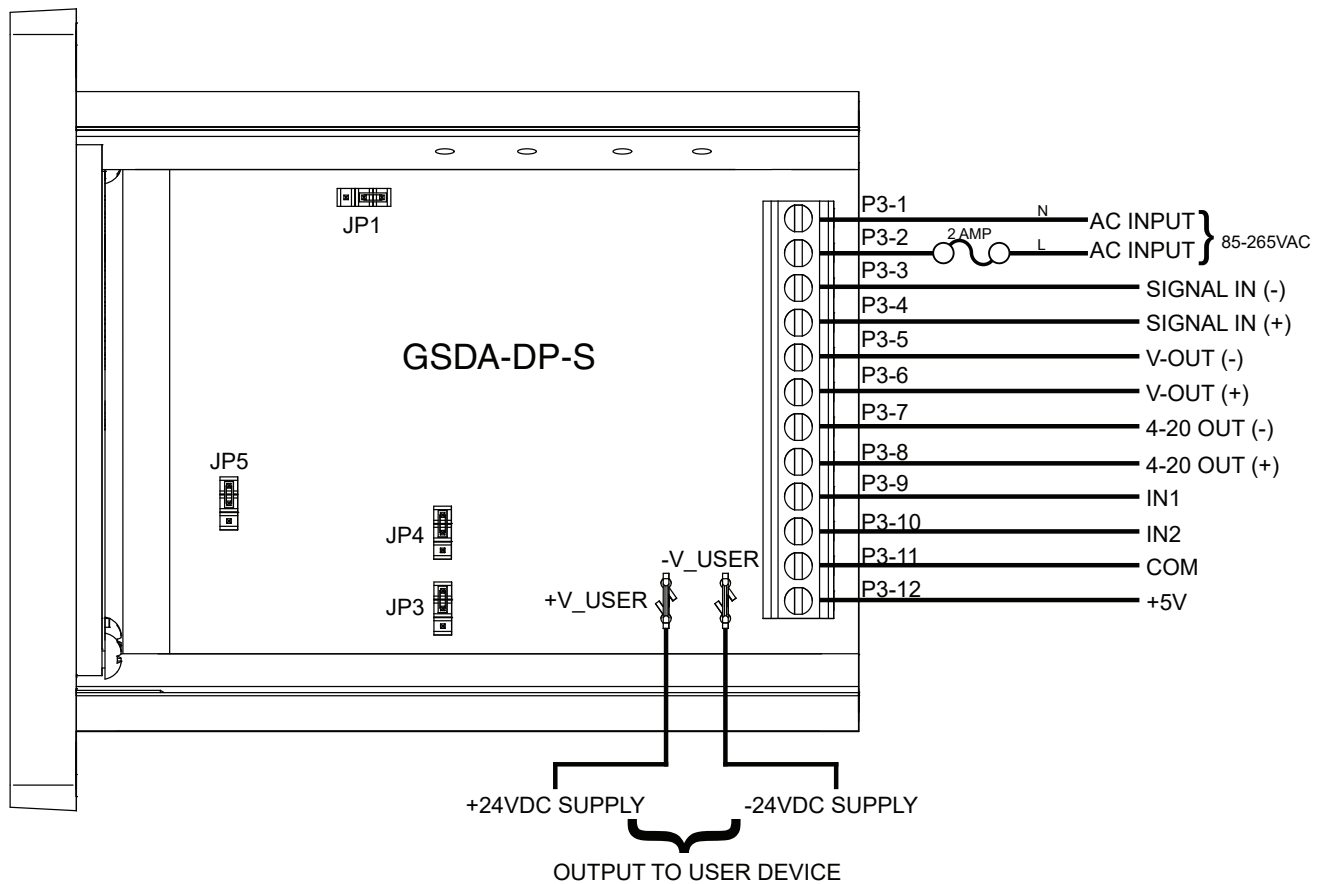**SUPPLIED WITH EACH CONTROL:**
1) GASKET
2) (2) 6-32 X 3/4 PANHEAD BLACK OXIDE STAINLESS SCREWS
3) (2) #6 NUT WITH LOCKWASHER

Exploded Panel View

Cut-out and Mounting Dimensions

4.00 [101.6]

4.00 [101.6]
3.62 [91.9]

GSDA-DP-S
HOUSING DEPTH
4.625 [117.5]
PANEL CUT-OUT

.140 [3.6] x 2

0.885 [22.5]
1.77 [45.0]

5.00 [127.0]

2.289 [58.1]

1.656 [42.1]

4.625

P3 TERMINAL BLOCK HOOK-UP DIAGRAM

### P3 TERMINAL BLOCK DESCRIPTIONS

Terminal Block Descriptions	
Terminal	**Description**
P3-1	(AC / N) – For single phase AC lines connect the Neutral side of your AC line to this terminal. For systems with two hot AC lines, connect either of the Hot AC lines to this terminal.
P3-2	(AC / L) – For single phase AC lines connect the Hot side of your AC line to this terminal. For systems with two hot AC lines, connect either of the Hot AC lines to this terminal.
P3-3	(-SIGNAL IN) – In Scaled Mode, connects to Negative or Common of voltage or current signal to be attenuated.
P3-4	(+SIGNAL IN) – In Scaled Mode, connects to Positive of voltage or current signal to be attenuated.
P3-5	(-VDC OUTPUT) – The negative connection for either Scaled or Generated DC voltage output signal.
P3-6	(+VDC OUTPUT) – The positive connection for either Scaled or Generated DC voltage output signal.
P3-7	(-mA OUTPUT) – The negative connection for either Scaled or Generated mA current output signal.
P3-8	(+mA OUTPUT) – The Positive connection for either Scaled or Generated mA current output signal.
P3-9	IN1 - Contact input for user configurable actions such as specified output, and set point lock.
P3-10	IN2 - Contact input for user configurable actions such as specified output, and set point lock.
P3-11	COM
P3-12	+5V

GSDA-DP-S Operation

The GSDA-DP-S Signal Conditioner is a panel-mounted multiple function device used to either attenuate (scale or reduce), convert, or generate control signals typically used in laboratory/R&D or plant/industrial applications. The input signals are analog in nature and specifically in the 0-10 VDC or 4-20 mA range. The output signal can be either 4-20mA or from 0.1 VDC to the Vset voltage (5-20 VDC).

Visual Reference
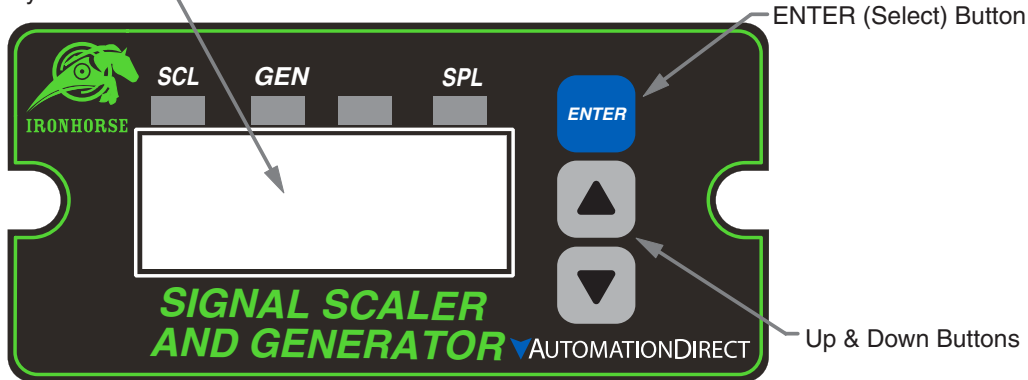
The Up/Down buttons are used to Scale or Set the output level, in percent (default). The Minimum Scaling/Generator output is 0.0%. The Maximum Scaling/Generator output is 100.0%. On power up, the factory default setting is "Last Value".

When lit, the annunciator LED's across the top of the GSDA-DP-S indicate the following:

- **SCL:** *Scaling mode is active and device output will be either voltage or current, depending on the jumper configuration. In current output mode the display setting and the input current or voltage determine the 4-20mA output level. In voltage output mode the display setting, the maximum level set by the potentiometer R9 adjustment and the input current or voltage determine the output voltage level; see "Device Configuration" for proper hardware and software setup.*

- **Gen:** *Generate mode is active and device output will be either voltage or current, depending on the jumper configuration. In current output mode only the display setting effects the 4-20mA current output level. In voltage output mode, the display setting and the maximum level set by the potentiometer R9 adjustment determine the voltage output level; see "Device Configuration" for proper hardware and software setup.*

- **SPL:** *The GSDA-DP-S is in Set Point Lock; this effectively disables any changes until IN1/IN2 input levels change according to the functional configurations. Various modes are available with SPL, please see parameters 30, 31, 35 and 36, which can be used to configure Set Point Lock.*

How to Change a Parameter's Value

1) Hold down the Enter button until Parameter Mode is entered (parameter 'P 0' Displayed)
2) Using the Up and Down buttons, select the desired parameter number to view or edit
3) Press the Enter button to change the value of the parameter
4) Using the Up and Down buttons, change the parameter's value as desired
5) Press the Enter button to permanently save the changes (Return to Parameter-Selection Mode)
6) Select parameter zero and press the Enter button to return to Running Mode

Operating the User Interface

The LED display has three basic operating modes: Run Mode, Parameter Mode, and Value Mode. Each of the three modes have specific visual indicators that allow the user to immediately determine the current state or mode of the user interface. Parameter Mode and Value Mode can only be entered if the Program Enable jumper is in the 'P/EN' position.

Run mode is the default display of the unit when power is applied. The display shows the target value in the appropriate user-defined format. The Up and Down buttons increase or decrease the displayed target value until either the display minimum or display maximum limit is reached.

Parameter Mode can be entered by simply pressing and holding the Enter button down for three seconds. Once in Parameter Mode, the far left of the display will be a 'P'. The right side of the display will indicate the currently selected parameter number for editing purposes. Pressing the Up or Down button will increase or decrease the selected parameter number on the display. Although the parameter numbers are in numerical order, some numbers are skipped. These skipped numbers represent reserved parameters that are not yet implemented and are not displayed. Once the desired parameter number is displayed, pressing the Enter button will change the display to Value Mode.

Value Mode is used to modify the value of the selected parameter. When in Value Mode, the two dots which form the colon between digits two and three, will alternately flash (one, then the other.) Pressing the Up or Down button increases or decreases the selected parameter's value. See the Software Parameters for a list of allowable values and ranges. Value changes take effect immediately. Once the desired value is showing in the display window, pressing the Enter button again will return to Parameter Mode. The new value is not saved in permanent memory until the Enter button is pressed. Removing power from the unit while in Value Mode may result in the specified new value being lost.

The front panel Annunciators will be perform as follows:

- *Parameter 10 = 1; 'Gen' annunciator lit*
- *Parameter 10 = 2; 'SCL' annunciator lit*
- *Parameter 30 = 7, IN1 = Low; 'SCL' annunciator lit*
- *Parameter 35 = 7, IN2 = High; 'SCL' annunciator lit*

DEVICE CONFIGURATION

Configuration is accomplished via jumper settings and (for Voltage Outputs only) a trimpot adjustment. Location is as follows:
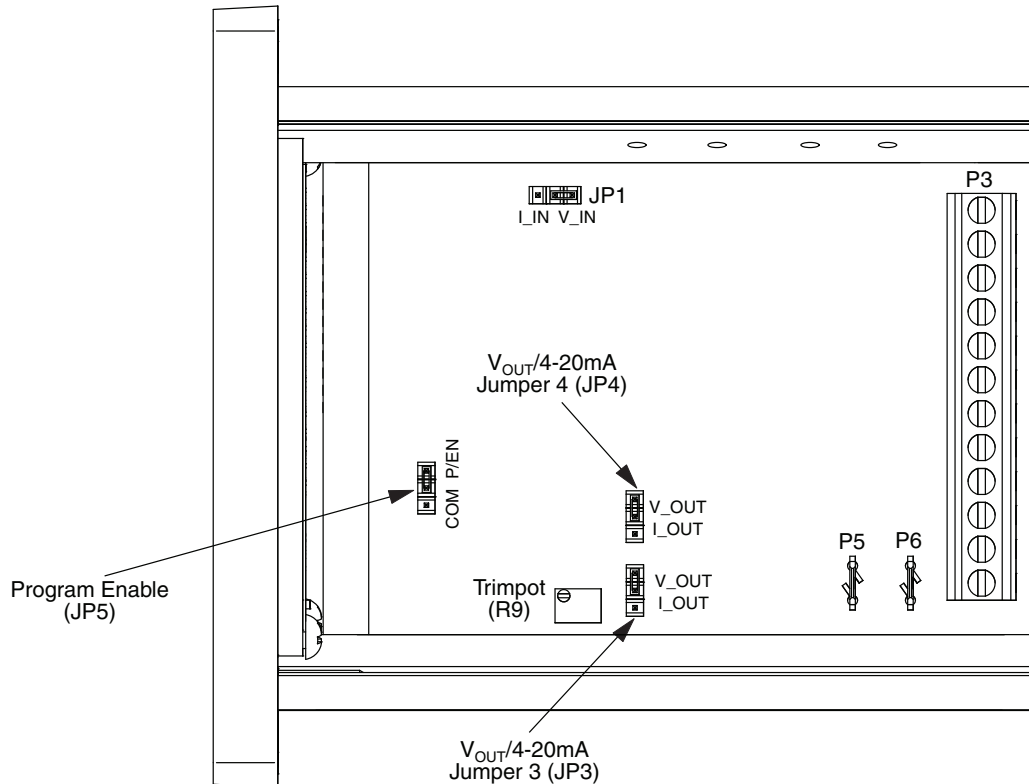
With the display set to 100.0 and no user device connected to 'V-OUT', P3-5 (-) and P3-6(+), adjust R9 for the desired maximum V-OUT. Finally, connect the user device and carefully re-adjust R9 to trim the output to desired maximum V-OUT. This will prevent the output from exceeding the limits of the user device if done properly. The user should evaluate what their system will be doing during this adjustment to prevent any harmful results.

MODE OF OPERATION

There are three Modes of Operation for the GSDA-DP-S, established by the JP1, JP3, and JP4 jumper settings:

1) JP1 - If the GSDA-DP-S is receiving a signal to be Scaled or Converted, this setting defines the input signal type (0-10 VDC or 4-20 mA Current).

2) JP3 and JP4 - Determine the Output Signal type - Vdc or Current (4-20 mA). Both JP3 and JP4 MUST be set the same.

The four jumper settings allow the GSDA-DP-S to operate as:

1) 4-20 mA Input/Scaled 4-20 mA or 0.1-20VDC Output

2) 0-10 VDC Input/Scaled 4-20 mA or 0.1-20VDC Output

3) No Input/Generator 4-20 mA or 0.1-20VDC Output

NOTE: Both JP3 and JP4 must be set the same.

GSDA-DP-S Current/Voltage I/O Jumpers and Parameter 10 Settings						
Input	*Output*	*Parameter 10*	*JP1*	*JP3*	*JP4*	*JP5*
		Scale/ Generate	*V/I In*	*V/I Out Reference*	*V/I Out Power Supply*	*Application Configuration*
		Pin to Pin Jumper Configuration				
Current	Voltage	Scale	Ii	Vo	Vo	
Current	Current	Scale	Ii	Io	Io	
Voltage	Voltage	Scale	Vi	Vo	Vo	
Voltage	Current	Scale	Vi	Io	Io	
Generate	Voltage	Gen	N/A	Vo	Vo	
Generate	Current	Gen	N/A	Io	Io	
		Scale = 2				Allow Change = P/ EN position
		Gen = 1				Inhibit Change = 'COM' position

SOFTWARE PARAMETERS

Parameter	Description	Value Range	Units	Default
0	Select parameter 0 to return to Run mode	n/a	–	n/a
Read-Only Parameters				
1	Model Number	90 – GSDA-DP-S		90
2	Software Build	1–9999		n/a
3	Hardware Version	1–9999		n/a
4	Serial Number - Major (Reserved)	n/a		n/a
5	Serial Number - Minor (Reserved)	n/a		n/a
General Setup Parameters				
10	Generate/Scale	1–Generate 2–Scale		1
11	Display Intensity	0–31 (Dim–Bright)		26
12	Display Zero Blanking	1–___X Show at least 1 digit 2–__XX Show at least 2 digits 3–_XXX Show at least 3 digits 4–XXXX Show at least 4 digits		2
13	Decimal Point Position	0–Decimals Disabled (XXXX) 1–X.XXX 2–XX.XX 3–XXX.X 4–XXXX.		3
15	Keypad Mode	1–Linear, constant rate 2–Non-linear, accelerating rate		2
16	Keypad Scroll Delay	0–30 (Fast–Slow)		10
18	Power-Up Mode	1–Default to Zero Display 2–Default to Power-up Value 3–Default to Previous Running Value		3
19	Power-Up Value	0–9999	(Eng. Units)	0
Display and Output Setup Parameters				
20	Display Value at Minimum Output	-9999–9999	(Eng. Units)	0
21	Display Value at Maximum Output	-9999–9999	(Eng. Units)	1000
25	Output % - Minimum	0–1000	1/10 %	0
26	Output % - Maximum	0–1000	1/10 %	1000
Input #1 (IN1) Setup Parameters				
30	IN1 Input Configuration	1–Output 0% when IN1 Low 2–Output 0% when IN1 High 3–Output Setpoint when IN1 Low 4–Output Setpoint when IN1 High 5–Output 100% when IN1 Low 6–Output 100% when IN1 High 7–Lock Set Point when IN1 Low		1
31	IN1 Setpoint	-9999–9999	(Eng. Units)	0
Input #2 (IN2) Setup Parameters				
35	IN2 Input Configuration	1–Output 0% when IN2 Low 2–Output 0% when IN2 High 3–Output Setpoint when IN2 Low 4–Output Setpoint when IN2 High 5–Output 100% when IN2 Low 6–Output 100% when IN2 High 7–Lock Set Point when IN2 High		1
36	IN2 Setpoint	-9999–9999	(Eng. Units)	0
Parameter Memory Commands				
95	Restore Settings to Factory Default	0–Do Nothing and Exit 5–Restore Factory Defaults		0

Parameter	Description	Value Range	Units	Default
98	Save to User Default Area	0–Do Nothing and Exit 1–Save Settings		0
99	Restore from User Default Area	0–Do Nothing and Exit 1–Restore Settings		0

PARAMETER DESCRIPTIONS

Item	Parameter Name	Description
0	Exit to Running Mode	When parameter 0 is selected in Parameter-Selection Mode, the unit will return to Running Mode and display the running value. This should be selected once the changes to the parameters are completed.
Read-Only Identification Items		
1	Model Number	This is a number which represents the base model number for the product. The model code for the GSDA-DP-S is 90.
2	Software Build	The software build is a code which identifies the software version of the unit.
3	Hardware Version	The hardware version is a code which identifies which hardware was used to build the unit.
4	Serial Number - Major (Reserved)	These parameters are reserved for future use as an electronic serial number and are unique to each manufactured unit.
5	Serial Number - Minor (Reserved)	
General Setup		
10	Generate/Scale	Mode 1: Generate–Generate Output Signal Mode 2: Scale–Scale Input Signal
11	Display Intensity	This parameter adjusts the intensity of the LED display digits in the front panel of the unit. The values of 0 – 31 correspond to a gradual change from very dim to very bright.
12	Display Zero Blanking	This selects the number of display digits that are required to be displayed regardless of the display value. For example, with a Display Zero Blanking setting of 3 and a displayed value of 6, the display would show "_006". • Mode 1: ___X Always show at least 1 digit • Mode 2: __XX Always show at least 2 digits • Mode 3: _XXX Always show at least 3 digits • Mode 4: XXXX Always show all 4 digits
13	Decimal Point Position	This selects the format of the display with respect to the decimal point's position. This parameter does not affect the value entry for other parameters. For example, if the user desires to display numbers such as 12.34 or 1.05, then parameter 13 should be set to 2. • Mode 0: Fixed XXXX (DP disabled) • Mode 1: Fixed X.XXX • Mode 2: Fixed XX.XX • Mode 3: Fixed XXX.X • Mode 4: Fixed XXXX.
15	Keypad Mode	This parameter selects the operating mode of the front-panel push buttons. In some applications, increasing or decreasing the scroll rate provides the user more controllability when entering settings. Parameters 14 and 15 affect only the Up and Down buttons when the user interface is in Running Mode. • Mode 1: Linear, Constant Rate In linear mode, pressing and holding the Up or Down buttons will cause the display to continuously change value in the requested direction until either the Display Minimum or Display Maximum is reached. The displayed value will scroll at a constant rate which is specified using parameter 16. • Mode 2: Non-linear, Accelerating Rate In non-linear mode, pressing and holding the Up or Down buttons will cause the display to continuously change value in the requested direction until either the Display Minimum or Display Maximum is reached. The displayed value will initially scroll at a slow rate and increase in speed until the maximum scroll rate is achieved. The initial scroll rate is specified using parameter 16.

Item	Parameter Name	Description
16	Keypad Scroll Delay	This parameter sets the scroll speed for the front-panel push buttons. The function of this parameter varies slightly depending on the Keypad Mode. See parameter 15 for more details.
18	Power-Up Mode	This parameter defines the mode which determines the default Running Value when power is initially applied to the GSDA-DP-S. • Mode 1: Default to Zero When in this mode, the unit will default to zero (display units). • Mode 2: Default to Power-Up Value When in this mode, the unit will default to the Power-up Value, parameter 19. • Mode 3: Default to Previously Running Value When in this mode, the unit will default to the previous running value before power was removed. A previous running value must have been active for at least 3 seconds to be recalled after power has been disconnected and reapplied.
19	Power-Up Value	When Power-up Mode is set to 2, this parameter will designate the default display value at power-up in display units.
Display and Output Setup		
20	Display Value at Minimum Output	This parameter defines the lower end of the display range. This is the value which limits how low the user is able to scroll the displayed value in Running Mode. This parameter is set without consideration for the decimal point's position. For example, setting this parameter to 125 would set the lower display limit at 12.5, 0.125, or 125 according to the other configuration parameters.
21	Display Value at Maximum Output	This parameter defines the upper end of the display range. This is the value which limits how high the user is able to scroll the displayed value in Running Mode. This parameter is set without consideration for the decimal point's position. For example, setting this parameter to 1000 would set the upper display limit at 100.0, 1.000, or 1000 according to the other configuration parameters.
25	Output % - Minimum (in 1/10 percent units)	This parameter sets the output percentage which corresponds to the minimum display value, parameter 20. This parameter has a range of 0 to 1000 which represents 0.0 to +100.0 percent of output. When the user is adjusting the display value towards the programmed minimum display, the output will linearly approach the value of this parameter. For example, setting this parameter to 25 will configure the GSDA-DP-S to output 2.5% when the user adjusts the display value to equal the display minimum, parameter 20. See parameters 20 - 22 and the application examples for additional information.
26	Output % - Maximum (in 1/10 percent units)	This parameter sets the output percentage which corresponds to the maximum display value, parameter 21. This parameter has a range of 0 to 1000 which represents 0.0 to +100.0 percent of output. When the user is adjusting the display value towards the programmed maximum display, the output will linearly approach the value of this parameter. For example, setting this parameter to 850 will configure the GSDA-DP-S to output 85.0% when the user adjusts the display value to equal the display maximum, parameter 21. See parameters 20 - 21and the application examples for additional information.

Item	Parameter Name	Description
		Input #1 (IN1) Setup

30	IN1 Input Configuration	This parameter determines the operating mode of input 1 (IN1).
		• Mode 1: Output 0% When IN1 Low
		  When the IN1 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to 0%. Once the IN1 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value.
		• Mode 2: Output 0% When IN1 High
		  When the IN1 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to 0%. Once the IN1 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value.
		• Mode 3: Output Setpoint When IN1 Low
		  When the IN1 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to a percentage which corresponds to the programmed jog setpoint, parameter 31. Once the IN1 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value.
		• Mode 4: Output Setpoint When IN1 High
		  When the IN1 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to a percentage which corresponds to the programmed jog setpoint, parameter 31. Once the IN1 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value.
		• Mode 5: Output 100% When IN1 Low
		  When the IN1 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to 100%. Once the IN1 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value.
		• Mode 6: Output 100% When IN1 High
		  When the IN1 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to 100%. Once the IN1 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value.
		• Mode 7: Lock Set Point when IN1 is Low
		  "LOC" is displayed when one of the front panel buttons is pressed with IN1 in an electrically Low State. Program by bringing IN1 terminal P3-9 to electrically High state or allow IN1 to float when disconnected from Common terminal P3-11. Enter Program Mode, Select Parameter 30, Press Enter, select value item 7, Press Enter again.
		  Note: (Select a value 1-6 to Exit the LOCK Set Point, then press enter) Select Parameter 0 and press enter to Exit Program Mode. Activate for the new changes to take effect by cycling AC power Off/On.

31	IN1 Setpoint	When the S1 configuration, parameter 30, is set to one of the setpoint (jog) modes (modes 3 or 4), this parameter defines the jog setpoint in display units. This parameter is always set in display units.

Item	Parameter Name	Description
		Input #1 (IN2) Setup
35	IN2 Input Configuration	This parameter determines the operating mode of input 2 (IN2). • Mode 1: Output 0% When IN2 Low When the IN2 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to 0%. Once the IN2 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value. • Mode 2: Output 0% When IN2 High When the IN2 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to 0%. Once the IN2 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value. • Mode 3: Ouput Setpoint When IN2 Low When the IN2 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to a percentage which corresponds to the programmed jog setpoint, parameter 36. Once the IN2 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value. • Mode 4: Output Setpoint When IN2 High When the IN2 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to a percentage which corresponds to the programmed jog setpoint, parameter 36. Once the IN2 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value. • Mode 5: Output 100% When IN2 Low When the IN2 input is at an electrically low state or wired to the unit's common, the GSDA-DP-S will force its output to 100%. Once the IN2 input returns to an electrically high (+5V) state or allowed to float disconnected, the output will once again correspond to the display value. • Mode 6: Output 100% When IN2 High When the IN2 input is at an electrically high (+5V) state or allowed to float disconnected, the GSDA-DP-S will force its output to 100%. Once the IN2 input returns to an electrically low state or wired to the unit's common, the output will once again correspond to the display value. • Mode 7: Lock Set Point when IN2 is High "LOC" is displayed when one of the front panel buttons is pressed with IN2 in an electrically High State. Program by bringing IN2 terminal P3-10 to electrically Low state or wire to unit's Common terminal P3-11. Enter Program Mode, Select Parameter 35, Press Enter, select value item 7, Press Enter again. Note: (Select a value 1-6 to Exit the LOCK Set Point, then press enter) Select Parameter 0 and press enter to Exit Program Mode. Activate for the new changes to take effect by cycling AC power Off/On.
36	IN2 Setpoint	When the IN2 configuration, parameter 35, is set to one of the setpoint (jog) modes(modes 3 or 4), this parameter defines the jog setpoint in display units. This parameter is always set in display units.
		Parameter Memory Commands
95	Restore Settings to Factory Default	When set to a value of 5, the unit will be reset to factory default settings. This can also be achieved by applying power to the unit with both the Enter and Down buttons depressed. The programming jumper must be in the "On" position for this method to function.

Item	Parameter Name	Description
98	Save to User Default Area	When set to a value of 1, the unit will store all adjustable parameters to the user default area. The user default area is intended to be a location where an OEM or integrator can store settings specific to their application. Using this, an OEM can easily refresh their custom settings in the field if an end-user accidentally reconfigures the unit unsuccessfully. Another common use for this area is testing and initial setup. The user can store known-good settings here and easily experiment without the fear of losing the optimal configuration. Note: Do not save a program that is all default values with no changes. This will cause the display to dim and you will not be able to see the display information. If this occurs, a hard reset is required. Press and hold the Enter and Down arrows at the same time, and cycle power.
99	Restore from User Default Area	When set to a value of 1, the unit will restore all adjustable parameters from the user default area. See parameter 98 for additional information.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Display is blank	1–Power not applied	1–Using a volt meter, verify that a voltage between 85 and 265 VAC is measure between the L and N terminal block positions.
	2–Defective unit	2–Contact technical support for additional help and instructions.
Display is dim	Display intensity parameter is too low	Increase the display intensity parameter to cause the display digits to become brighter.
"-S1-" or "-S2-" displayed	Switch S1 or S2 is active	Remove S1 or S2 input. Refer to Parameter 30 and 35 for information on settings.
"LOC" displayed	Parameter 30 or 35 is set to 7	Change input state of S1 or S2; or reprogram Parameter 30 or 35
Does not provide proper output	Jumpers in wrong position	Verify jumpers are properly set for desired operation (see "Device Configuration" on page 9 and "Mode of Operation" on page 9. No output if either JP3 or JP4 are in the wrong position. JP1 in wrong position: • For Scaled Mode, neither current nor voltage output will be properly scaled with the intended input. • For Generate Mode, it will have no effect. Check all connections to make sure they are secure and not reversed. • For Voltage Output Mode, check that R9 was properly set for the Maximum output desired (100% of display with the user hardware connected directly to the V-out terminals). If Parameter 10 Value = 1, then the GSDA-DP-S is in Generate Mode and there will be no output change for a change in Signal Input, only for Keypad entry. If Parameter 10 Value = 2, then the GSDA-DP-S is in Scale Mode and the output will change for both a change in Signal Input and Keypad entry. If JP1, JP3, or JP4 are missing or on one pin, then it will have either minimal value output or none at all depending on output type configuration. Please recheck all settings and jumper configurations.