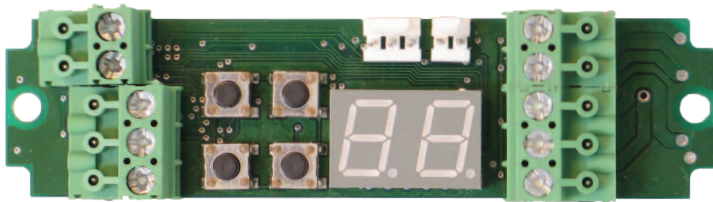


# Single Axis Driver Board SDB-P1

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**SURE GRIP**  
CONTROLS INC.



## Features:

- Adjustable high current PWM outputs, up to 2.5A
- Wide supply voltage range +6V to +28V
- Power supply protected against transients and reverse polarity
- Control inputs protected
- Built in fault detection
- Dual 7-segment display and switches for field calibration

## Description:

The SDB-P1 Single Axis Driver Board is designed to proportionally drive two solenoids using proportional control devices such as Joysticks, Slider Modules, or Variable Voltage Modules. The SDB-P1 driver board can be configured to accept a single proportional input in the range of 0.5V – 2.5V – 4.5V, such as one axis output from a Joystick or the output of a proportional Slider Module. It can also be configured to be controlled by two separate proportional inputs in the range of 0.8V – 4.2V, such as two Variable Voltage Modules.

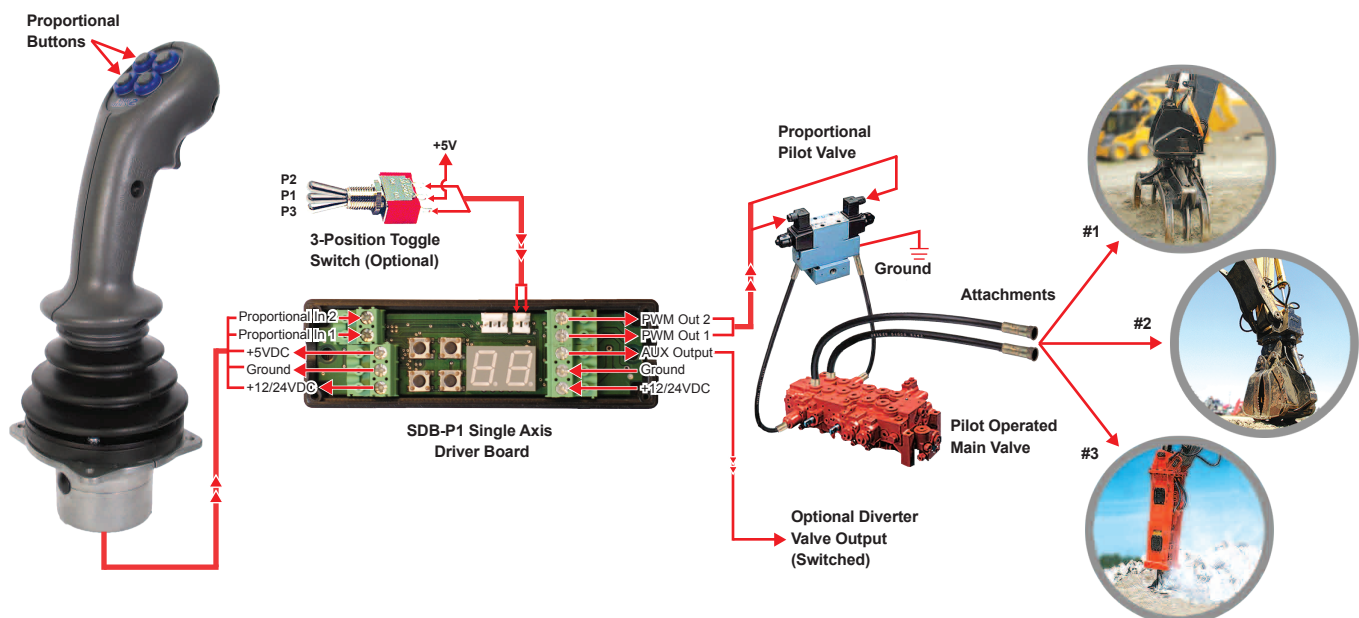
The SDB-P1 has two proportional high current PWM outputs and one switched auxiliary output that turns on when either of the PWM outputs are activated. This 'auxiliary' function is often used to divert hydraulic oil to an auxiliary valve for a machine attachment. Current compensation is provided on both PWM outputs to accommodate for changes in solenoid coil resistance due to temperature variations.

All outputs feature protection against inductive kickback and are short-circuit protected. If any of the outputs are shorted to ground, the board will automatically shut down to protect itself against any damage until the problem is corrected.

### Optional Feature:

The SDB-P1 driver board can be supplied with an external switch (shown below) that is used to select between three different sets of adjustable operating parameters that can be used to control up to three different machine attachments. When an attachment is changed, the operator can move the switch to the position corresponding to the new attachment and restart the machine to activate the new flow settings. This feature allows the control of up to three attachments using the same valve. The operating parameters for each of the three attachment profiles are set up using the on-board calibration interface, in addition to load calibration and PWM output frequency adjustments. Without the external switch option, the calibration interface allows the user to configure a single set of operating parameters.

## Typical Application:



# Technical Specifications:

## General Specifications:

Parameter	Min	Typ	Max	Unit	Notes
<b>Input Power Supply:</b>					
Supply Voltage	6	12 or 24	28	V	Reverse Polarity and Transient Protected <sup>(1)</sup>
Supply Current (max)		5		A	
Input Power Supply Current (idle)	25		35	mA	
<b>+5V Output:</b>					
+5V Supply Voltage	4.75	5	5.25	V	
+5V Supply Current	20		30	mA	
<b>Analog Inputs:</b>					
Input Voltage Range	0.5		4.5	V	Inputs Transient Protected
Neutral Point (single)		2.5		V	
Neutral Point (dual)		0.8		V	
<b>PWM Outputs:</b>					
	Min	Neutral	Max		
PWM Output at $V_{MAX} = V_S$	5 (+/-5%)	50 (+/-5%)	99 (+/-5%)	Duty Cycle (%)	
PWM Output Frequency Range	40 (+/-10%)	200 (+/-10%)	400 (+/-10%)	Hz	
Control Signal Output Current			2.5	A	
<b>Auxiliary Output:</b>					
Auxiliary Output Voltage	0	12 or 24		V	
Auxiliary Output Current			2.5	A	
<b>Environmental Specifications:</b>					
Operating Temperature Range		-40 to +70		°C	

<sup>(1)</sup> Input transient protected up to +/- 48.4VDC @ 11.3A for pulse widths ≤ 1ms.

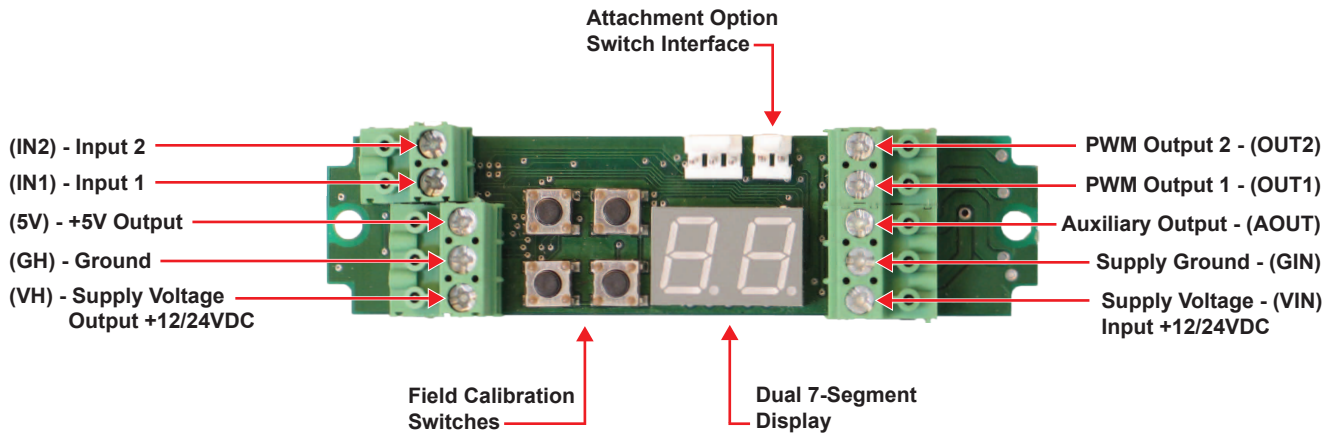


Figure 1: Board Layout and Wiring Connections

# Case Dimensions (mm):

