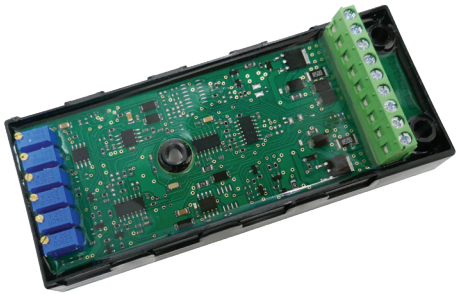
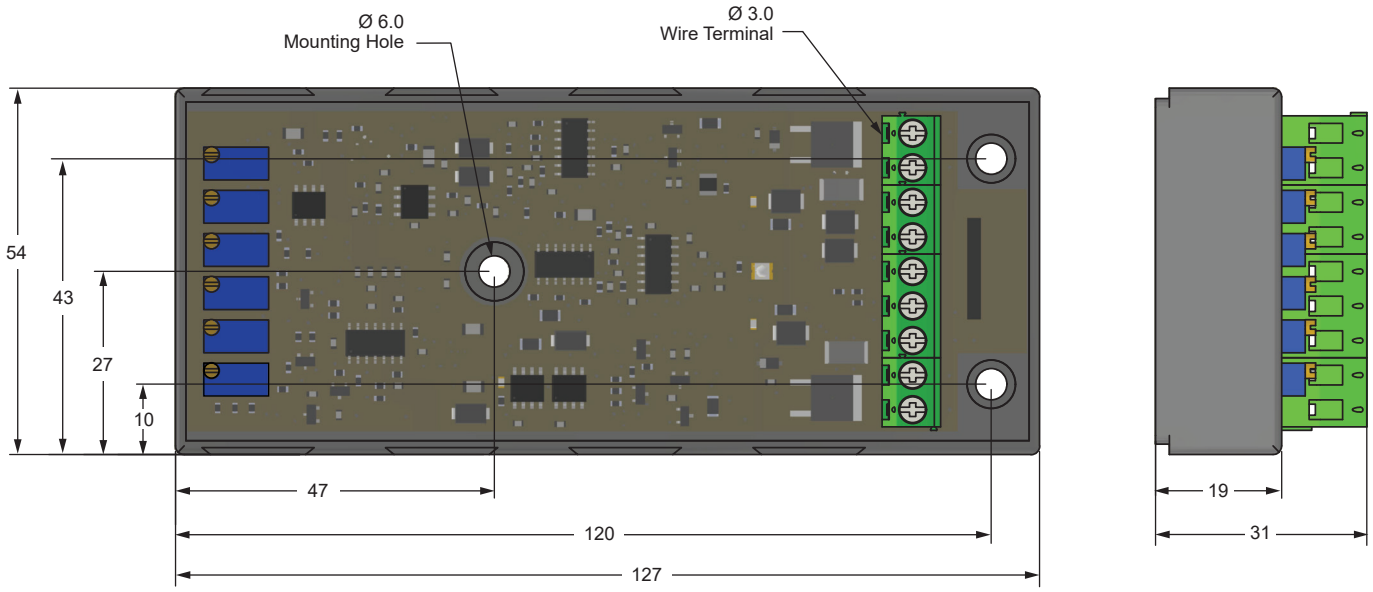
GENERAL DESCRIPTION

Canfield Connector's B5960 electronic dual proportional driver for hydraulic valves creates precise control, double the power. Take command of your double solenoid proportional hydraulic systems with unmatched precision and flexibility. Our revolutionary electronic Dual (MPD) proportional driver delivers unwavering control for double solenoid proportional hydraulic valves, making it the ideal choice for demanding applications across various industries. This rugged device is built into an epoxy potted enclosure and DIN rail mount designed to control proportional solenoid operators. Features include control signals inputs orderable as -10 to +10V, or 0-20 mA, or 0 to +10V with adjustable min/max current output. The output steps to the minimum current setting when 0.1V or 0.4 mA is applied to the control signal input. Also included in the compact package is a 0.1 to 20 second adjustable ramp-up and ramp-down output and sine wave dithering (PWM) with adjustable amplitude and frequency. The output current is proportional to the command signal input.



DIMENSIONAL DATA

All dimensions are in millimeters unless otherwise noted.



FUNCTION

Minimum Current & Maximum Current -
These two adjust¬ments will vary the minimum and maximum output current limits. The minimum current can be set between 0 - 500 mA or 0 – 1.5 A, depending on output current option. The maximum current can be set in the range between the minimum current setting and the mini¬mum current setting plus 1 A. The minimum current must be set first as described below.

Minimum Current Adjustment -
Set both min. and max. current adjusters max. counterclockwise. Apply the minimum input com¬mand signal (approximately 0.5 volts or 1.0 mA). Adjust the min. current adjuster for a minimum current or to a desired system response. Back up adjuster until system stops responding. Pro¬ceed to max. current adjuster.

Maximum Current Adjustment -
Increase the input command signal to maximum. Adjust max. current adjuster for a maximum current limit or to a desired system response. Note: To minimize any effect of supply voltage, load resistance or temperature variation, make setup adjustments when these parameters are at the midpoint of the expected operating range for a particular installation. For example, if the expected operating tem¬perature range is 20° C to 60° C, make final setup adjustments when system is approximately 40° C. If the supply voltage has a tolerance of 22 to 32 volts, make adjustments when the supply voltage is ap-proximately 27 VDC.

Ramp Up/Ramp Down -
Adjust to desired ramp up/ramp down time (0.10 - 20 sec.). Ramp time is linear and is proportional to the step change in the control signal. For example: 0.1 - 10 VDC change in control signal gives max. ramp of 20 sec. 0.1 - 5 VDC change in control signal gives max. ramp of 10 sec (for a -10V to +10V Control Unit).

PWM Frequency -
The output is pulse-width modulated to control output current within the minimum and maximum current settings. The frequency of the modulation is fixed at 1.2 KHz.

Dither -
The coil current is sine wave modulated with adjustable frequency (30 - 150 Hz) and amplitude (0 - .5A peak to peak).

Output -
The output is current regulated and will remain constant (within the limits specified under Technical Data on previous page) at the level set by the input command signal. Variations in supply voltage and load resistance have little effect as long as these values satisfy the equality stated below.

$$\text{Maximum Required Currents} \leq \frac{\text{Min. Supply Voltage}}{\text{Max. Load Resistance}}$$

TECHNICAL DATA

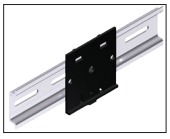
Output Current @ 25° CT_A	
Continuous	1.5 Amps max.
Peak Pulsed (16ms)	4.7 Amps max.
I min. (+/- 20%)	0 - 0.5 Amps max.
I min. (+/- 20%)	I min. + 1.0 Amps max.
Supply Voltage	9 VDC min. - 32 VDC max.
Supply Current	45 mA max. (no load)
Input Control Signal *(must be specified at time of ordering)*	
Control Voltage	-10 to +10 VDC (300 Ω impedance)
Control Voltage	0 to +10 VDC (300 Ω impedance)
Control Current	0 - 20 mA (100 Ω impedance)
Regulation Δ V	+/- 0.2% / V
Regulation Δ T	+/- 0.1% / °C
Ramping Up/Down Time	0.1 - 20 sec. linear (+/- 0.1% / °C
PWM Frequency	1.2 Hz Fixed
Output Leap to I min.	@ 0.1 V or 0.4 mA control (+/- 15%)
Dithering Frequency	30-150 Hz
Dithering Amplitude	0-500 mA Peak to Peak
Temperature Range	-25° to +85°C
Materials	Housing: ABS Encapsulation: Epoxy

ORDERING INFORMATION

B5960 - 2 0 0 01 ☐ ☐

Control Options
0 - 4 to 20mA
1 - 0 to 10 V control voltage
2 - -10 to +10 V control voltage

Output Current Options
1 - 1.5 Amps max.



DIN Rail Mounting Adapter
P/N: DRM-100

Ordering Example: B5960 - 2000111

0 to 10 V control voltage, 1.5 Amps max output