Digital Display Proportional Valve Driver

Lynch™ Electronics

AS9100D & ISO 9001:2015 Certified

Function

The Digital Display Proportional Valve Driver supplies a solenoid with current proportional to the input signal from a potentiometer, joystick, PLC or other control system.

Features and Benefits

- Independent adjustments (Incl. ramp up & ramp down)
- Wide range of supply voltage
- Locally supplied reference voltage
- Load can be connected and disconnected live
- 3 to 4 digit extra bright displays
- Display and adjust actual values (Current & Voltage)
- Easier and more intuitive to use
- Easy to customize
- Easy part selection and ordering
- User selectable input type through menu setup
  (ex: 0 to 5V, 0 to 10V, 4 to 20mA for all drivers & additional -10V to +10V for dual)
- Adjustable maximum current output
- Wide ramp time range (0 to 99.5 Sec) and wider dither range (40 to 450Hz)
- Short circuit, reverse polarity protection and command input overcurrent protection

Comfort in Knowing

➤ Power is Present ➤ Settings are Accurate ➤ Input/Output is Correct

Several Forms Available

Note: Customization of functionality and enclosure type are available on request.

Standard Specifications

Operating voltage: 9 to 36 VDC
Maximum output current: 3.00Amps
Input signal: 5V, 10V, 4 to 20mA (Dual -10V to +10V)
Maximum ramp time: 99.5 Sec
PWM / Dither frequency: 40-450Hz
Linearity: 1%
Operating Temperature: -40° to +80° Celsius

PART NUMBER SYSTEM

Proportional Solenoid Driver, Single, solenoid mount with DIN 43650 base **Example: LE PPX**

TYPE	MODEL	FORM	PARAMETERS = X

TYPE

LE	Lynch Electronics

MODEL

P	Proportional Solenoid Driver

FORM

G	Single, solenoid mount with PG9 cable gland
P	Single, solenoid mount with DIN43650 base
I	Single, NEMA 4X enclosure with clear lid
S	Single, DIN rail mount open PCB
D	Dual, DIN rail mount open PCB
N	Dual, NEMA 4X enclosure with clear lid
B	Single, potted enclosure with surface mount flanges
T	Dual, potted enclosure with surface mount flanges
M	Single, same features as LEPGX, with 4 pin M12 sensor connector

PARAMETERS = X

INCLUDED IN ALL FORM TYPES	
COMMAND INPUT	0 to 5V, 0 to 10V, 4 to 20mA, - 10V to + 10V for dual
MAX CURRENT OUTPUT	0.10 to 3.00A
RAMP TIME	0 to 99.5 Sec

DDPDX-1116-A

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Single Solenoid Driver Settings & Range:

Hi: HIGH, Maximum Current Output 0.10 to 3.00 [Amps]

Lo: LOW, Minimum Current Output, 0.00 to 2.99 [Amps] (See: NOTE 1)

rUP: RAMP UP, Time for Output to Increase from min to max, 0.00 to 99.5 [SEC]

rdn: RAMP DOWN, Time for Output to decrease from max to min, 0.0 to 99.5 [SEC]

Cdb: COMMAND DEADBAND, Output disabled if command signal less than deadband, 0 to 5 [%]

dFr: DITHER FREQUENCY, 40 (40Hz) to 450 (450Hz)

in: INPUT SIGNAL SELECTION, 5 (0 to 5V) or 10 (0 to 10V) or 420 (4 to 20mA)

di: DISPLAYED SIGNAL FOR TROUBLESHOOTING,
0 (command signal in [Volts] or [milliAmps])
or 1 (solenoid current in [Amps])
Flashing decimal point is an indicator for display mode setting presently in
- Fast Flashing decimal point, several flashes per second indicates di = 0
- Slow Flashing decimal point, 1 per second indicates di = 1
- No Flashing decimal point or No decimal point indicates display in SETTING/ADJUST mode

SA: SAVE SETTINGS

rFP: RESET FACTORY PARAMETERS (See: NOTE 2)

Err: ERROR STATUS
Error 0 - No Errors
Error 1 - Overcurrent in driver is likely due to short circuit in the solenoid
Error 2 - Current exceeding 20mA in “4 to 20mA” input mode

CLr: CLEAR ERROR, Clears Driver of Error State (See: NOTE 2)

NOTE 1: When adjusting the HI and LO parameters note the HI parameter value cannot be adjusted below the LO parameter value as well the LO parameter value cannot exceed the HI parameter value.

NOTE 2: Adjust Parameter Value up past 9 to operate this command setting

Dual Solenoid Driver Settings & Range:

A Hi: Solenoid A HIGH, Maximum Current Output, 0.10 to 3.00 [Amps]

A Lo: Solenoid A LOW, Minimum Current Output, 0.00 to 2.99 [Amps] (See: NOTE 1)

ArUP: Solenoid A RAMP UP, Time for Output to Increase from min to max, 0.0 to 99.5 [SEC]

Ardn: Solenoid A RAMP DOWN, Time for Output to decrease from max to min, 0.0 to 99.5 [SEC]

b Hi: Solenoid B HIGH, Maximum Current Output, 0.10 to 3.00 [Amps]

b Lo: Solenoid B LOW, Minimum Current Output, 0.00 to 2.99 [Amps] (See: NOTE 1)

brUP: Solenoid B RAMP UP, Time for Output to Increase from min to max, 0.0 to 99.5 [SEC]

brdn: Solenoid B RAMP DOWN, Time for Output to decrease from max to min, 0.0 to 99.5 [SEC]

Cdb: COMMAND DEADBAND, Output disabled if command signal less than deadband, 0 to 5 [%]

JC: JOYSTICK CALIBRATION / INPUT OFFSET COMPENSATION,
Adjusts the midpoint between solenoid A and B
Midpoint at 50%, Range from 40 to 50 to 60 [%]

dFr: DITHER FREQUENCY, 40 (40Hz) to 450 (450Hz)

in: INPUT SIGNAL SELECTION, 5 (0 to 5V) or 10 (0 to 10V) or 420 (4 to 20mA) or -10 (-10 to +10V)
Requires to change setting of Input DIP SWITCH

di: DISPLAYED SIGNAL FOR TROUBLESHOOTING 0 (command signal in [Volts] or [milliAmps]) or 1 (solenoid current) [Amps]
Flashing decimal point is an indicator for display mode setting presently in
- Fast Flashing decimal point, several flashes per second indicates di = 0
- Slow Flashing decimal point, 1 per second indicates di = 1
- No Flashing decimal point or No decimal point indicates display in SETTING/ADJUST mode

SA: SAVE SETTINGS

rFP: RESET FACTORY PARAMETERS (See: NOTE 2)

Err: ERROR STATUS
Error 0 - No Error
Error 1 - Overcurrent likely due to short circuit in Solenoid
Error 2 - Current exceeding 20mA in “4 to 20mA” input mode

CLr: CLEAR ERROR, Clears Driver of Error State (See: NOTE 2)

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