

Description

The G123-821 Mini DDV Amplifier is a ± 1 Amp output amplifier suitable for driving a Moog Mini DDV. Its bipolar output enables the DDV to produce flow to both ports A and B, an essential feature in a closed loop servo system.

Its intended application is to accept a command from a servo amplifier output and produce a proportional ± 1 A output for the coil of a Mini DDV. Three permanently connected input signals are summed to produce the ± 1 A output. This feature simplifies initial set up, the user needing only to connect to the required terminals and set the 4-20mA switch on the circuit board to the appropriate position.

When 4-20mA is selected, a wire break output is enabled and will indicate if the input connection has been lost. The output is normally on and turns off if a wire break is detected.

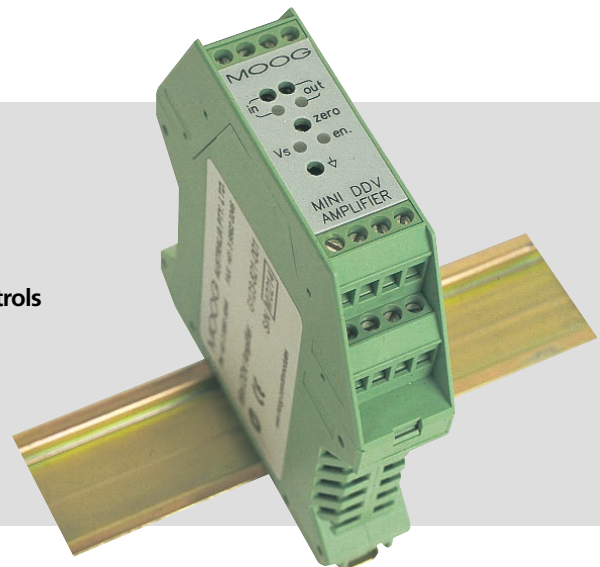
An enable input turns the output current amplifier on and off.

A user accessible plug-in capacitor sets the frequency response.

Front panel indicators and test points provide ease of set-up and trouble shooting. The Mini DDV Amplifier is housed in a compact DIN rail mounting enclosure and requires a 24V DC power supply.

Features

- ± 1 A output to suit Mini DDV
- PLC and servo amplifier compatible inputs
- 3 permanently connected inputs
- Enable input
- 4-20mA wire break output
- User setable frequency response
- Suited to closed loop applications
- Convenient front panel controls and indicators
- Compact DIN rail housing



Specifications

Amplifier frequency response figures quoted using an unpressurised Mini DDV D633-7205 as a load.

Command: All 3 inputs constantly summed to produce output
Each 100% input produces the maximum 1.0A output

Input 1: 0 to ± 10 V for 0 to $\pm 100\%$ output
Differential
Input resistance, 10kOhm between the two input terminals
Cutttable link to remove the 10kOhm to give 150kOhm

Input 2: 0 to ± 10 mA for 0 to $\pm 100\%$ output
Differential
Input resistance, 200 Ohm connected to 0V on each input
Leave unused input un-terminated

Input 3: 4-20mA for $\pm 100\%$ output
12mA = zero current output
Single ended
Input resistance, 200 Ohm connected to 0V
Switch selectable on/off
Switch must be turned off if 4-20mA is not connected

Output: 0 to ± 1.0 A ($-0\% / +10\%$)
Maximum into Mini DDV, ± 1.2 A
PWM @ 24kHz $\pm 10\%$

Frequency response: Flat to 100Hz @ ± 1 A
Flat to 600Hz @ ± 0.4 A
Flat to 2.0kHz @ ± 0.1 A
Output distorts beyond these limits due to 24V limiting max current drive into the inductive load
Plug-in capacitor to limit -3 dB point,
 $C = \frac{1061}{f}$, f in Hz, C in nano Farad
Default C = 2.2nF for -3 dB = 480Hz

Maximum load: 20 Ohm @ 24V

Minimum load: 4mH, 5 Ohm

Zero adjustment: 0 to ± 0.2 A

Enable input: Opto-isolated
On, 10 to 24V
Off, less than 1.5V or open circuit
Input current, 25mA @ 24V

Wire break

output: Opto-isolated, normally on
 For 4-20mA input only
 Off at <2mA input current (wire break)
 On if "4-20mA" not selected
 Output rating, +40V @ 20mA max

Supply: 24V DC nominal, 22 to 28V
 100mA @ 24V, no load
 500mA @ 24V, ±1A Mini DDV load

Front panel

Indicators: Vs, internal supply – green
 in, input command, positive – red
 negative – green
 out, output current, positive – red
 negative – green
 en, enable – yellow

Front panel

test points: in, input command,
 0 to ±10V, –3db = 480Hz
 out, output current,
 0 to ±10V, –3db = 480Hz
 †, signal 0V reference

Front panel
Trimpot: zero

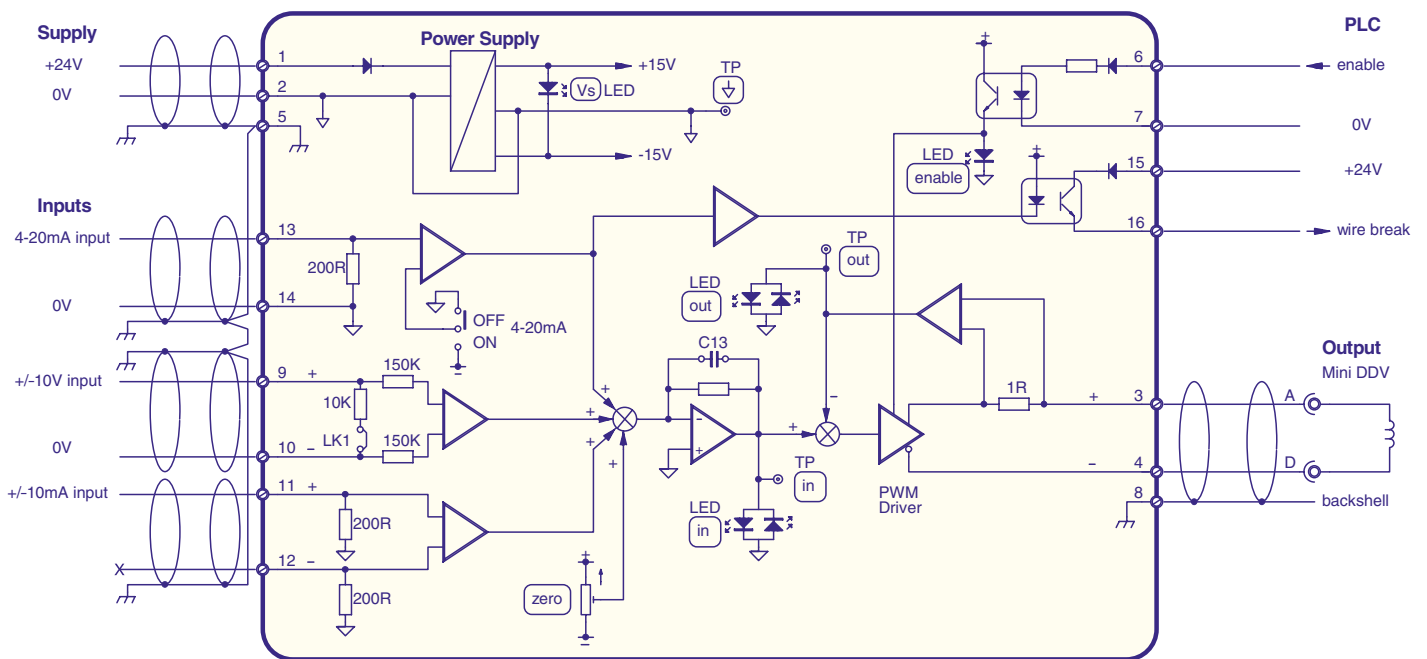
Mounting: DIN rail, IP20

Temperature: 0 to +40°C

Dimensions: 100W x 108H x 22.5D

Weight: 130g

Operating details



* note: LK1 is a cuttable link on the solder side of the PCB.

Internet Data

For detailed Application Notes and the latest version of this Data Sheet please refer to the Moog website www.moog.com/dinmodules

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