Mini DDV Amplifier
G123-821

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 ±1A output for the coil of a Mini DDV. Three permanently connected input signals are summed to produce the ±1A 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.

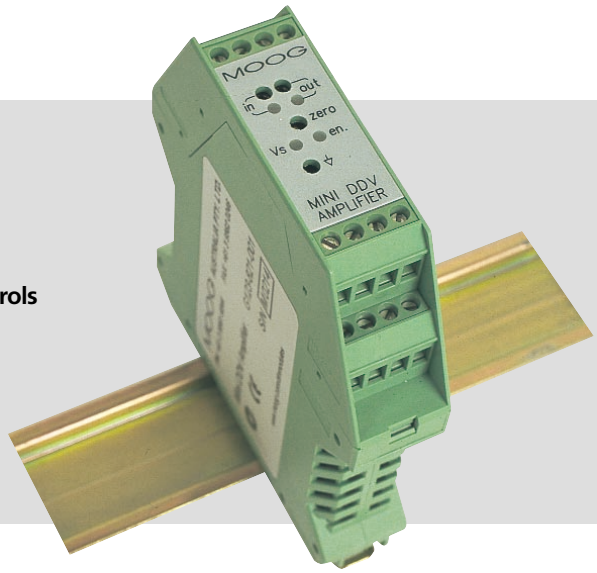
An enable input turns the output current amplifier on and off.

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

- **±1A 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 ±10V for 0 to ±100% output
Differential
Input resistance, 10kOhm between the two input terminals
Cuttable link to remove the 10kOhm to give 150kOhm

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

Input 3: 4-20mA for ±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 ±1.0A (–0% / +10%)
Maximum into Mini DDV, ±1.2A
PWM @ 24kHz ±10%

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

Maximum load: 20 Ohm @ 24V

Minimum load: 4mH, 5 Ohm

Zero adjustment: 0 to ±0.2A

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

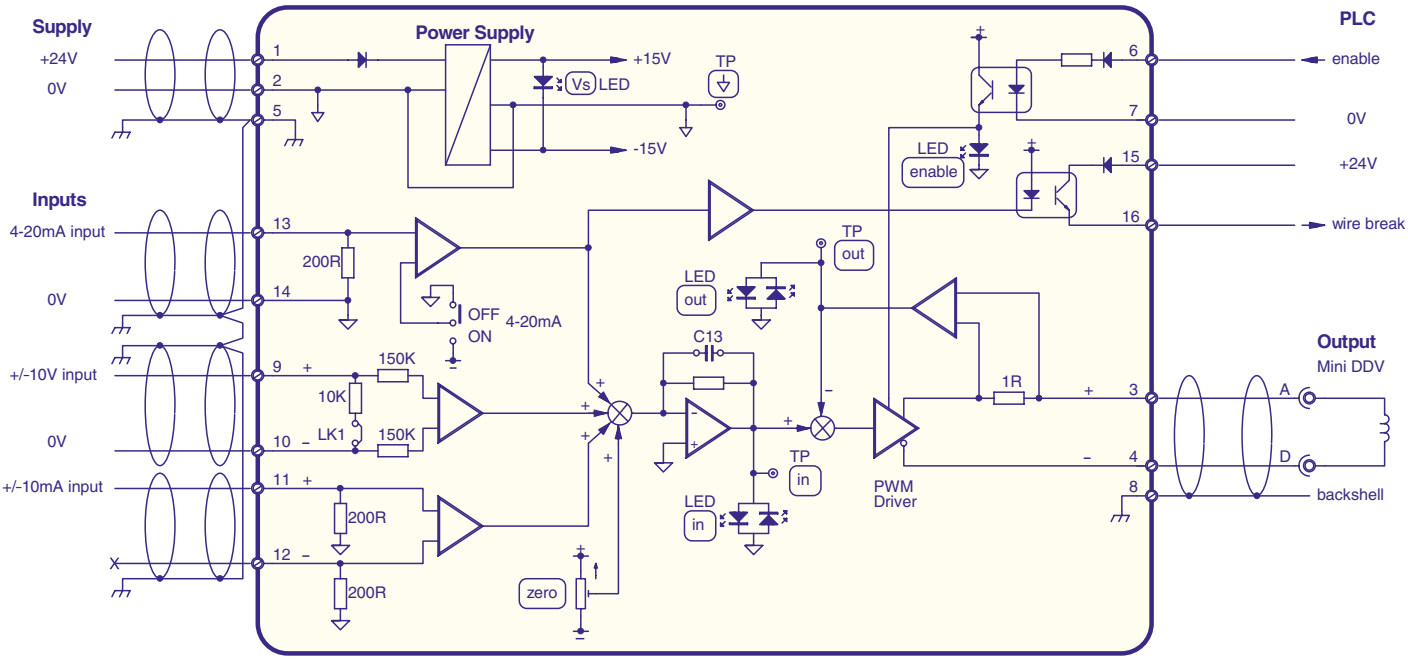
Mounting: DIN rail, IP20

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

MOOG

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G123-821E 03.04