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.

<table>
<thead>
<tr>
<th>Command:</th>
<th>All 3 inputs constantly summed to produce output</th>
<th>Each 100% input produces the maximum 1.0A output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input 1:</td>
<td>0 to ±10V for 0 to ±100% output</td>
<td>Differential</td>
</tr>
<tr>
<td></td>
<td>Input resistance, 10kOhm between the two input terminals</td>
<td>Cuttable link to remove the 10kOhm to give 150kOhm</td>
</tr>
<tr>
<td>Input 2:</td>
<td>0 to ±10mA for 0 to ±100% output</td>
<td>Differential</td>
</tr>
<tr>
<td></td>
<td>Input resistance, 200 Ohm connected to 0V on each input</td>
<td>Leave unused input un-terminated</td>
</tr>
<tr>
<td>Input 3:</td>
<td>4-20mA for ±100% output</td>
<td>Single ended</td>
</tr>
<tr>
<td></td>
<td>12mA = zero current output</td>
<td>Input resistance, 200 Ohm connected to 0V Switch selectable on/off</td>
</tr>
</tbody>
</table>

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

Frequency response:
Flatt to 100Hz @ ±1A
Flatt to 600Hz @ ±0.4A
Flatt 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 = 1061, 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

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