

### Description

The G122-824 P-I Servoamplifier is used in closed loop applications where a proportional and/or integral amplifier is needed. Selector switches inside the amplifier enable proportional, integral or both to be selected. Many aspects of the amplifier's characteristics can be selected with internal switches. This enables one amplifier to be used in many different applications. The configuration options provided are the result of many years of experience in designing and commissioning closed loop systems.

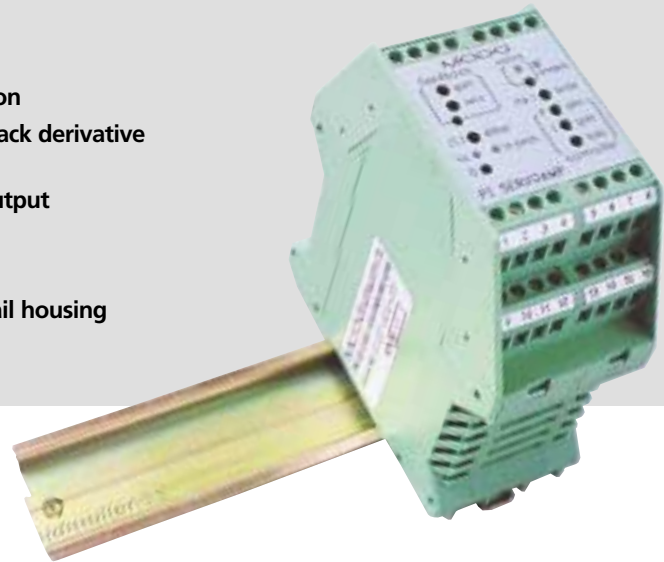
The Servoamplifier employs analog electronics. It accepts three input signals, two single ended and one differential.

These are summed to produce an error signal which is then amplified proportionally and also integrated. The proportional and integral signals are switched together and output as a current or voltage to drive a servovalve.

Front panel trim pots, LED indicators and test points allow fast and easy setup and aid in trouble shooting. The servoamplifier is housed in a compact DIN rail mounting enclosure and requires a +24V supply.

### Features

- P, I or P & I control
- User friendly front panel with LEDs and test points
- Single ended input, 4-20 mA or  $\pm 10$  V, switch selectable
- Single ended input, scalable
- Differential input with zero and gain
- Feedback transducer excitation output
- Step push button
- Optional feedback derivative term
- "In position" output
- Dither
- Enable input
- Compact DIN rail housing
- CE marked



### Switch selections

- Input 1 lag on or off
- Feedback input 4-20 mA or  $\pm 10$  V
- Input 2 4-20 mA or  $\pm 10$  V
- Proportional control, integral control or both
- Integrator input from unity gain or amplified error signal
- Integrator limit
- Output current or voltage
- Output current level
- Dither on or off

### Plug-in resistors

- Input 2 = 100k for  $\pm 10$  V
- Feedback derivative term = not loaded
- Proportional gain range = 100k for 1 to 20 range
- Input 2 direct to output amp = not loaded

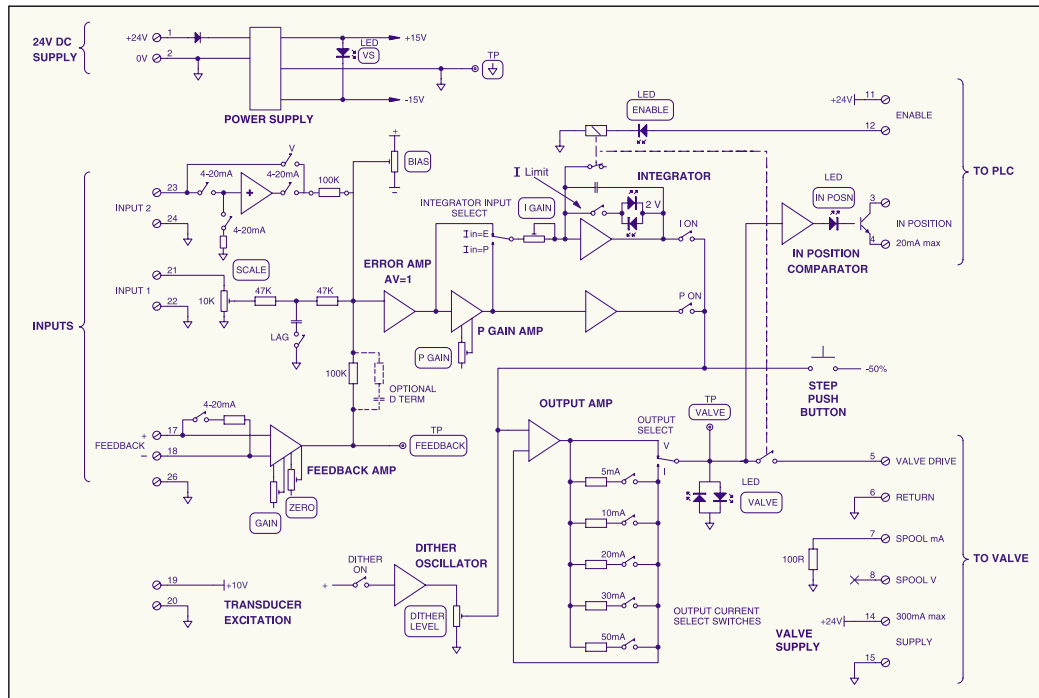
### Ordering Information

#### P-I Servoamplifier G122-824-002

Special configurations can be provided. Consult your Moog sales office to discuss details.

The G122-824-002 is a functional replacement for the -001 version. It adds a 4-20 mA option for input 2, output step push button and improved thermal performance.

# Operating Details



## Specifications

<b>Function:</b>	P, I, or P & I, switch selectable.
<b>Input 1:</b>	Scaled to 100V max with switch selectable lag of 55ms. 10K load.
<b>Input 2:</b>	4-20mA 240R load, or plug in resistor, 100K nominal for $\pm 10V$ input.
<b>Feedback input:</b>	Differential 4-20mA 240R load, or $\pm 10V$ , switch selectable $\pm 15V$ max.
<b>Feedback amp:</b>	Zero, $\pm 10V$ . Gain, 1 to 10. Derivative (velocity) feedback via plug in resistor and fixed capacitor.
<b>Transducer excitation:</b>	+10V @ 10mA.
<b>Error amp:</b>	Unity gain. Bias $\pm 1.5V$ .
<b>Proportional amp gain:</b>	1 to 20.
<b>Integrator gain:</b>	1 to 45 per second.
<b>Integrator input:</b>	Switch selectable from output of unity gain error amp or proportional gain amp.
<b>Enable:</b>	Relay, +24V @ 8mA, 17 to 32V.
<b>Dither:</b>	200 Hz fixed frequency. $\pm 10\%$ valve drive Switch selectable on/off.
<b>Output amp:</b>	Switch selectable, $\pm 10V$ , $\pm 5mA$ , $\pm 10mA$ , $\pm 20mA$ , $\pm 30mA$ and $\pm 50mA$ . Maximum $\pm 100mA$ (select 20 + 30 + 50) Single ended output, return to ground.
<b>Step push button:</b>	-50% valve drive.
<b>Valve supply:</b>	Pin 14 – 300mA max.

<b>In position:</b>	$\pm 10\%$ of valve drive. 20mA and 40V max.
<b>Front panel indicators:</b>	Vs, internal supply – green. Valve drive positive – red negative – green. Enable – yellow. In position – green.
<b>Front panel test points:</b>	Valve $\pm 10V$ (regardless of output signal selection). Feedback amplifier output. Signal 0V.
<b>Front panel trim pots:</b>	Input 1 scale. Error amp bias. P gain. I gain. Dither level. Feedback amp gain. Feedback amp zero.
<b>Supply:</b>	24V nominal, 22 to 28V. 75mA @ 24V, no load. 200mA @ 100mA load.
<b>Mounting:</b>	DIN rail. IP 20.
<b>Temperature:</b>	0 to +40°C.
<b>Dimensions:</b>	100W x 108H x 45D.
<b>Weight:</b>	180g.
<b>CE mark:</b>	EN50081.1 emission. EN61000-6-2 immunity.
<b>C tick:</b>	AS4251.1 emission.

### Internet Data

For detailed Application Notes and the latest version of this Data Sheet please refer to the Moog website [www.moog.com/dinmodules](http://www.moog.com/dinmodules)

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