

### Description

The G122-829 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.

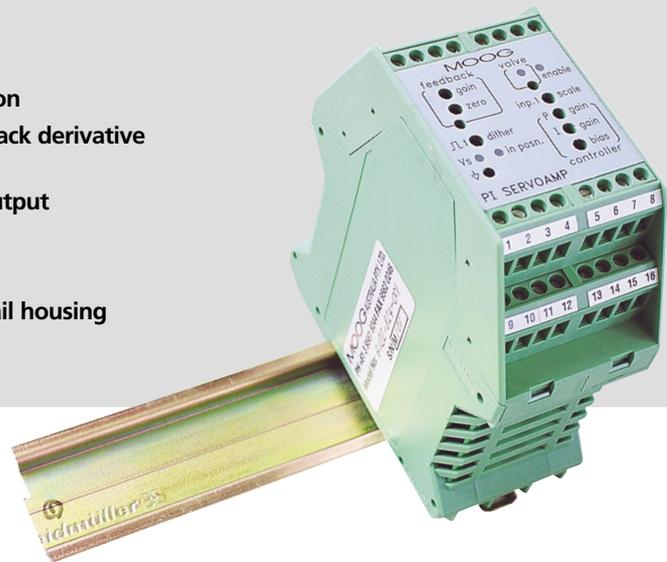
The Servoamplifier employs analog electronics. It accepts three input signals, two single ended and one differential.

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 3 direct to output amp = not loaded

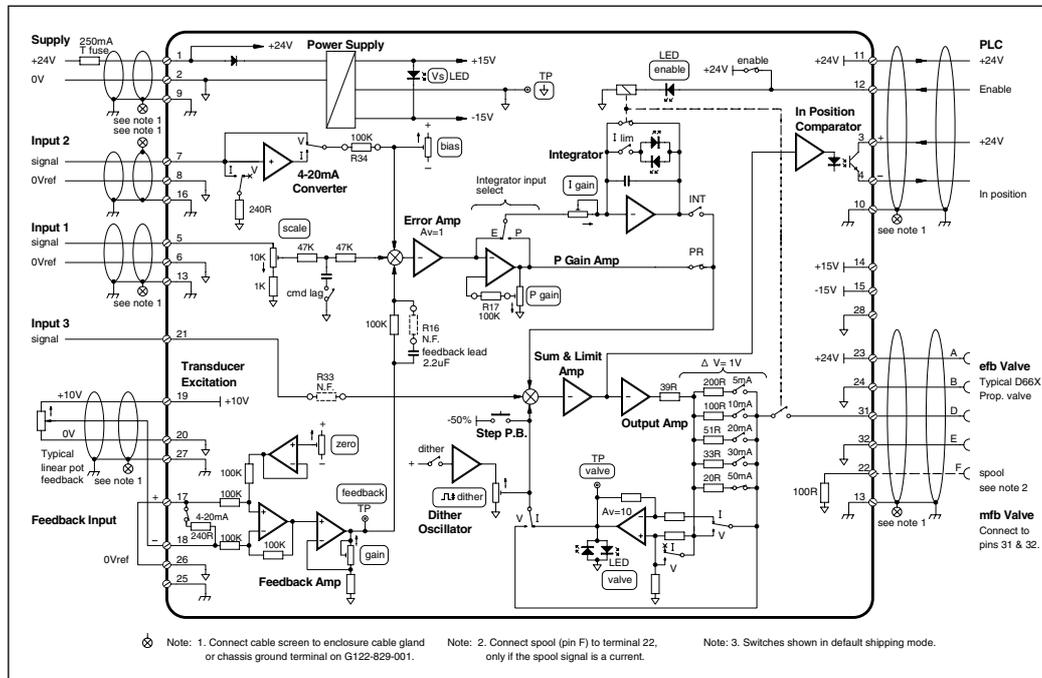
### Ordering information

#### P-I Servoamplifier G122-829-001

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

The G122-829-001 is a functional replacement for the G122-824-002 version. It has a different pin-out and improved high gain performance.

# Operating details



## Specifications

- Function:** P, I, or P & I, switch selectable
- Input 1:** Scaled to 95V max with switch selectable lag of 55mS.
- Input 2:** 4-20mA 240R load, for 0 to +10V on R34. Or 0 to ±10V direct onto R34. R34 is plug-in, 100K nominal.
- Input 3:** R33 plug-in. ±10V gives ±100% valve drive when R33 = 10k Ohm, ±10% when R33 = 100k Ohm. R34 is plug-in, 100K nominal.
- Feedback input:** Differential 4-20mA or ±10V, switch selectable  
±15V max.  
R in 100k – ±10V  
R in 240R – 4-20mA
- Feedback amp:** Zero, ±10V.  
Gain, 1 to 10.  
Derivative (velocity) feedback via plug-in resistor R16 and fixed capacitor.
- Transducer excitation:** +10V @ 10mA max.
- Error amp:** Unity gain.  
Bias ±1.5V.
- Proportional amp gain:** 1 to 20.
- Integrator gain:** 1 to 45 per second.
- Integrator input:** Switch selectable from output of unity gain error amp or proportional gain amp
- Enable:** Relay, +24V @ 8mA, 17 to 32V.
- Output amp:** Switch selectable voltage or current, single ended output, return to ground.  
V. ±10V, minimum load = 200 Ohm  
I. ±5, 10, 20, 30, 50mA to a maximum of ±100mA  
$$\text{max load} = \left( \frac{11V}{I \text{ (Amp)}} - 39 \right) \text{ Ohm}$$
- Step push button:** -50% valve drive disturbance.

- Valve supply:** Pin 14, 300mA max.
- In position:** ±10% of valve drive. 20mA and 40V max output to PLC.
- Front panel indicators:** Vs, internal supply – green  
Valve drive positive – red  
negative – green
- Front panel test points:** Enable – yellow  
In position – green  
Valve ±10V (regardless of output signal selection)  
Feedback amplifier output signal 0V
- Front panel trim pots: (15 turns)** Input 1 scale  
Error amp bias  
P gain  
I gain  
Dither level  
Feedback amp gain  
Feedback amp zero
- Dither:** 200 Hz fixed frequency.  
±10% valve drive. Switch selectable on/off
- Supply:** 24V nominal, 22 to 28V  
75mA @ 24V, no load,  
200mA @ 100mA load
- ±15V output:** ±10mA maximum
- Wire size range:** 0.2mm<sup>2</sup> to 2.5mm<sup>2</sup> (24AWG to 12AWG)
- Recommended supply protection:** M205, 250mA T (slow blow) fuse compliant to IEC127-2 sheet 3
- Mounting:** DIN rail  
IP 20
- Temperature:** 0 to +40°C
- Dimensions:** 100W x 108H x 45D
- Weight:** 180g
- CE mark:** EN50081.1 emission  
EN61000-6-2 immunity  
AS4251.1 emission
- C tick:**

## 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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