

**DESCRIPTION**

The PD122 and PD121 are, dc powered, 4-wire signal-conditioning modules.

- ✓ If wanting a controlled voltage output then use a PD122
- ✓ If wanting an isolated input, a controlled current output and the output load is independent of the power supply then use a PD122.
- ✓ If wanting a controlled current output and one terminal of the load is connected to supply negative then the PD121 MUST be used.

**FEATURES:**

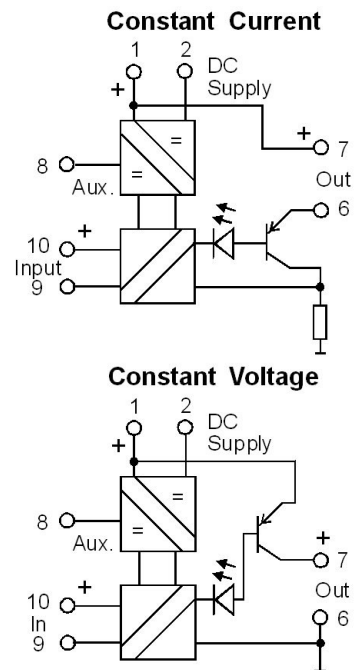
- **High Power Output** for applications where an output drive of 50mA (24V) up to 2A<sub>dc</sub> is required, as is common with hydraulic solenoid drive applications.
- **Signal conversion** from all commonly used process control signals.
- **Signal inversion** for applications where the output has to decrease for increasing input (Reverse action).
- **Signal filtering** for fluctuating input signals. The "Ramp option" allows for the time constant to be selected by the user.
- **Gain and bias** (scaling) adjustments to amplify or zero shift a portion of the input signal.
- **Dither option.** A low level AC signal is superimposed on the output to prevent the output valve or hydraulic solenoid from becoming stuck in applications where the valve is stationary for long periods of time (the amplitude and frequency of the dither signal are specified for the application).



Power supplies for the standard PD122 include 12V<sub>dc</sub> and 24V<sub>dc</sub>. The PD122 module features a wide range of input and output signals, direct and reverse action, including bipolar input. Input signals range from 0.1V to 100V<sub>dc</sub> and 100mA to 1A<sub>dc</sub>. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output signal level is indicated by a green LED on the front, giving a clear indication of module function and presence of signal. All units are fitted with a 0.5 second filter. This filter constant can be increased or decreased if required. RF and power transient protection is also standard as with all APCS modules.

**General Specifications**

Size:	52 W x 70 H x 110 D (mm). (85mm wide with heat sink).
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals on front.
Protection class:	IP40.
Weight:	0.300 kg.
Housing material:	ABS.
Accuracy:	0.2% of span.
Front "OFFS" adjust:	±20% typical
Front "SPAN" adjust:	±20% typical
Temperature effect:	0.01% per °C.
Operating temp. range:	-10...+60°C.
Output load effect:	less than 0.2% up to max. load.
Output loop drive:	100mA into 0 - 200Ω.
(24V <sub>dc</sub> supply)	500mA into 0 - 40Ω.
	1A into 0 - 20Ω.
Input/output isolation:	>2kV <sub>rms</sub> .
Electromagnetic compatibility:	Complies with AS/NZS 4251.1 (EN 50081.1)



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

### TYPE NO. DESIGNATION

#### Power Supply:

1 = 12VDC,  $\pm 10\%$  The power supply is not isolated from the output.

2 = 24VDC,  $\pm 15\%$

\*) 9 = Other specify.

#### Input:

01 = Voltage specify 100mV to 100V span

02 = Bipolar voltage specify  $\pm 100\text{mV}$  to  $\pm 100\text{V}$  span

03 = Current specify 1A maximum.

04 = Bipolar current specify  $\pm 1\text{A}$  maximum.

\*) 25 = 3-Wire potentiometer.

\*) 99 = Other specify

#### Output:

01 = Current specify 500mA maximum.

\*) 02 = Current specify 2A maximum (L=135mm).

\*) 03 = Current specify 5A maximum (L=225mm).

04 = Voltage specify (power supply – 4V maximum) and maximum 500mA load.

\*) 05 = Voltage specify (power supply – 4V maximum) and maximum 2A load (L=135mm).

\*) 06 = Voltage specify (power supply – 4V maximum) and maximum 5A load (L=225mm).

\*) 99 = Other specify.

#### Action:

1 = Direct.

2 = Reverse.

#### Options:

00 = None

\*) 04 = Output ramp.

09 = Extended range on "OFFS" and "SPAN" front panel trim pots. Range specified by the customer.

\*) 14 = Dither for hydraulic applications.

\*) 15 = External Gain and Bias, specified by the customer.

\*) 99 = Other specify.

\*) = Price Extra.

#### Separate Heat-sink Models

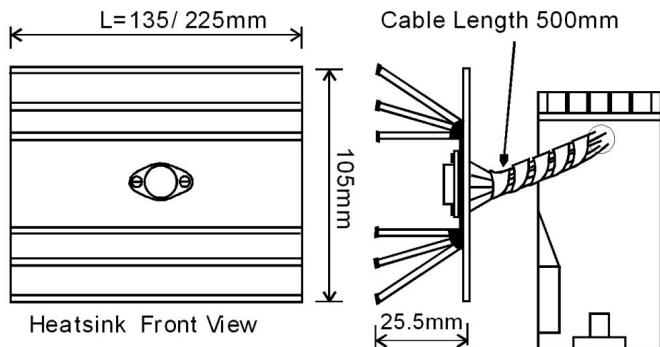
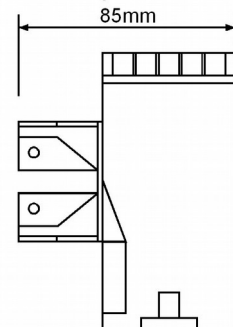
All models with an output above 500mA use a separate heat sink.

For currents up to 2A the heat sink is 135mm long.

For currents up to 5A the heat sink is 225mm long.

This heat sink must be mounted in an area with adequate ventilation. The pass transistor case is at an elevated voltage and must not be allowed to contact any objects. The heat sink itself is isolated from both input and output potentials.

#### Side Mounting Heatsink Used up to 500mA



In the interest of development and improvement, APCS reserve the right to amend, without notice, details contained in this publication. APCS will accept no legal liability for any errors, omissions or amendments.