

INSTECH

Set-up Instructions

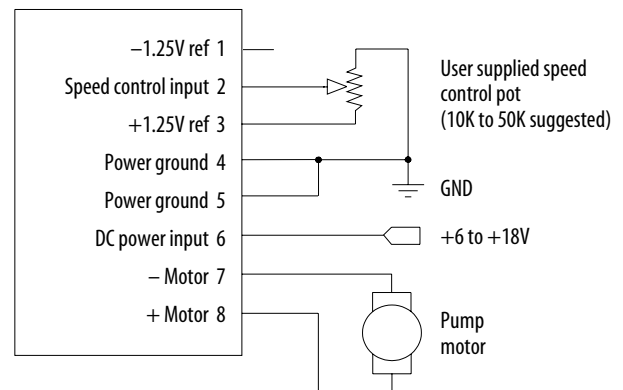
P625 Peristaltic Pumps

Electrical Set-up

- Attach power supply, motor, and control voltage input (either from a voltage source or from a pot as shown). The reference voltages on pins 1 and 3 are provided for your convenience. Use none, one, or both. Do not draw more than 1 mA.
- Match the full-scale motor range to your full scale input signal by adjusting the Speed Range pot.
- When designing this pump into your system, remember that it is better to bring the pump to a stop by setting the speed control voltage to zero. This will actively brake the motor and bring it to a stop more quickly than would occur if the supply voltage were removed.

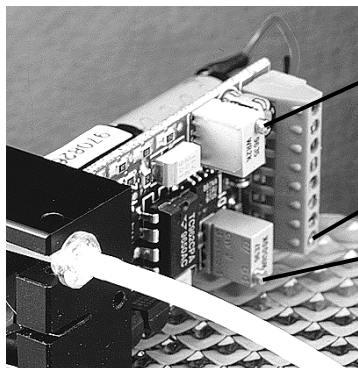
Connector Inputs and Outputs

Sample Application: Uni-Directional Potentiometer Configuration



Adjustments and Connector Orientation

For Models P625/275, P625/900, and P625/10K



Balance Pot

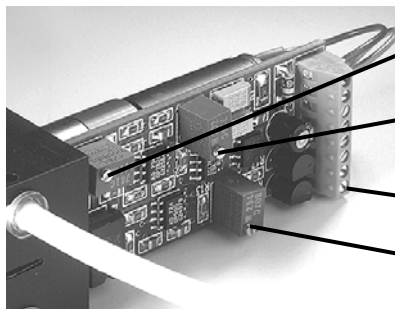
Do not adjust (factory set)

Pin 1

Speed Range Pot

Adjust to set top speed for max input signal

For Model P625/66



Amplifier Null Pot

Do not adjust (factory set)

Balance Pot

Do not adjust (factory set)

Pin 1

Speed Range Pot

Adjust to set top speed for max input signal

Pump Tube Installation

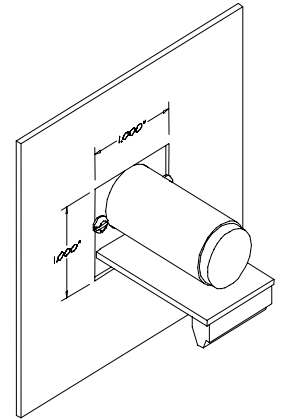
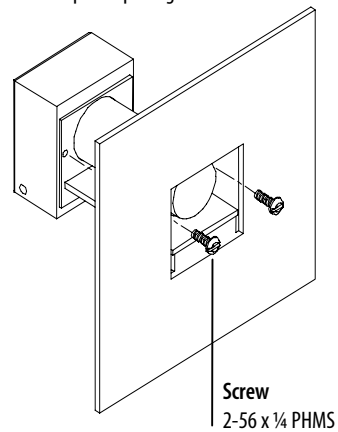
- Slide the tube set into the slot and seat the ferrules. Leave the U-shaped loop over the rotor.
- Actuate the pump.
- With the rotor turning, use your finger to guide the tube down between the rotor and the interior wall of the pump head, starting from the input side.

Pump Tube Removal

- Actuate the pump.
- With the rotor turning, lift the input side of the tube from its slot and wait until it has fully disengaged.

Panel Mounting

1 inch square opening



Replacement Parts

- *Tube sets.* Instech offers replacement P625 tube sets in a variety of materials and sizes, including silicone, C-FLEX®, PharMed® and Tygon® from .015" to .093" ID. Please refer to our website, www.instechlabs.com, for details on available tube sets. The list changes frequently as we add new materials, sizes and configurations. In addition, custom tube sets may be available depending on your application. Information on tube set compatibility with various solutions is also available on our website.

Tube set lifetime will depend on the tube material, motor RPM, and the solution you are pumping. A silicone, C-FLEX® or Tygon® tube will not last as long as tubing in the neoprene family, such as PharMed®. Neoprene tubing will last about 10 times longer but is harder and will draw higher motor current.

- *Kapton strips.* This amber strip reduces tube wear and minimizes the tendency for the peristaltic action to walk the tube through the pump, which can stretch the tube and alter the flow rate calibration. The strip should never be tight around the rotor. Replacement strips are available—specify part number KSK.

NOTE: PharMed and Tygon are registered trademarks of Norton Performance Plastics Corporation. C-FLEX is a registered trademark of Consolidated Polymer Technologies Inc.

Specifications

	P625/10K	P625/900	P625/275	P625/66
Recommended flow rate range	0.34 - 150 µl/min 0.02 - 9 ml/hr	0.15 - 1 ml/min 9 - 60 ml/hr	1 - 5 ml/min 60 - 300 ml/hr	5 - 22 ml/min 300 - 1300 ml/hr
Flow rates*				
• .015" tube	0.34 - 6.7 µl/min	0.004 - 0.08 ml/min	0.008 - 0.17 ml/min	0.03 - 0.6 ml/min
• .020" tube	0.59 - 12 µl/min	0.007 - 0.14 ml/min	0.017 - 0.34 ml/min	0.05 - 1.0 ml/min
• .031" tube	1.6 - 34 µl/min	0.020 - 0.40 ml/min	0.046 - 0.92 ml/min	0.15 - 3.0 ml/min
• .062" tube	6.7 - 145 µl/min	0.08 - 1.7 ml/min	0.17 - 3.4 ml/min	0.5 - 10 ml/min
• .093" tube	13.5 - 275 µl/min	0.16 - 3.3 ml/min	0.37 - 7.3 ml/min	1.1 - 22 ml/min
Accuracy	±5%	±5%	±5%	±5%
Motor gear ratio	10683:1	900:1	275:1	66:1
Top speed	1.5 RPM	17.8 RPM	44 RPM	150 RPM
Gearhead type	Spur	Spur	Planetary	Planetary

* These figures apply when pump is used with silicone tubing and back pressures are less than 5 PSI.

Specifications (continued)

	P625/10K	P625/900	P625/275	P625/66
Motor voltage, nominal	4.5 VDC	4.5 VDC	9 VDC	12 VDC
Motor power rating	0.3 W	0.3 W	0.75 W	1.4 W
Power supply voltage				
• Recommended	+8 to 12 VDC	+8 to 12 VDC	+12 to 16 VDC	+16 to 18 VDC
• Maximum	+18 VDC	+18 VDC	+18 VDC	+18 VDC
Power supply current				
• Typical at full speed*	18 - 22 mA	25 - 30 mA	19 - 25 mA	50 - 75 mA
• Quiescent	7.5 mA	7.5 mA	7.5 mA	14 mA
Speed control voltage input	-2.5 to +2.5 VDC (voltage for top speed adjustable from ± 1.25 to ± 4 VDC)			
Rotation direction	Determined by polarity of speed control voltage			
Terminal barrier block type	8 pin screw with 2.5 mm spacing			
Panel mounting hole	1.0 x 1.0 inch (2.54 x 2.54 mm) – see diagram			
Weight (excluding tube set)	55 grams	53 grams	39 grams	72 grams
Dimensions (W x H x D)	1.3 x 1.1 x 2.1 inches 32 x 27 x 54 mm	1.3 x 1.1 x 2.1 inches 32 x 27 x 54 mm	1.3 x 1.1 x 2.4 inches 32 x 27 x 61 mm	1.3 x 1.1 x 2.7 inches 32 x 27 x 68 mm

INSTECH

The equipment behind the science.

Instech Laboratories, Inc.
5209 Militia Hill Road
Plymouth Meeting, PA 19462-1216
U.S.A.
800-443-4227 • 610-941-0132
FAX 610-941-0134
EMAIL support@instechlabs.com
WEB www.instechlabs.com

Version 9/2004
Manuals\PROC000C\Pumps\PG25\PG25 manual.doc