Time Electronics
Calibration, Test and Measurement

User Manual

7161-VLP
Pressure Calibration Manifold with Vernier Control

Version 1.1
6-24

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This manual provides operating and safety instructions for the Time Electronics product. To ensure correct operation and safety, please follow the instructions in this manual.

Time Electronics reserves the right to change the contents, specifications and other information contained in this manual without notice.

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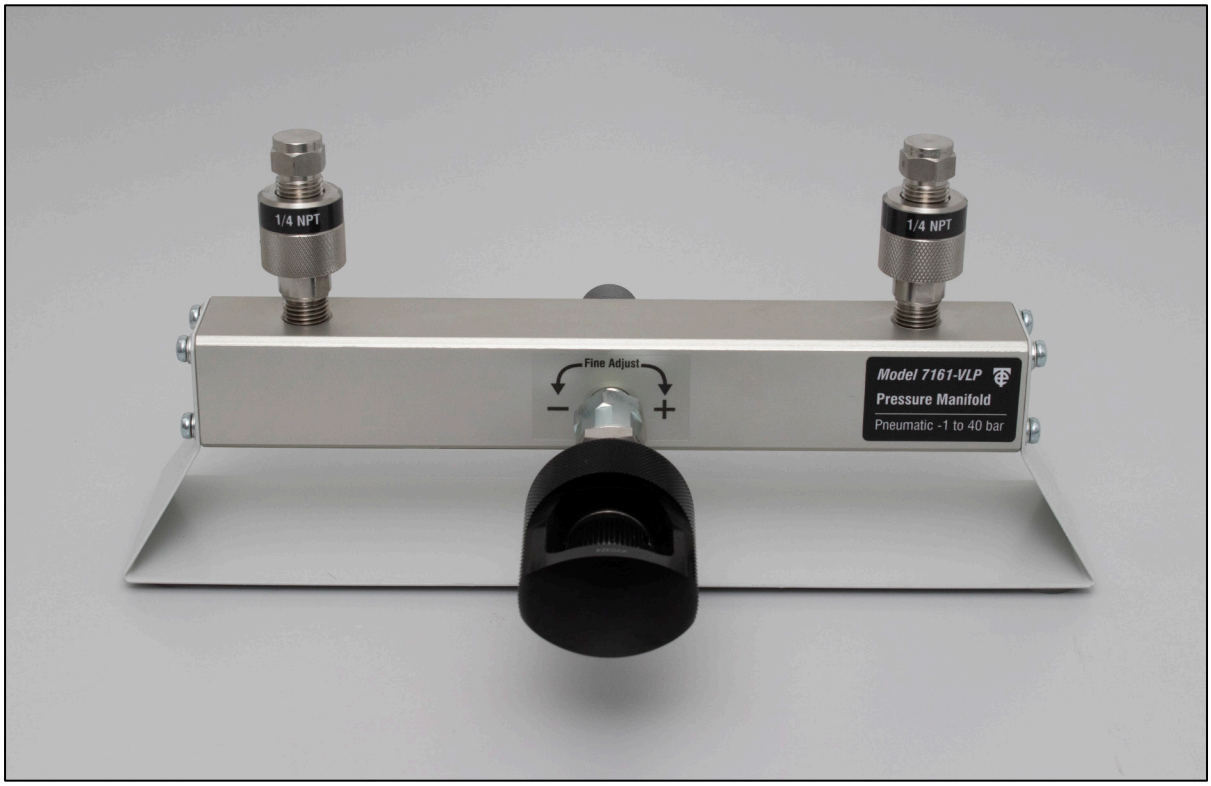
1 Introduction



1.1 Description

The 7161-VLP is a compact pneumatic manifold that provides two output ports with hand-tight connectors for pressure instrumentation under test. The unit can be used for pneumatic pressure calibration from vacuum to 40 bar (600 psi). Features include an anodized aluminium manifold block and a vernier for fine control of the pressure being input to the manifold. The vernier is commonly used with a regulated pressure source to achieve set pressures for calibration applications.

The manifold is fitted with two hand-tight quick connectors that allow users to connect devices for test quickly and easily, without the use of wrenches or PTFE tape. The pressure input port is situated on the rear side of the manifold block, to enable connection to a contamination trap, regulated pressure calibrator or CalBench module (RMTEG for example).

The 7161-VLP is ideal to complement Time Electronics calibration benches when regulated pneumatic pressure modules are fitted in the consoles. The manifold provides an ergonomic and simple set up for positioning pressure gauges, transmitters and other pressure devices for testing on the CalBench. It can also situate on the 8100 instrumentation test stand.

Thread configurations are selectable upon request. Standard models have output ports with 2 x 1/4” BSP female (7161-VLP) or 2 x 1/4” NPT (7161-VLP-NPT). Other threads are available, and can be built with a combination, for example 1 x 1/4" NPT and 1 x 1/2" NPT.

1.2 Features

- Dual port benchtop pressure manifold
- Suitable for vacuum to 40 bar (600 psi) use
- Compact for benchtop or field work
- Hand-tight quick connectors
- Vernier for precision adjustment of pressure to the unit under test
- Suitable for use with regulated pressure sources
- Supplied with connection hose
- Ideal for use with regulated CalBench modules (RMTEG range)
- Robust and ergonomic design
- Suitable for cardinal point calibration of analogue pressure gauges

2 Specifications

Pressure.....Pneumatic, for use from -1 to 40 bar (-15 psi to 600 psi).

Materials .....Anodized aluminium manifold block, steel quick connectors, aluminium/brass vernier, nitrile rubber seals, steel base stand (RAL 7035 grey) with polyurethane feet.

UUT quick connections .....Finger-tight connectors (2 on top).

UUT connection thread .....7161-VLP: 1/4" BSP
7161-VLP-NPT: 1/4" NPT
Other thread options: 1/2" BSP, 1/2" NPT, M20

Input connection .....On rear side of base (minimess or optional), hose supplied.

Vernier.....For fine control, dual action with coarse knob and fine dial.
Setting resolution: Better than 1 mbar.
The vernier adjustment range will depend on the pressure setting and volume in the system.

Dimensions.....Total: W 275 x D 200 x H 130 mm (including vernier & ports).

Weight.....2 kg.

3 Warnings

The 7161-VLP manifold is designed for use with pressure calibrators and regulated pneumatic pressure systems. These systems control a supplied pressure source and output them to a unit under test. The 7161-VLP is connected between the pressure source and the UUT. Please observe all warnings and safety instructions when dealing with high pressure supplies and outputs. Please ensure that all users of the instrumentation have fully read and understood operating instructions and safety procedures for handling high pressure systems. Observe all warnings before operating pressure calibration systems.

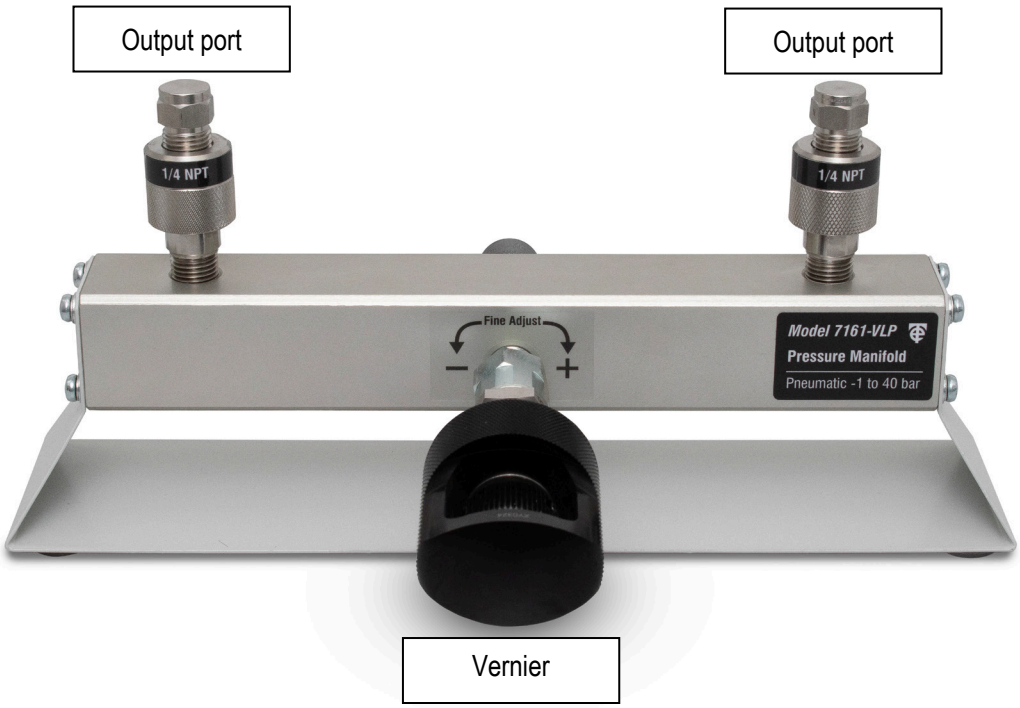
	The 7161-VLP shall only be used with clean dry air or nitrogen. Never use hazardous media as pressure medium.
	Do not exceed 40 bar (600 psi) input to the manifold.
	Before pressurization of the 7161-VLP, check all components and connections are in good condition, fully functional and that all screw fittings are firmly. All connections should be suitable for the applied maximum pressure.
	In the case of an error in connections or use, a high pressure or vacuum may be on the input and output connections. Ensure supplies are vented before working on pressure connections.
	During operation, do not disconnect the 7161-VLP when pressure is being applied.
	When working on and with the device wear safety glasses.
	Use the manifold in the correct orientation on a solid work surface.
	Connections and UUTs damaged from overpressure can cause high velocity shrapnel.
	Do not over-tighten the input or output connectors as this can damage the threads.
	The 7161-VLP manifold does not vent. It only provides a fine adjustment of small pressure to enable an accurate set point to be achieved. Venting must be performed by the regulated input.

Note that this manual refers to the Unit Under Test as the UUT. The UUT should be connected to the 7161-VLP directly or by using suitable fittings ensuring they are rated for at least the maximum pressure available from the pressure source.

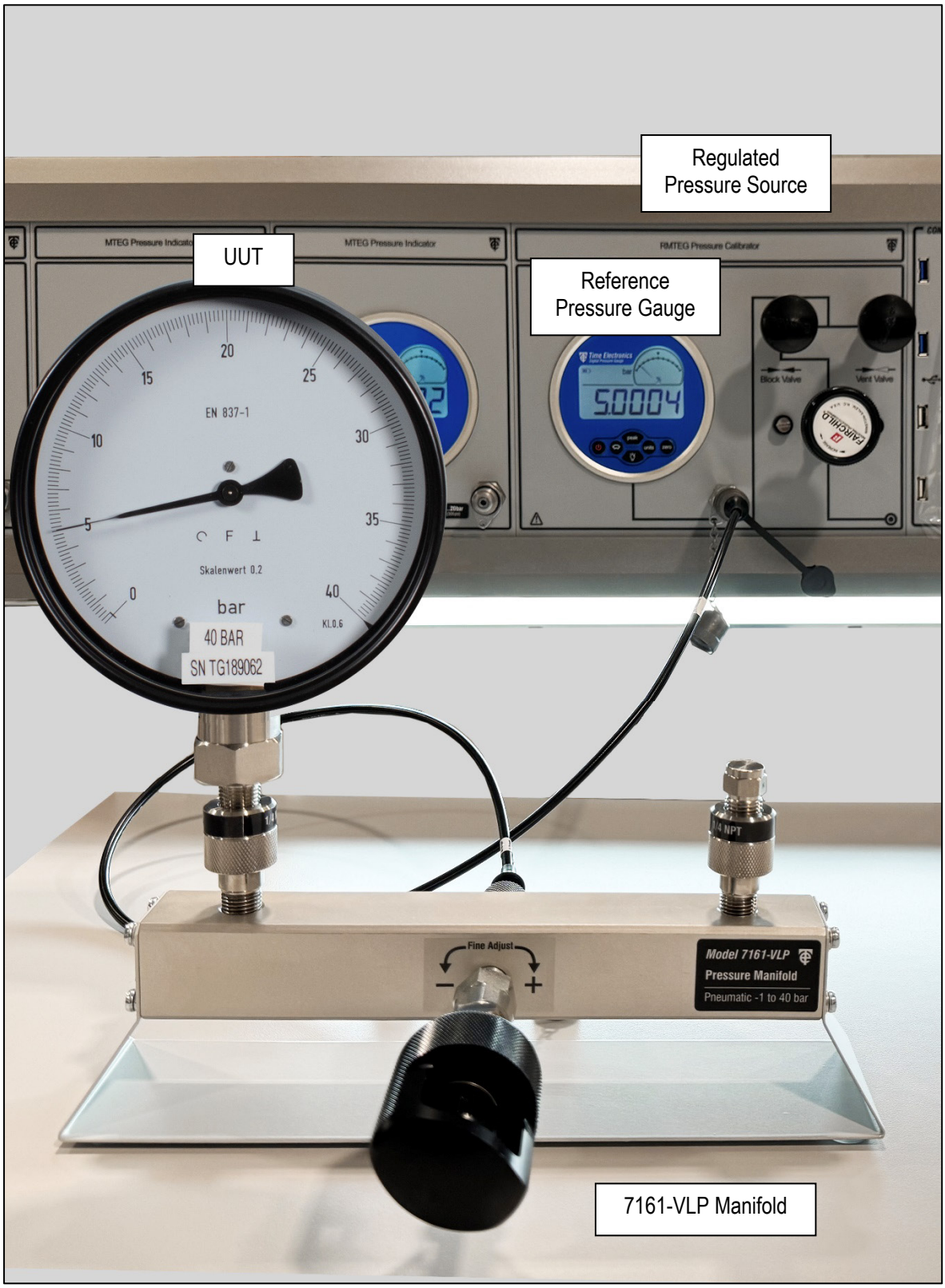
Time Electronics Ltd do not assume liability for damages that arise from incorrect use of the instrument device or from disregard of the information contained in this manual.

4 Operation

4.1 Connections and Controls



4.2 Example Test Setup



4.3 Operating Instructions

NOTE: During operation you will use the pressure source in conjunction with the vernier. The manifold vernier DOES NOT VENT pressure. It only provides a fine setting adjustment. With a regulated pressure module like the RMTEG, you will use the regulator, block and vent valves to increase, decrease, and stabilise pressure. The module will be used to vent the system.

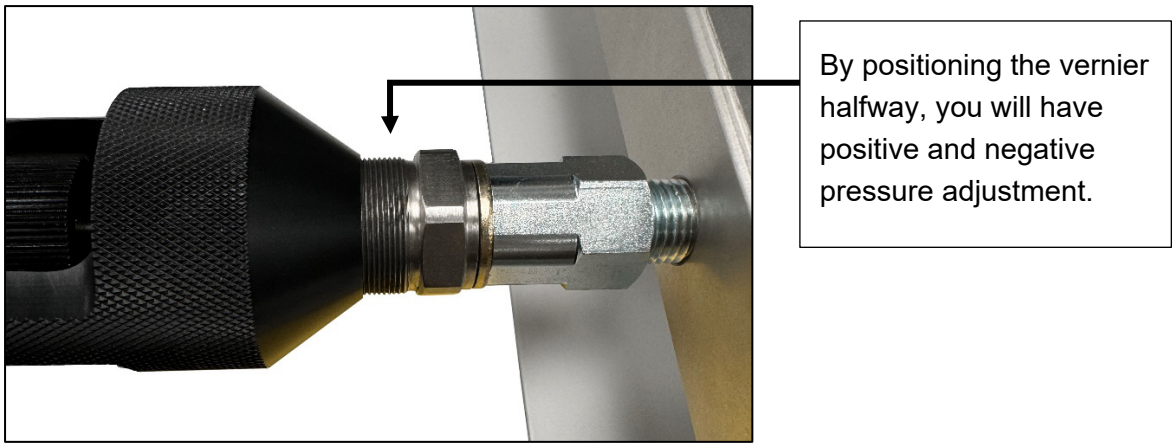
4.3.1 Using the manifold

1. Connect the manifold input to the pressure source (e.g. calibrator, module, regulator). As standard, minimess high pressure fittings are used, and hoses are supplied. See example test setup visual on previous page.

2. Ensure no pressure is being applied.

3. Connect the UUT or reference gauge/calibrator to the output ports on the top of the manifold via the hand tight connectors. If only one port is being used then the supplied threaded plug can be fitted to close the second port.

4. Position the vernier is halfway along it's travel. That will be about 0.5 cm of thread as shown below:



5. Gradually apply pressure upon first usage to observe if any leaks are present. Once confirmed it is leak free you can start the pressurisation.

6. Apply pressure to the manifold and UUT via the regulator, typically your first set point. Once the approximate pressure close to the set point is stable, you can start to use the vernier. Note that when using an RMTEG module you use the block valve to close off and stabilise the pressure.

7. To adjust the pressure via the vernier, turn the large knob clockwise for positive pressure, anticlockwise for negative pressure.

8. For ultra fine control, the small inner dial knob can be used.

9. Once the desired pressure is achieved, you can move on to the next test point using the regulator, and repeat the process as required.

5 Warranty and Servicing

Warranty

Time Electronics products carry a one-year manufacturer's warranty as standard.

Time Electronics products are designed and manufactured to the highest standards and specifications to assure the quality and performance required by all sectors of industry. Time Electronics products are fully guaranteed against faulty materials and workmanship.

Should this product be found to be defective, please contact us using the below details. Inform us of the product type, serial number, and details of any fault and/or the service required. Please retain the supplier invoice as proof of purchase.

This warranty does not apply to defects resulting from action of the user such as misuse, operation outside of specification, improper maintenance or repair, or unauthorized modification. Time Electronics' total liability is limited to repair or replacement of the product. Note that if Time Electronics determine that the fault on a returned product has been caused by the user, we will contact the customer before proceeding with any repair.

Product Registration

You can register your product at: www.timeelectronics.com/contact/product-registration
Registering your product will enable us to maintain a record of purchase for your warranty. You can also use the web form to provide feedback about our products and services.

Calibration and Repair Services

Time Electronics offers repair and calibration services for all the products we make and sell. Routine maintenance by the manufacturer ensures optimal performance and condition of the product. Periodic traceable or accredited calibration is available.

Contacting Time Electronics

Online:
Please visit www.timeelectronics.com and select Technical Support from the Contact links. From this page you will be able to send information to the Time Electronics service team who will help and support you.

By phone:
+44 (0) 1732 355993

By email:
mail@timeelectronics.co.uk

Returning Instruments

Prior to returning your product please contact Time Electronics. We will issue a return merchandise authorization (RMA) number that is to accompany the goods returning. Further instructions will also be issued prior to shipment. When returning instruments, please ensure that they have been adequately packed, preferably in the original packing supplied. **Time Electronics Ltd will not accept responsibility for units returned damaged.** Please ensure that all units have details of the service required and all relevant paperwork.

Send the instrument, shipping charges paid to:

Time Electronics Ltd
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Tonbridge, Kent, TN9 1RA.
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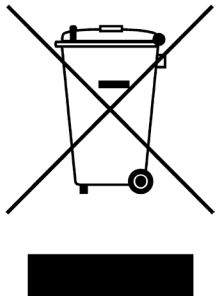
Web Site: www.timeelectronics.com

Disposal of your old equipment



1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or return to Time Electronics.