Time Electronics
Calibration, Test and Measurement

User Manual

7161
Pressure Calibration Manifold

Version 1.2
6-25

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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.

Contents

1 Introduction

1.1 Description

The 7161 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 200 bar (3000 psi). Features include an anodized aluminium manifold block, two UUT ports, one input port, and one extension port. The extension port can be connected to a hose for UUT's that cannot be mounted on top of the manifold, or to connect multiple 7161's, meaning batch pressure testing is possible.

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 side of the manifold block, to enable connection to a contamination trap, pressure controller, calibrator or CalBench module.

The 7161 is ideal to complement Time Electronics CalBenches when pneumatic pressure modules are fitted. The manifold provides an ergonomic and simple set up for positioning pressure gauges, transmitters and other pressure devices for testing on the bench.

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

Additional versions include the 7161-VNT that features a vent valve, and the 7161-VLP that has a vernier to enable fine pressure adjustment on the manifold. Custom versions are available, including hydraulic models, single port versions and multi-port configurations.

1.2 Features

- Dual port benchtop pressure manifold
- Suitable for vacuum to 200 bar (3000 psi) use
- Compact for benchtop or field work
- Hand-tight quick connectors
- Suitable for use with pumps and gauges
- Supplied with connection hose
- Ideal for use with CalBench modules
- Robust and ergonomic design
- 7161-VNT: Vent valve version (40 bar / 600 psi max.)
- 7161-VLP: Vernier version (40 bar / 600 psi max.)

2 Specifications

Pressure.....Pneumatic, for use from -1 to 200 bar (-15 to 3000 psi).
7161-VNT and 7161-VLP: -1 to 40 bar (-15 to 600 psi)

Materials .....Anodized aluminium manifold block, steel quick connectors, stainless steel bleed valve assembly, 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: 1/4" BSP
7161-NPT: 1/4" NPT
Other thread options: 1/2" BSP, 1/2" NPT, M20

Input connection .....On side of manifold (minimess 1620), hose supplied.

Input/Extension ports .....2 x minimess 1620 test points, 1 on each side of manifold. Either port can be used for pressure input or extension. Hose supplied.

Dimensions.....Total: W 275 x D 140 x H 130 mm (including feet and ports).

Weight.....1.7 kg.

Additional Versions .....7161-VNT: Vent valve version / 7161-VLP: Vernier version. Max. 40 bar use, models do not feature extension port.

3 Warnings

The 7161 manifold is designed for use with pressure controllers, calibrators and regulated pneumatic pressure systems. These systems control a supplied pressure source and output them to a unit under test. The 7161 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.

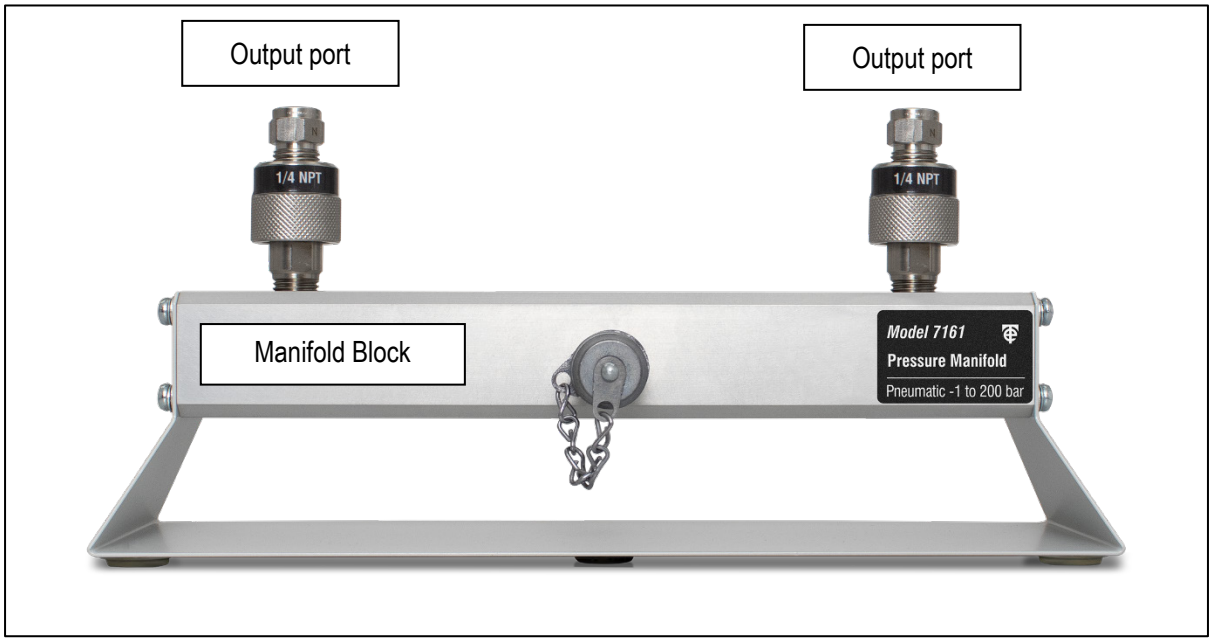
	The 7161 shall only be used with clean dry air or nitrogen. Never use hazardous media as pressure medium.
	Do not exceed 200 bar (3000 psi) input to the 7161 manifold.
	Before pressurization of the 7161, check all components and connections are in good condition, fully functional and that all screw fittings 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 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 input and output ports on the front of the unit have check valves for safety. Do not pressurize the manifold with a loose hose connected to one side.

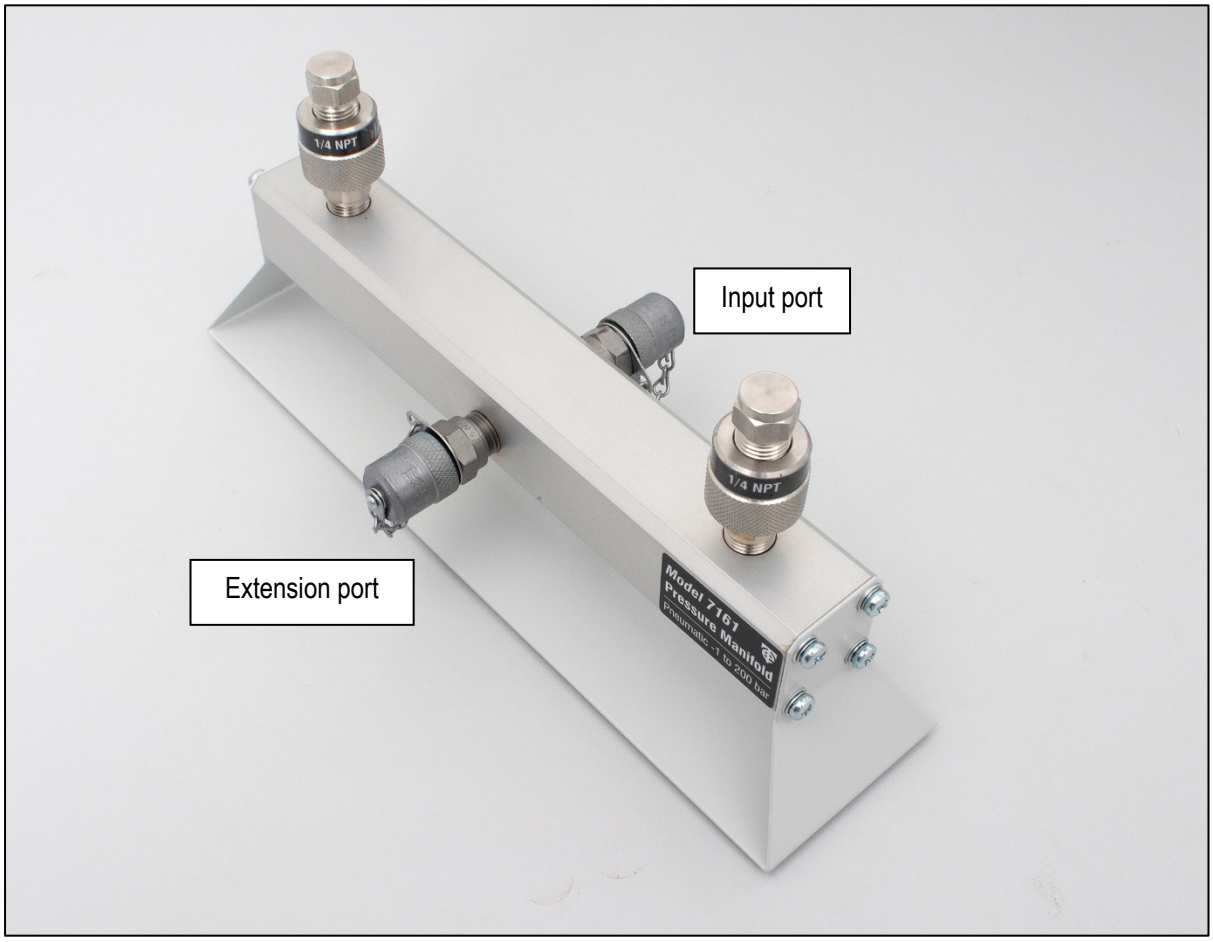
Note that this manual refers to the Unit Under Test as the UUT. The UUT should be connected to the 7161 directly or by using suitable fittings ensuring they are rated for at least the maximum pressure available from the pressure source.

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 Operating Instructions

1. Connect the manifold input to the pressure source (e.g. controller, calibrator, regulator). As standard, minimess high pressure fittings are used, and hoses are supplied.

2. Ensure no pressure is being applied.

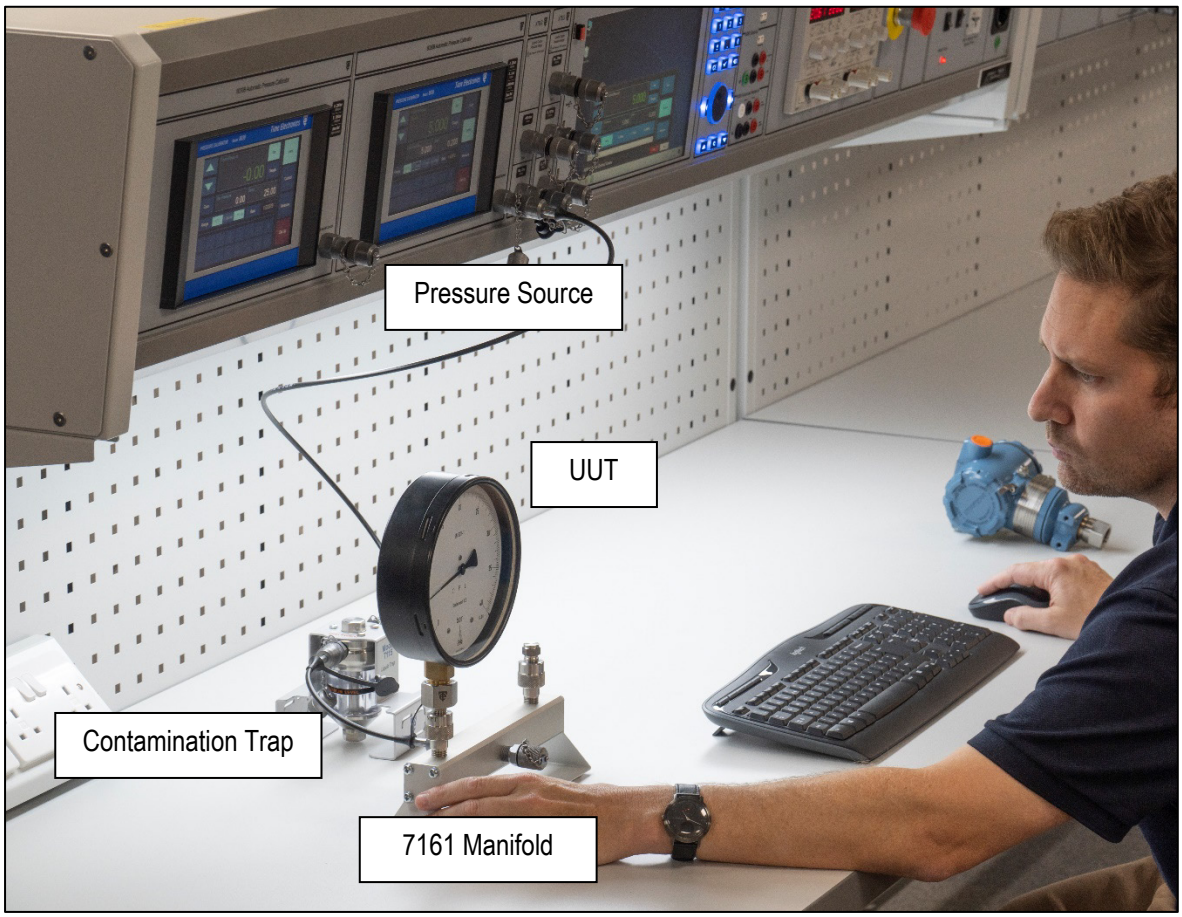
3. Connect the UUT or reference gauge/calibrator to the output ports on the top of the manifold via the hand tight connectors. If only one port is being used then the supplied threaded plug can be fitted to close the second port.

4. Gradually apply pressure upon first usage to observe if any leaks are present.

5. Perform the calibration procedure by applying the pressure set points to the UUT on the manifold.

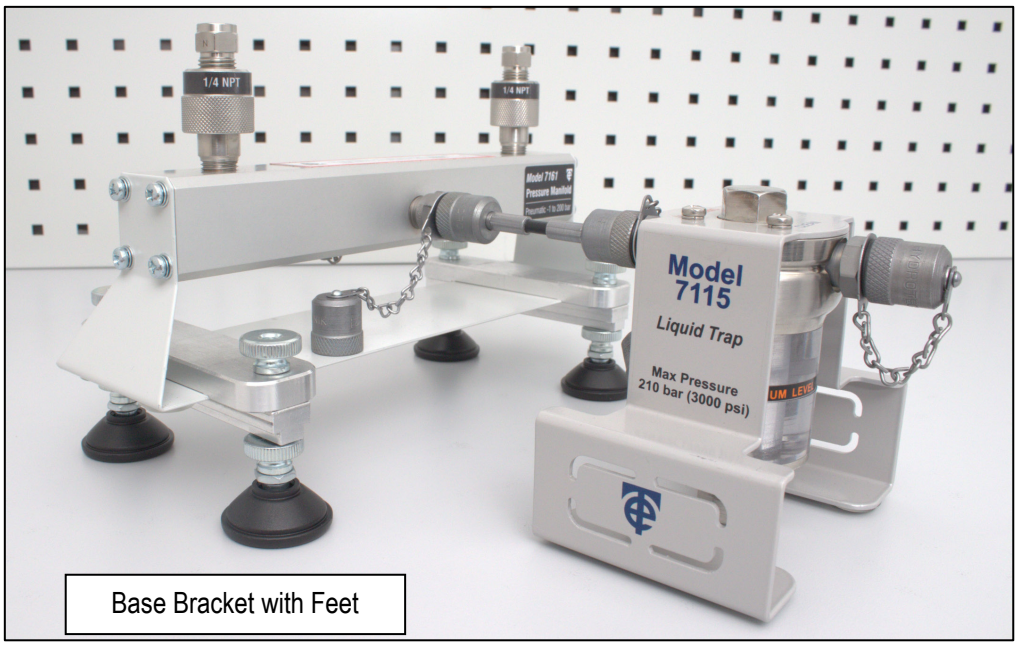
An additional port is located at the front of the manifold block. You can connect a hose to this port and used with a UUT such as a transmitter that doesn't easily mount on the top ports. Or if you have another 7161, you can link the two together to create a 4 port manifold.

4.2.1 Example Test Setup



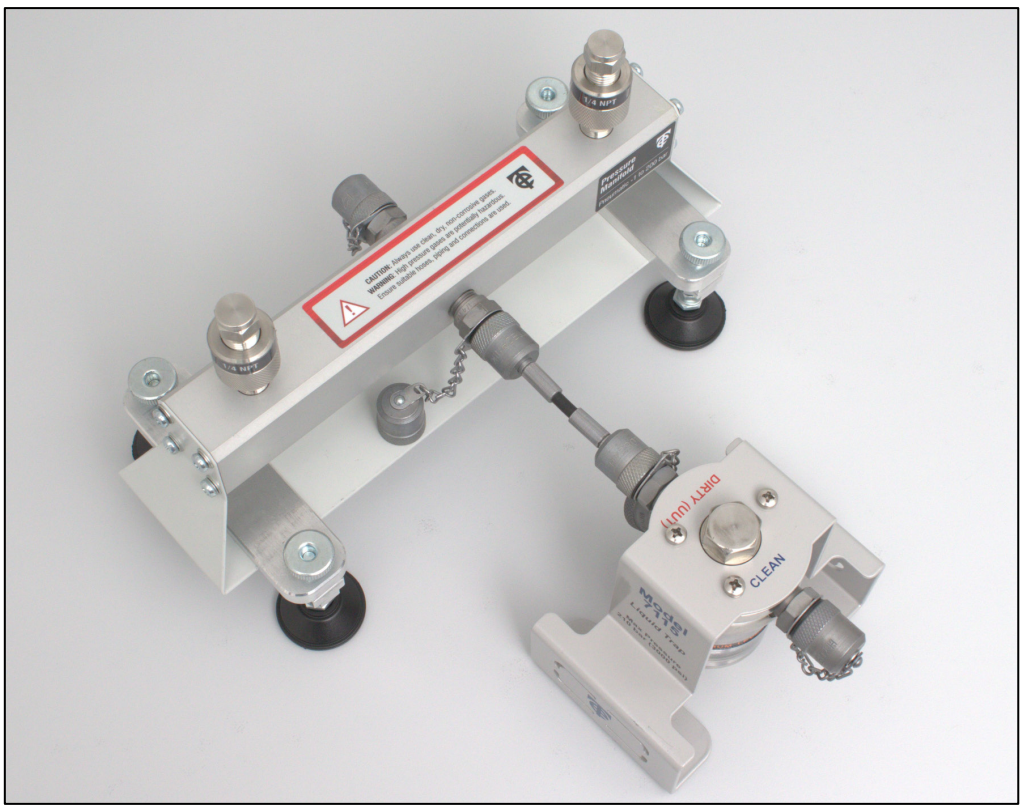
5 Using the Base Brackets with Levelling Feet

When ordered with the 7115 contamination trap, the manifold is supplied with a set of base brackets that fit to the manifold. These brackets raise the manifold port to the same height as the 7115 port, for easy connection and added stability.



Base Bracket with Feet

The brackets feature levelling feet and adjustment knobs for height setting to ensure the base has the optimal positioning on the worktop. A short minimess to minimess hose is supplied to make a compact station with the manifold and trap.



6 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:

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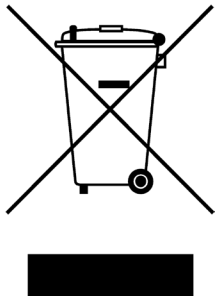
Disposal of your old equipment



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.