

User Manual

8030 and 8030B Automatic Pressure Controller/Calibrator

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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.

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1 Introduction

The 8030 and 8030B are a range of advanced pressure controller/calibrator modules and benchtop instruments designed for calibration of pressure devices such as transmitters, sensors and gauges. It is suitable for a wide workload as it can be configured for ranges from -1 to 200 bar pneumatic and up to 700 bar hydraulic. Pneumatic models can be fitted with up to three high accuracy reference sensors integrated into a single control channel. Hydraulic units are single sensor with a pressure supply cabinet containing a hydraulic booster included. All units can feature a barometric reference option allowing absolute pressure emulation.

Applications

The 8030 and 8030B are suitable for use as high performance pressure standards in process plants, instrument workshops, and calibration labs. Routine testing of pressure instrumentation is made quick and simple, whether using the touch screen display or via EasyCal calibration software.

Functionality

The colour touch-screen interface with user-friendly menus is designed for simple operation, enabling users to quickly learn and master the operation of the module. Manually specifying pressure set points is made simple with clearly defined controls on the display.

On the CalBench, automatic control of the 8030B can be undertaken via EasyCal software. This enables users to fully automate the calibration process, providing control and readback during testing applications, with data captured and certificates generated immediately.

EasyCal Software

Using the 8030 and 8030B with EasyCal Software enables automatic calibration to increase speed and efficiency of work. EasyCal controlled calibration significantly decreases testing times, meaning less instrument downtime and faster turnaround. In addition EasyCal has features to manage and administrate both inventory and quality control, so it gives users the platform for their entire calibration program.



1.1 Models

Model	Available pressure ranges (Number of internal sensors)	Configuration	Pressure Media		
8030	1 to 3 + Barometric Reference	Benchtop	Pneumatic (inert gas)		
8030B	1 to 3 + Barometric Reference	CalBench	Pneumatic (inert gas)		
8030-H	1 + Barometric Reference	Benchtop	Hydraulic (Water or Oil)		
8030B-H	1 + Barometric Reference	CalBench	Hydraulic (Water or Oil)		

8030: Benchtop Version



8030B: Module Version



1.2 Technical Specifications

Pressure Ranges	1 to +220 bar (3200psi). Span depends on range/s ordered
Internal Sensors	.3 in total plus 1 barometric reference
Pressure Types	.Gauge, compound, absolute and differential
Accuracy (per sensor)	.0.01% FS 0.03% FS for low range & differential sensors (30 mbar to 300 mbar)
Precision	< 0.005% FS
Barometric Reference Option	Enables user to switch from gauge to absolute pressure. Measuring range: 800 to 1,200 mbar absolute. Accuracy: 0.01% RDG.
Pressure Units	23 selectable and 2 programmable
Control Stability	.< 0.005% FS of the active sensor
Control Time	< 10 s
Pressure Ports	Quick release (20bar and under), Minimess (above 20bar)
Pressure Media	.Clean, dry, non-corrosive, non-combustible and non-oxidising gases
Overpressure Protection	.150% of the largest pressure range
Screen	7" TFT colour touch-screen (4 wire resistive)
Resolution	.up to 6 digits (user selectable)
Response Time	.approx. 10 ms
Warm-up Time	.approx. 10 minutes
Communication Interface	.RS-232 (connected inside the CalBench to control centre if ordered)
Power Supply	.100 to 230V AC, 50/60 Hz (as per CalBench if module version)
Supply port Pressure	Maximum 105 to 110% FS
Test port Pressure	Maximum 105% FS
Operating Temperature	10 to 40 °C (50 to 104 °F)
Storage Temperature	.0 to 70 °C (32 to 158 °F)
Air Humidity	.0 to 95 % (relative humidity without moisture condensation)
Compensated Temp Range	.15 to +35 °C (+59 to +95 °F)
Dimensions/Weight	.8030 Benchtop Versions: W 235 x H 132 x D 375 mm Weight: approx. 12kg depending on sensors ordered 8030B Module Versions: Width 315 mm (295 mm special available)
Options	.Internal Barometric Reference, Manifolds, Calibration Certificates.
Supplied Accessories	.7115 Contamination Trap, Test Hoses and Fittings

1.3 8030 Front Panel

		bar	Vent	
	Zero	Steps 5.0000	Control	
R	Range AUTO 40 bar 3 bar	Baro 1.03302	Measure	
	1 2 3 4 5 6 7 8 9 0	. CLR ◀ - ESC OK	Set Up	
and the second second				r -

The front panel features a 7" TFT touchscreen, to display controls and instrument information.

1.4 8030 Rear Panel

Note: Pressure fittings supplied not shown below.



1.5 8030B Front Panel (CalBench module)

8030B Automatic	Pressure Calibrator	æ
PRESSURE CALIBRATOR Model 8030 Image Control/Measure 0.0000 Zero Set Pressure Image Auto 0.20 bit Set 1 2 3 4 5 6 7 8 9 0	D2 bar D2 Gauge ps 0.50000 Baro 1.01229 CLR Kessure Set Up	020b -12b Baro

The front panel features a 7" TFT touchscreen, to display controls and instrument information. Additionally, the test port is accessed on the front of the console.

1.6 8030B Rear Panel (CalBench module)

The B model is fitted within a CalBench and so the pressure connections are mode with CalBench standard fittings. Please refer to the CalBench user manual for description on the connection fitting types.



2 Installation Notes

The 8030 and 8030B range of pressure controllers need to be supplied with a pressure source equal to the maximum range of the controller. 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 the 8030 and 8030B:

\triangle	The pressure controller shall only be used with clean dry air or nitrogen. Never use hazardous media as pressure medium.
\triangle	Before operating it is necessary to ensure that the device is suitable concerning pressure range, version and specific measuring conditions.
	Before pressurisation of the instrument, 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 output connections and is always present on the input connections. Ensure supplies are vented before working on pressure connections.
\triangle	During operation, pressure is vented at the rear side of the instrument. Make sure that personnel do not have access to the rear panel during operation.
\triangle	When working on and with the device wear safety glasses.
\triangle	Connections and UUTs damaged from overpressure can cause high velocity shrapnel.

Additionally, note that when a device (such as an analogue pressure gauge) is to be tested or calibrated, it is referred to as the UUT (Unit Under Test) in this manual. The UUT should be connected to the pressure controller using suitable fittings and hose ensuring they are rated for at least the maximum pressure available from the pressure controller.

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.

2.1 8030 Pressure Connections

The 8030 has a number of pressure ports for the supply, venting, reference, and output pressure. All pressure connections except for the Ref. port, have ½"G female connections on the rear panel.

2.1.1 Test Port

The port labelled "TEST" is the output pressure from the controller, which is precisely regulated. This is the connection to the UUT.

2.1.2 Supply Port

The port labelled "SUPPLY" is the positive pressure supply source, such as a regulated pump or gas cylinder. The pressure applied should be regulated to be 5 to 10% higher than the full-scale value of the controller in order to ensure good pressure control.

2.1.3 Vacuum Port

The port labelled "VAC" is the negative pressure supply source, such as a vacuum pump. This connection is optional and allows control of pressures less then atmospheric pressure. If this is not needed then the port should be left to atmospheric pressure (left open).

2.1.4 Vent Port

The port labelled "VENT" is a port when the system needs to let all pressure release quickly. The port should be left open to atmospheric pressure without restriction. A snubber or sound dampener should be fitted to reduce loud sound pressure from escaping gas.

2.1.5 Ref Ports

The port labelled "REF" is the connection to pressure used by the optional barometric sensor. This connection must be left open to atmosphere and external pressure must not be applied to this port.

2.2 8030B Pressure Connections

The 8030B has connections made available on the rear of the CalBench console it is installed in to allow pressure connections. These are a series of quick release or minimess couplings, depending on the pressure range. The connection of these is detailed in the CalBench user manual.

2.3 Electrical Connections

2.3.1 Mains Socket

Before connecting the mains input socket, make sure that the mains voltage corresponds to the specification of the instrument. Switch off the instrument before connecting mains power. The provided 3-pin mains cable is equipped with a protective conductor (earth) which must be used. Ensure the mains earth conductor is properly connected and use a mains cable which corresponds to the country-specific regulations.

2.3.2 RS-232 Interface

The RS-232 interface is designed as a 9-pin SUB-D socket and is to be connected to a PC using a 9-pin 1:1 (data extension) cable; DB9 Male/DB9 Female.

2.4 Procedure for Installation

A proper connection of the required components will be accomplished by following the directions below:

- 1. Make sure that the power switch on the rear panel side is turned off.
- 2. Connect the supplied mains cable to the power supply.
- 3. Check the pressure hoses of your pressure supply for damages as well as infiltrating dirt and moisture.
- 4. Connect a pressure source to the "SUPPLY" port on the rear side of the device. The static pressure of the source should be 5 to 10% above the range of the instrument.
- 5. Connect a snubber to the "VENT" port, leaving this this connection left open to atmosphere.
- 6. Connect a calibration object or a device for pressure testing to the "Test" port.
- 7. If required to control below or close to atmospheric pressure, connect a vacuum pump to the "Vac" port.

2.5 Switching the instrument on and off

After completing all preparations, and procedure for installation turn on the device by pressing the power switch on the rear panel of the instrument. Wait a few seconds for the display menu to appear on the screen. The instrument is now ready for operation.

Before switching off the instrument, it is recommend to release any output pressure, by venting it. To do so, press the "Vent" button on the main control screen via the touchscreen. When the instrument is vented successfully, turn it off by pressing the power switch on the rear panel.

3 Operation

All control of the instrument is via the touchscreen. On power up, the 8030 displays the control menu. This is the main menu the user will utilise to control the output pressure.

It is possible to press the Set Up button to change parameters of the pressure controller and various settings and then go back to the main control menu.

3.1 Main control menu



3.1.1 Output Pressure Display Box (Control/Measure)



This value shows the actual pressure at the output Test port, in the selected pressure unit and cannot be modified manually. As soon as the pressure value is equal within the specified stability to the set point (see section Controller Setup) this value is highlighted green.

		Control/Measure	1	$\cap \cap$			bar	Vent
			<u> </u>	UU		Ģ	Gauge	
Zero		Set Pressure	1.00	00	Steps	0.5	000	Control
Rang	e	AUTO 0.	100 bar 0	20 bar	-12 bar	Baro	1.01412	Measure
1	2	3	4	5		CLR		
6	7	8	9	0	—	ESC	OK	Set Up

3.1.2 Pressure Units Selection



This button shows the currently selected units and applies to all values show on the Control screen. To change the pressure units, touch this button for access to the Units Screen. Select the unit you want to use and press the Back Button.



Note that when you are not in the Main Control Screen, the Control Button will be faded, meaning Inactive. This is a safety feature so users can only control pressure when the set pressure is clearly visible.

Touch keyboard 3.1.3

Constituent Consti								
Zero Incomo Sero Coded Range Acto Settime Settime Settime	1	2	3	4	5		CLR	
	6	7	8	9	0	-	ESC	OK

The Touch keyboard is in the disabled state by default.

Zero		Set Pressure 1.0000				Steps 0.500			
Range	AUTO	01	00 bar 0	20 bar	-12 bar	Baro	1.01412		
1	2		3	4	5		CLR		
6 7			8	9	0	-	ESC	OK	

Disabled State

When the Set pressure or Step box is pressed for value entry the keyboard is enabled:





Enter the desired value by touching the numeric buttons. Previous entries can be deleted with "CLR" or the cursor key. Confirm the value by touching the "OK" button. If a new entry is not required, touch "ESC" and the value will be ignored and revert back to the previous value.

3.1.4 Set pressure Box (Set-point)



This value shows the set pressure that the controller will control to when in Control mode. The set pressure can be changed by pressing Set Pressure Box.

The box will highlight to indicate you have selected it, and the keyboard will change to an enabled state allowing you to enter a value.



Keyboard Active for Value Entry

3.1.5 Steps Box and Buttons



The Steps Box shows the step size, in the current pressure unit. This value is used to increase or decrease the set pressure by the step amount when the up or down step button is touched. The step value can be changed by selecting the Steps Box, then entering a value in the keyboard.



Keyboard Active for Value Entry

By pressing the up or down button the set pressure will be increased or decreased by the step value.



By touching on the up or down button the set pressure will be increased or decreased by the step value. This feature is very useful to control up or down between specific test points, for example cardinal points on an analogue gauge.

3.1.6 Operation Mode Buttons



The pressure controller can be in 1 of 3 operation modes: Vent, Control or Measure. The operation mode buttons show what mode the operation the controller is currently performing:

- Vent: The controller vents the output test port to atmospheric pressure via the rear vent port.
- **Control**: The controller will continually regulate the output pressure port to reach and maintain the set pressure.
- Measure: The controller will stop regulating the output.

To change the operation mode of the controller touch the required button.

3.1.7 Zero Button



By touching the Zero button, the current output pressure will be saved as the zero pressure. The Zero button is only available when the control operation is in 'Vent' mode and output is vented to atmospheric pressure.

3.1.8 Range Selection Buttons



The Range buttons show the number of sensors fitted internally to the instrument with their maximum pressure range capability in Bar. If there is more than one sensor fitted, there is a button for each sensor, as well as an 'AUTO' button. The current range may be manually selected by touching a range button. If the instrument is able to change to the range it will be shown by the button being highlighted. Note: it may not be able to change to a fixed range if the current output pressure is higher than the selected range.

By touching AUTO the instrument will automatically use the sensor with the most precision for the current output pressure.





Example of a single sensor 8030:

Range 020 bar	
---------------	--

3.1.9 Pressure Type Selection

	Co						bar	Vent
Zero	Set	t Pressure	1.00	00	Steps	0.5	Sauge	Control
Range	e	Αυτο	020	bar	-12 bar			Measure
1	2	3	4	5		CLR		0.111
6		8	9	0	—	ESC	OK	Set Up

The pressure type selection button is only active if the controller is fitted with the barometric reference option (BARO).

Without this option the Button looks like this. It displays the default pressure type of the instrument, typically "Gauge". The button is inactive.



3.1.10 Barometric Reference and Absolute Mode (optional)



If the optional barometric sensor is fitted, a box labelled 'Baro' shows the current atmospheric pressure.

By having the barometric reference fitted, it allows the pressure controller to display and control pressure in either Gauge mode or Absolute mode. To switch between gauge and absolute mode, press the button labelled 'Gauge' or 'ABS'.



Controller is now in Absolute Mode

3.1.11 Setup menu button



Pressing the setup button changes the display to show the Setup menu.

3.2 Setup Menu



The setup menu is a number of buttons to allow adjustment of features with the pressure controller.

Press the 'Back' to return to Main control menu.

3.3 Display Menu



3.3.1 Display language

The display menu allows selection of different languages. Press the required language and then the 'Back' button.

3.3.2 Screen Brightness

At the bottom of the display menu is the Brightness setting that can be adjusted to user preference.

3.4 Units Menu

Unit					
Ра	mbar	psi	cmH2O	mmHg	Vent
kPa	bar	torr	mH2O	cmHg	Control
MPa	kg/cm ²	atm	inH2O	inHg	
hPa	kg/m²	mmH2O	ftH2O	oz/in²	Measure
					Back

In the Unit menu, it is possible to change to instrument to a different pressure unit. This menu is also available from the main control screen as shown earlier.

By pressing on a button, the selected pressure unit will be highlighted. Once the units is selected press the 'Back' button to return to either the Setup menu.

If the Unit Menu is accessed from the main control screen, the 'Back' button will take you back to that screen.

3.5 Information Menu



In the Information menu, it is possible to view the instrument Model number, Serial number, BIOS version and hardware number.

This information cannot be changed and therefore this screen is used to identify the instrument itself.

3.6 Control Menu



The Control Menu allows adjustment of the Control Mode, Supply Pressure and Control Limit. It also allows access to the custom control mode menu.

Once the options are made using buttons and on-screen keyboard, press the 'Back' button to return to the Setup Menu.

3.6.1 Control Modes

The instrument has 4 main control modes that are pre-configured to help users choose an optimal setting for their application.

The control mode changes the pressure controller behaviour, in terms of speed of control, a target stability zone and the resolution of display. There are three fixed settings and a custom setting. The fixed settings are Fast, Normal and Precision. Press the required button to select a fixed setting and then the 'Back' button.



3.6.1.1 Fast Mode

In this mode the controller is at its fastest. The resolution is low and the stability window is wider. This means the controller can reach the set pressure quickly and remain stable. This mode is suitable for most industrial testing applications of gauges, transmitters etc.

3.6.1.2 Normal Mode

This mode is the middle setting where the controller combines speed and stability. The resolution will have more digits than in Fast Mode, and the stability window will be tighter. So, the controller will take more time to settle then stabilise within this window.

3.6.1.3 Precision Mode

This mode utilises a larger resolution and a very tight stability window. In this mode a leak free set up is required to ensure performance. The controller will be slower than in other modes as it takes time to stabilise within the stability window.

3.6.1.4 Custom Mode

The Custom Mode allows the user to select and tune various parameters of the control mode. To select the custom mode, press the custom button. By pressing the buttons the user can select a control speed, the target stability and resolution of display.

Note: It is possible to select a combination that does not allow the controller to settle at the desired pressure. If instability is occurring, use a fixed setting of Fast, Normal or Precision, or readjust the custom control mode.

A common use for custom mode is that the user can set up a control speed they like with a wider stability window and decreased resolution. For example; Speed – Precision, Stability – 0.01%, Resolution – Medium. Equally a higher resolution can be set on Fast and Normal Speed, if desired.

Control Mode			Custom Speed: Slow Stability: 0.005% Resolution: Max
Speed	Fast	Normal	Precision
Stability	0.03%	0.01%	0.005% 0.003%
Resolution	Low	Medium	Maximum

Note: In custom mode you can select precision at 0.003% stability. This mode requires a leak free set up with optimal working conditions for the controller to perform properly.

Once a selection is made press the 'Back' button to return to the control menu.

3.6.2 Stable Hold Feature

Stable Hold is a universal setting that effects all modes once switched on. It is a display filter that shows the set pressure as a fixed value when the controller is within its stability window.

The stable hold feature is suitable for many applications, especially when working with low resolution UUTs, when the extended resolution the 8030 displays is not required.



With this setting the user returns to the Main Control Screen and selects the pressure as usual, then the controller outputs and controls to this set point.

When the controller is within its stability window, it will display the set pressure as a fixed value, and a small display line above this will show Delta Pressure (dP), that shows the fine changes in pressure.

	Co	ntrol/Measure	:	-	0.0001 F		bar	Vent
			1.	00	000		Gauge	
Zero	Set	t Pressure	1.00	00	Steps	0.5	000	Control
Rang	e A	UTO 0*	100 bar 0.	.20 bar	-12 bar	Baro	1.01412	Measure
1	2	3	4	5		CLR		
6	7	8	9	0	—	ESC	OK	Set Up

3.6.3 Control Limit

The control limit is usually set at 110% of maximum range of the unit. The control limit sets a high priority monitoring task on the controller and if the pressure at the output exceeds this amount the controller will activate the VENT port immediately.

This is useful for situations where sensitive or low range UUT connected to the pressure controller output. If the pressure controller is under user or remote (computer) control and the output pressure is accidently set to a high value, the Control Limit will engage to prevent over-pressure situations.



To input a control limit, press the Box and the keyboard will become active.

Contro	l Limit			22	2.00	bar MAX	
1	2	3	4	5		CLR	
6	7	8	9	0	_	ESC	OK

3.7 Service Menu

Service Please contact Time Electronics Ltd or your authorised service centre for log in information and service support.									Vent
ι	Unit 5 TON Business Park, 2-8 Morley Road, Tonbridge, Kent, TN9 1RA. United Kingdom. T: +44 (0) 1732 355993 F: +44 (0) 1732 350198 E: mail@timeelectronics.co.uk www.timeelectronics.com								Control
Log	g In								
1	2	3	4	5		CLR		ľ	
6	7	8	9	0	-	ESC	OK		Back

In the Service menu, it is possible to enter a passcode for the authorised service menus.

Enter code '**48485**' for access to the Units Resolution and Network settings. For additional settings access please contact Time Electronics.

3.7.1 Units Resolution and Network settings



Once accessed the user can view the pre-configured settings for unit resolution and network communications.

3.7.1.1 Network Menu

Netv	vork							
IP Ad	dress	192	192 168		10		231	Vent
Sub	net	255		255 255			0	Control
Gate	eway	10		1	1		254	
Sa	ve							Measure
1	2	3	4	5		CLR		
6	7	8	9	0	_	ESC	OK	Back

In this Menu the user can modify the network settings for the controller.

The ethernet port is only present on benchtop controllers.

In the CalBench systems with a Control Centre Module, the 8030B communication is pre-configured for use. The remote control software application is pre-loaded as standard, and EasyCal software will be setup (if ordered).

See the 8030 Control Centre Software user manual for further details on this application:



3.7.1.2 Units Resolution Menu

The Units Resolution Menu enables user to edit the resolution settings for the pressure units displayed on the main control screen. If the Barometric Reference is present then the unit resolution for that can also be adjusted. Units are shown as decimal places.



In the Unit Resolution user can change the settings for the 3 Resolution that correspond to the Control Modes. Fast Mode = Low. Normal Mode = Medium. Precision = Maximum.

Digit								
Resolutio	on	Low		Medium		Maximum		Vent
Pa	0	bar	3	atm	3	ftH2O	2	
kPa	1	kg/cm ²	3	mmH2O	0	mmHg	0	Control
MPa	4	kg/m²	0	cmH2O	0	cmHg	2	
hPa	0	psi	2	mH2O	2	inHg	2	Measure
mbar	0	torr	0	inH2O	1	oz/in²	1	
Decimal Ac	dder	0100bar	0	020bar	1	-12bar	2	Set Up

Multi-sensor controllers will have a base resolution setting for each mode that starts with the highest sensor range. Then the option to place a decimal adder for each sub range.

This setup is configured in the factory based on each pressure unit and the display capability of the controller.

4 Using the 7115 Contamination Trap

The 7115 is a contamination trap designed to protect pressure equipment, such as controllers, calibrators and pressure generators, from impurities, liquids (water, oil etc.) and residues released by manifolds, pressure gauges, pressure transmitters and other process instruments under test.

It has been designed primarily for use with the Time Electronics 8030 pressure controller. The 7115 provides a level of protection for the internal system components that require mechanical operation to be smooth and unobstructed, to ensure correct operation of the controller. Contamination can damage the 8030 control mechanisms.



During transitions from a high pressure setpoint to a smaller one, liquid and residues present in the pneumatic system may flow into the 8030.

For example, consider an 8030 controlling to 20bar on a UUT, and the setpoint is then changed to 2bar. In order to decrease the pressure, the 8030 must remove air from the system. Such air removal can cause liquids and residues present in the UUT to flow into the 8030, damaging it and compromising the operation of the control valves. This may also occur when selecting negative setpoints (vacuum).

The contamination trap must be placed between the 8030 and the UUT in order to avoid that liquid (water, oil etc.) and residues from these process instruments damage the internal system of the controller.

Time Electronics model 7115 is a trap that is supplied as standard with the 8030 controllers.

4.1 Specifications

Pressure Range:	-1 to 210 bar.
Pressure Media:	Pneumatic only - Gas or air.
Material:	Stainless steel, polycarbonate and nitrile rubber seals.
Connections:	2 x Adaptors – minimess, hoses supplied.
Weight:	1 kg.
Operating Temperature:	10 to 40 °C (50 to 104 °F).
Storage Temperature:	0 to 70 °C (32 to 158 °F).
Air Humidity:	0 to 95% (relative humidity without moisture condensation).

For further information such as cleaning and maintenance please see the 7115 user manual.

4.2 Setting up the 7115

The Contamination Trap must be used always in the upright position to prevent liquid from flowing into the pressure controller or calibrator.

This guide will show the connections and usage with the 8030/8030B Pressure Controllers. 8030B is the module version of the 8030.

The CLEAN port must be connected to the 8030 pressure controller. The DIRTY (UUT*) port must be connected to the manifold, manometer, pressure switch, transmitter or other process instruments that will be calibrated or adjusted.

*UUT = Unit Under Test



4.2.1 Example Connections

The 8030 should be used with a liquid trap to ensure that no contamination reaches the instrument. UUT's can be dirty, with oil and water capable of getting into hoses and affecting instrument performance.



Minimess hoses are supplied for connection from the 8030 to the 7115.

An additional hose is supplied for connection from the 7115 to the UUT.

If a manifold is supplied this will be a minimess to minimess type.

Minimess to $\frac{1}{4}$ BSP or $\frac{1}{4}$ NPT hoses will be supplied if required.





The 7198 pressure adaptor kit can also be used to make connections from the 7115 to various UUTs with different thread types.

4.2.2 Photos of Example Set Ups

Using a Manifold





Direct to UUT



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.

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

Unit 5, TON Business Park, 2-8 Morley Road, Tonbridge, Kent, TN9 1RA. United Kingdom.

Tel: +44(0)1732 355993 Fax: +44(0)1732 350198

Email: mail@timeelectronics.co.uk 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.