Time Electronics
7030 Automatic Pressure Calibrator

- **Ranges from -1 to 100bar**
- **Control speed: < 3 seconds**
- **Control stability: 0.003% of range**
- **Precision: 0.015% FS**
- **Accuracy: 0.025 % FS**
- **IntelliScale option for 0.025% IS-50 accuracy**
- **High speed regulation**
- **Calibrate transmitters, sensors, gauges**
- **Touch screen user interface**
- **EasyCal software compatible**

DESCRIPTION

The 7030 is a high speed benchtop pressure controller/calibrator suitable for wide workload calibration of pressure devices such as transmitters, sensors and gauges. Models can be configured for ranges from -1 to 100bar (-1 to 1,500psi), with a barometric reference option available for absolute pressure emulation. Additionally an IntelliScale option can be ordered to provide IS-50 accuracy of 0.025 % of reading in the upper half of the measuring range. This option also provides an enhanced accuracy on the lower 50% of the models range.

The 7030 user interface has an intuitive touch screen to enable fast and simple operation. EasyCal software can also be used with the unit to fully automate the calibration process, providing control and read back during testing applications.

Applications
With excellent control stability of 0.003%, precision of 0.015% and a 12 month uncertainty of 0.025% full scale (IS-50 optional), the 7030 is well suited for industrial calibration of pressure sensors and transmitters, or as a working standard for the control and calibration of all types of pressure gauges.

Functionality
The 7030 features a colour touch-screen interface with user-friendly menus designed for simple operation, enabling users to quickly learn and master the operation and controls.
Depending on the application, the user can choose between three input functions:

1. Numeric keypad for the precise input of the pressure value (set point) which will be controlled.

2. The STEP key menu provides defined steps programmed in pressure increments or percent of full span to move the pressure set point across the range of the instrument under test. Step key values are user defined in the setup menu.

3. The JOG key menu provides a way for the operator to define small pressure steps up or down to reach a cardinal point on a dial gauge. The jog buttons increment the least significant digit by 1, 10 or 100 counts.

EasyCal Software
The 7030 is EasyCal Software compatible, enabling 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.

With EasyCal users can produce calibration certificates and reports to ISO 9001, ISO 17025, and other international quality standards. EasyCal is designed for use with Time Electronics products to cover calibration applications for electrical, temperature, pressure, dimensional, force and more.

7030 Specifications

TECHNICAL SPECIFICATIONS

Pressure ranges................................... -1 to +100 bar (-1 to 1500psi) -depending on range ordered (standard ranges listed below)

Pressure types .... Absolute, gauge or bi-directional ranges

Precision .... < 0.015% FS (0.015% IS with 7030INTSC option)

1 year Uncertainty.............................. < 0.025% FS (0.025% IS-50 with 7030INTSC option)

IntelliScale Option (7030INTSC)............. 0.025 % IS-50 Accuracy: 0.025 % of reading in the upper half of the measuring range, and 0.025% from 50% of max to the minimum range, ie 0.025% of 50% of the ordered range.
0.015 % IS Precision - Defined as the max deviation between two measurements at one point under lab conditions, including linearity, hysteresis & repeatability of the measuring instrument.

Barometric Reference Option (7030BARO) .. The barometric reference can be used to switch pressure types, absolute <=> gauge. With gauge pressure sensors, the measuring range of the sensors must begin with -1bar (-15psi) in order to carry out an absolute pressure emulation.
Measuring range: 552 to 1,172 mbar abs. (8 to 17 psi abs) / Accuracy: 0.02 % of reading

Pressure units .... 38 selectable and 2 programmable

Control stability .... 0.003% of range

Slew rate .... 3 seconds to stable flag (+/-0.025% full scale pressure) for a 10% pressure change typical into 150cc volume at pressures greater than 0.34bar (5 PSI). Larger volumes can lengthen this time. Controlling to pressures less than atmosphere can lengthen this time.

Control range .... Maximum from 0 up to 100% FS

Overshoots... < 1 % FS in high speed mode

Test volume .... 50 to 1,000ccm (without throttle)

Pressure ports.................................... 4 ports with 7/16"- 20 F SAE. incl. 6 mm tube fitting adaptors. Barometric Ref port is a hose barb.

Filter elements................................... 30 micron filter element included in each pressure port

Permissible pressure media .... Clean dry non-corrosive gases

Wetted parts .... Aluminium, brass, 316 and 316L stainless steel, Buna N, FPM/FKM, glass filled epoxy, RTV, Nylon

Overpressure protection .... Safety relief valve

Screen .... Colour LCD with touch-screen

Resolution .... 4 to 6 digtis

Display update .... 4 values/sec

Warm-up time..................................... approx. 15 minutes

Digital Interface .... RS-232, USB

Command sentences........................... SCPI

Power Supply...................................... 100 to 230V AC, 50/60 Hz

Supply port Pressure .... Maximum 105 to 110% FS

Test port Pressure .... Maximum 105% FS

Operating temperature .... 0 to 50°C

Storage temperature........................... 0 to 70°C

Air humidity .... 5 to 95% (relative humidity without moisture condensation)

Compensated temperature range ...... 15 to 45°C

Dimensions/Weight............................. H191 x W259 x D310mm (including handle), weight 7.1kg (9kg with internal options)

ORDERING INFORMATION

7030 ....**Automatic Pressure Calibrator (range required)**

Range (bar)	0.2	2	5	10	20	35	70	100
Option Code	**7100**	**7101**	**7102**	**7103**	**7104**	**7105**	**7106**	**7107**

Custom ranges available upon request

7030BARO...Barometric Reference option

7030INTSC..IntelliScale option for 7030

ECFLA ....EasyCal Calibration Software (full user licence, accompanying calibrator discounted price)

C228...Factory (NPL Traceable) Calibration Certificate

C229...UKAS Calibration Certificate (ISO 17025)