



- Vacuum to 600bar versions available
- Accuracy 0.04% of full scale
- Pneumatic or hydraulic
- Dual channel – 4 & 5 engineering units
- Loop current measure
- 24/36V loop power
- Over-pressure alarm
- RS-232 serial interface
- EasyCal software compatible
- Mains or battery powered

### DESCRIPTION

The 7015 is a robust portable pressure calibrator that is suitable for field and laboratory calibration work of both pressure and electrical process loop signals. It is a simple operation instrument ideal for calibrating and cross-checking pressure gauges, sensors, transmitters, transducers, indicators, switches, and many other devices. The following ranges are available for each channel; 0.2, vacuum to 2, 5, 10, 20, 35, 70, 100, 200, 400, or 600bar. Vacuum down to -850mbar is possible on the 2bar range.

For process signal calibration the loop signal is displayed on the LCD display to 0.05% accuracy. Loop drive supply (24V or 36V) is also provided. Both pressure and loop signal can be displayed at the same time to speed up the calibration of pressure transmitters. Additionally a continuity function is available for testing for open circuit loops.

The 7015 allows switch selection of five pressure units on channel one and four pressure units on channel two where mA is also shown. Common pressure units are configured as standard (see specifications), but user-specified units can be requested:- bar, PSI, kPa, MPa, inWg, cmWg, inHg, mmHg, Kg/cm<sup>2</sup>, atm. Both pressure and loop current are displayed on 4.5 digit LCD displays.

Power is via internal rechargeable cells (24 hours typical use) with a built-in mains charger. The unit can be powered directly from the mains if required. The 7015 is housed in an impact resistant safety case that provides protection and increased durability. All pressure connections are on the side of the case. The instrument is supplied with 2 pressure hoses, electrical test lead, 2 electrical probes and 2 crocodile clips.

### OPTIONS

For the 7015, input pressure can be generated by external hand pumps. The 7090 pneumatic (-950mbar to 40bar), or 7095 hydraulic (0 to 700bar) pumps are ideal for this purpose. Gauges are also available.

For process control signal simulation Time Electronics' handheld 7006 Loop-Mate is available as an option. It provides 4 - 20mA and 0 - 10V signals at levels of 0%, 10%, 25%, 50%, 75%, 90%, 100%. It can also step through these set points automatically to allow hands free calibration. It is battery powered and can be stored in the 7015's supplied carry pouch. See separate datasheets for more information.

The 7015 is fitted with RS232 connection as standard. Display readback can be performed using EasyCal calibration software. With comprehensive features EasyCal can simplify and speed up calibration procedures. Easily produce calibration certificates and reports to international quality standards.



# 7015 Specifications

## TECHNICAL SPECIFICATION

### PRESSURE

Specifications are for 1 year at 23°C ±5°C. Accuracy includes linearity and long term effects. All accuracies are ±1 digit. For operation outside specified temperature range, apply 70ppm per °C

Range (bar)	0 to 0.2	Vac to 2	0 to 5	0 to 10	0 to 20	0 to 35	0 to 70	0 to 100	0 to 200	0 to 400	0 to 600
Accuracy (% of fs)	0.1	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.1	0.1	0.1
Resolution (bar)	0.01mb	.0001	0.001	0.001	0.001	0.01	0.01	0.01	0.01	0.1	0.1

Units ..... 0.2bar: Channel 1 = mbar, PSI, kPa, kg/cm2, cmWg / Channel 2 = mbar, PSI, kg/cm2, cmWg & mA.  
 Vac - 2, 5, 10 & 20bar: Ch 1 = bar, PSI, kPa, kg/cm2, cmWg / Ch 2 = bar, PSI, kg/cm2, cmWg & mA.  
 35bar and above: Ch1 = bar, PSI, MPa, kg/cm2, Atm / Ch2 = bar, PSI, kg/cm2, Atm & mA.

Maximum Pressure ..... 2 x range, 1.5 x range for 20bar and above

Sensor ..... Piezo-resistive - stainless steel diaphragm

Over pressure warning ..... 1.2 x range full scale - audio and visual (on LCD) warning

Fittings ..... Minimesse (>20bar versions) & Quick Release (<20bar versions)

### ELECTRICAL

Range ..... Loop current measurement 0 to 200mA

Resolution ..... 10µA

Resistance ..... Loop load 5Ω

Accuracy ..... 0.05% of reading ±1 digit

Loop Drive ..... 24V or 36V switch selectable, 50mA max - isolated and with short circuit protection

Continuity ..... Threshold: 100Ω with audio and visual warning

Terminals ..... 4 mm industry standard terminal posts

## GENERAL SPECIFICATION

Power Source ..... Internal rechargeable NiMH batteries, or mains supply (230V or 110V 50/60Hz)

Battery Life ..... 24 hrs of typical usage between charges

Display ..... 2 x 7 segment LCD displays with 'Low Battery' warning indicator

Interfaces ..... RS-232 for readback and re-calibration (software not supplied)

Case ..... Structural resin which is weather-proof to IP66 standard

Dimensions ..... W270 x H175 x D250mm

Weight ..... 3kg

Supplied with ..... 2 pressure hoses: Minimesse for versions ordered over 20bar, Quick release for under 20bar  
 Electrical Test Lead: Twin flexible lead, terminated with 4 off 4mm gold plated plugs  
 Electrical probes: 2 off low voltage probes and 2 crocodile clips. Mains power lead.

Optional Extras ..... Pneumatic & hydraulic hand pumps, gauges, loop simulators, EasyCal calibration software, spare fuses, and calibration certificates traceable to NPL and UKAS

## ORDERING INFORMATION

**7015** ..... **Dual Channel Pressure Calibrator** (+ 2 pressure range codes shown below)

Range (bar)	0.2	Vac to 2	5	10	20	35	70	100	200	400	600
Option Code	7100	7101	7102	7103	7104	7105	7106	7107	7108	7109	7110

7090 ..... Pneumatic Hand Pump (-950mbar to 40bar). See separate datasheet for options.

7095 ..... Hydraulic Hand Pump (0 to 700bar). See separate datasheet for options.

7006 ..... Loop-Mate 1: Loop Current Simulator

ECFLA ..... EasyCal Calibration Software. See separate datasheet for further information.

C178 ..... Factory Calibration Certificate (NPL traceable)

C190 ..... UKAS Calibration Certificate (ISO 17025)

Due to continuous development Time Electronics reserves the right to change specifications without prior notice.

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