



- Vacuum to 10bar versions available
- Accuracy 0.04% of full scale
- Pneumatic
- Up to 5 selectable engineering units
- Loop current measure
- 24/36V loop power
- Over-pressure alarm
- RS232 serial interface
- EasyCal software compatible
- Mains or battery powered

DESCRIPTION

The 7018 is a fully integrated differential pressure test and calibration system. It is suitable for field and laboratory calibration work of both differential pressure and electrical process loop signals. The instrument is available in pressure or vacuum configuration, with the range specified on ordering. Standard available versions are; Vacuum 0.2, 2, 5, or 10bar. Static line pressures must also be specified.

Best accuracy is 0.04% of range and maximum display resolution is 0.005% of range. The excellent resolution allows higher accuracies to be achieved under controlled lab conditions when accurate pressure standards such as dead-weight pressure testers are available for transfer calibration.

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 7018 allows switch selection of five pressure units. These must be specified on ordering from the following:- bar, PSI, Kg/Cm², inHg, mmHg, KPa, cmWg. Both pressure and loop current are displayed on a 4.5 digit LCD display.

OPTIONS

For the 7018, input pressure can be generated by the 7090 pneumatic hand pump (-950mbar to 40bar). Accompanying 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 7018's supplied carry pouch. See separate datasheets for more information.

The 7018 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.



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 7018 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 a pressure hose, electrical test lead, 2 electrical probes and 2 crocodile clips.

7018 Specifications

TECHNICAL SPECIFICATION

PRESSURE

Range (bar)	Vac	0.2	2	5	10
Accuracy (% of fs)	0.04	0.1	0.04	0.04	0.04
Resolution (bar)	.0001	0.01mb	.0001	0.001	0.001

Temperature Stability	Less than 70ppm per °C
Units	bar, PSI, Kg/Cm ² , inHg, mmHg, KPa, cmWg (5 units only, specify on order)
Maximum Static Pressure	10bar
Sensor	Piezo-resistive - stainless steel diaphragm
Over pressure warning	1.2 x range full scale - audio and visual (on LCD) warning
Fittings	Quick Release

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	7 segment LCD display 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	1 pressure hose: Quick release fitting 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 hand pump, gauges, loop simulators, EasyCal calibration software, spare fuses, and calibration certificates traceable to NPL and UKAS

ORDERING INFORMATION

7018 **Differential Pressure Calibrator** (+ pressure range code + static pressures + 5 pressure units)

Range (bar)	Vac	0.2	2	5	10
Option Code	7111	7100	7101	7102	7103
Select 5 Units	bar, PSI, Kg/Cm ² , inHg, mmHg, KPa, cmWg				

7090	Pneumatic Hand Pump (-950mbar to 40bar). 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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v1c 22/3/11