



- Vacuum to 600bar versions available
- Best accuracy 0.04% of full scale
- Pneumatic or hydraulic input connection
- Ideal for use with 7194 and 7195 pumps
- 4.5 digit display
- 9 selectable engineering units
- Loop current measure
- Min/max logging (pressure & current)
- EasyCal software compatible (RS-232)

### DESCRIPTION

The 7038 is a precision multifunction indicator module that can be used for pressure or vacuum calibration. It also has the provision to measure process loop current. This allows pressure transmitters and converters to be calibrated directly (with an accompanying DC supply module like 7083 or 7087). The following versions are available; 0.2, vacuum to 2, 5, 10, 20, 35, 70, 100, 200, 400, or 600bar.

The display is a 4.5 digit LCD and pressure can be displayed in any of nine popular engineering units (5 units for 35 to 600bar versions). Basic accuracy is 0.04% for pressure. Loop current is displayed in mA, or percentage of span (4-20mA). A leak rate function is also provided and displays leakage, either in pressure units per second, or per minute as selected in the 'User Set-Up'. Additionally maximum and minimum pressure (or loop current) can be displayed.

The module is fitted as standard with an RS-232 interface situated on the rear of the CalBench console. This enables communication and readback with EasyCal calibration software (supplied as standard with the 7051 multifunction calibrator/control centre module). With EasyCal the user can define pressure calibration procedures and create and print traceable calibration certificates.

For input pressure Time Electronics have a range of pumps including the 7194 benchtop pneumatic pump (vacuum to 100bar) and 7195 hydraulic benchtop pump (vacuum to 600bar). Each pump features a double output manifold to enable connection to both the module and device under test. They can be used conveniently on the CalBench worktop to provide a precision pressure source to the 7038 and DUT, with a method that requires minimal user effort.

### SPECIFICATIONS

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	20bar and below: (mbar on 0.2bar version), PSI, kg/cm <sup>2</sup> , inHg, mmHg, cmWg, inWg, kPa, Atm 35bar to 600bar: bar, PSI, kg/cm <sup>2</sup> , MPa, Atm
Maximum Pressure	2 x range, 1.5 x range for 20bar and above versions
Sensor	Piezo-resistive - stainless steel diaphragm
Over Pressure Warning	1.2 x range full scale - audio and visual (on LCD) warning
Fittings	Quick Release (under 20 bar) and Minimesh (over 20 bar)
Loop Current Calibration	Range: +/- 200mA , or % of 4 - 20mA. Display: -199.99 to +199.99mA, or -25% to +200% Accuracy: 0.05% of rdg +/- 2dg (%4-20mA = 0.1%). Resolution: 10µA (200mA mg), (%4-20mA = 0.1%) Loop resistance: Less than 2 ohms. Protection: 250mA automatic reset Poly-Fuse Sockets: 4mm industry standard
Interface	RS-232 for readback (using EasyCal on 7051 if ordered)
Module Width	100mm (primary or secondary console fitting)

### ORDERING INFORMATION

**7038** ..... **Multifunction Pressure Indicator Module** (+ pressure range code shown below)

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

ECFLA	EasyCal Calibration Software. See separate data sheet for further information.
Pumps	7194 / 7195: See separate data sheets for information, other pumps available
C172	Factory Calibration Certificate (NPL traceable)
C132	UKAS Calibration Certificate (ISO 17025)

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