



## Features

- Vacuum to 600 bar versions available
- Best accuracy 0.04 % of full scale
- Pneumatic or hydraulic input connection
- Ideal for use with benchtop pumps
- 4.5 digit display
- 9 selectable engineering units
- Loop current measure
- Min/max logging (pressure and 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 600 bar.

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 600 bar versions). Basic accuracy is 0.04 % for pressure. Loop current is displayed in mA, or percentage of span (4-20 mA). 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 with internal communication to a control centre (standard with 8060 or 7051 if ordered). This enables readback with EasyCal calibration software. With EasyCal the user can define and perform pressure calibration procedures as well as create and print traceable calibration certificates.

For input pressure Time Electronics have a range of pumps including the 7194A benchtop pneumatic pump (vacuum to 200 bar) and 7195 hydraulic benchtop pump (700 bar). 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 UUT, 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 70 ppm 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)	0.01 mb	.0001	0.001	0.001	0.001	0.01	0.01	0.01	0.01	0.1	0.1

- Units**.....20 bar and below: (mbar on 0.2 bar version), PSI, kg/cm2, inHg, mmHg, cmWg, inWg, kPa, Atm.  
35 bar to 600 bar: bar, PSI, kg/cm2, MPa, Atm.
- Maximum pressure**.....2 x range, 1.5 x range for 20 bar 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**.....Minimess (quick release for low pressure ranges)
- Loop current calibration**.....Range: +/- 200 mA, or % of 4 - 20 mA. Display: -199.99 to +199.99 mA, or -25 % to +200 %.  
Accuracy: 0.05 % of rdg +/- 2 dg (% 4-20 mA = 0.1 %). Resolution: 10 µA (200 mA rng), (% 4-20 mA = 0.1 %).  
Loop resistance: Less than 2 ohms. Protection: 250 mA automatic reset poly-fuse.  
Sockets: 4 mm industry standard.
- Interface**.....RS-232 for readback (internal to control centre if ordered).
- Module width**.....100 mm (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
Option Code	7100	7101	7102	7103	7104	7105	7106	7107	7108	7109	7110

- ECFLA..... EasyCal Calibration Software
- C178..... Traceable calibration certificate (Factory)
- C190..... Accredited calibration certificate (ISO 17025)

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