COSINUS®
MESSTECHNIK GMBH

- ***Vacuum to 20bar versions available***
- ***Accuracy 0.04% (0.025% HA version) of FS***
- ***Pneumatic***
- ***Up to 9 selectable engineering units***
- ***Loop current measure***
- ***Min/Max logging & leak rate functions***
- ***4.5 digit display***
- ***RS-232 serial interface***
- ***EasyCal software compatible***
- ***Battery powered (9V PP3, 50 hours use)***

DESCRIPTION

The 7040 is a portable pressure and current calibrator suitable for workshop, laboratory and field use. With the capability to measure process loop current and pressure, devices such as transmitters and converters to be calibrated directly. Basic accuracy is 0.04% (0.025% available).

Pressure can be displayed in any of nine popular engineering units; Bar, PSI, KPa, inWg, cmWg, inHg, mmHg, Kg/cm^2, and Atm.

Loop current can be displayed in mA, or as a percentage of span (4-20mA). A min/max logging function (pressure or loop current) is provided. The min or max values can be recalled to the display and if required can be viewed in real time.

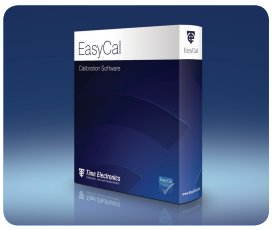
An additional feature is leak rate display. This allows the actual leakage rate to be observed in real time in the selected 'pressure units' per sec, or per min.

By connecting the 7040 to a PC or laptop via RS-232 and using a suitable program (see EasyCal details below) the displayed parameters can be read back: Pressure, Loop Current, Max Value, Min Value. By arranging for the program to store these values in a database a full data logging set-up is possible.

The display is 4.5 digit LCD and power is via a 9V PP3 battery. The 7040 is supplied with pneumatic fittings kit and hose, test leads, technical manual, RS-232 lead, and carry case.

OPTIONS

For the 7040, input pressure can be generated by the 7090 pneumatic hand pump (-950mbar to 40bar). The 7090 is compact with comfortable handles with grips moulded into the design make it easy to control the instrument whilst pumping up to pressure. Features include protective caging for the vent valve guarding against accidental damage, and dual o-rings on all pistons to ensure zero leakage Accompanying gauges are also available.



With RS-232 connection as standard the 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.

7040 Specifications

TECHNICAL SPECIFICATION

PRESSURE (*High accuracy available, specify range code + HA on order)

Range (bar)	Vac	0.2	2	5	10	20
Accuracy (% of fs)	0.04 (0.025*)	0.1	0.04 (0.025*)	0.04 (0.025*)	0.04 (0.025*)	0.04 (0.025*)
Resolution (bar)	.0001	0.01mb	.0001	0.001	0.001	0.001

Vacuum ..... Available on 2 bar range. Measures vacuum to - 1 bar
Filter..... Off (4 readings/sec), average of 4 readings, or average of 16 readings
Temperature Stability ..... Less than 0.005% per °C
Sensor ..... Piezoresistive
Pressure connection ..... 1/8" BSP female in a stainless steel manifold
Over-pressure ..... 3 x full scale or, 35 bar
Wetted parts..... Stainless steel & silicon (contaminated media version - stainless steel only)
Units ..... Bar, PSI, KPa, inWg, cmWg, inHg, mmHg, Kg/cm^2, Atm

LOOP CURRENT CALIBRATION

Ranges ..... +/- 200mA, and '% of 4-20mA'
Accuracy ..... 0.05% of reading +/- 2 digit, (0.1% for '% of 4-20mA' range)
Resolution ..... 10μA (200mA range), 0.1% (% of 4-20mA range)
Loop resistance..... Less than 2Ω
Protection ..... 250 mA automatic reset Poly-Fuse
Sockets ..... 4mm industry standard

DISPLAYS

Pressure display..... In one of 9 user selectable units
Loop current display ..... In mA or % of 4 - 20mA
Leak rate display ..... In pressure units per sec, or per minute, as selected in user set-up Max/Min logging display

GENERAL SPECIFICATION

Power ..... PP3 battery, life 50 hours continuous use
Front panel ..... Polycarbonate membrane keypad
Interfaces..... RS-232 for readback and re-calibration (software not supplied)
Operating temperature ..... 0 to 50°C.
Storage temperature..... -10 to 60°C
Case ..... Structural resin which is weather-proof to IP66 standard
Dimensions / Weight..... H157 x W90 x D33mm, weight 0.29kg
Supplied with ..... Carry case, Pneumatic fittings kit and hose, Test lead, Serial link cable
Optional Extras..... Pneumatic hand pump, EasyCal calibration software, and calibration certificates

ORDERING INFORMATION

7040 ..... **Digital Pressure Calibrator 7040/71xx/C or A** (pressure range code a shown below)

Range (bar)	0.2	2	5	10	20
Option Code	7100	7101 (HA)	7102 (HA)	7103 (HA)	7104 (HA)
For contaminated media version add /C. For absolute pressure sensor add /A					

7090..... Pneumatic Hand Pump (-950mbar to 40bar). See separate datasheet for options.
ECFLA ..... EasyCal Calibration Software (see separate datasheet for further information)
C185 ..... Factory (NPL Traceable) Calibration Certificate
C196 ..... UKAS Calibration Certificate (ISO 17025)

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