

# Eurotron P100 Digital Pressure Indicator

Instruction manual

## Introduction

The Eurotron P100 Pressure gauge/calibrator is a new micro-processor controlled digital pressure gauge which offer high precision, stability and functionality in a compact and robust solution package. The gauge is powered by long life internal Alkaline batteries and offer an Auto Power-off function to preserve the battery life. The MicroCal P100 allow to do

- Measuring pressure up to 2000 bar g with direct connection to the process via ½-inch BSP male pressure fitting
- Calibrating pressure devices by using an external pressure source both manual or automatic
- Real Time data transfer via RS232 (option A1)
- Automatic Calibration procedure by using the Calibration management software package CalPman 2007 (p/n BB260130)

P100 is supplied with 4x1.5V alkaline battery and instruction manual

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## Selecting pressure units

MicroCal P100 offers 5 selectable pressure units, PSI, kPa, Kg/cm<sup>2</sup>, bar and mbar which are user select able via keyboard. Keep pressing the key  per three second until the test Unit will appear on the display. Select the desired pressure unit by moving up and down with the  key and . The cursor  will be display alongside the desired pressure unit. To return to the normal mode, press the key  for 6 time until the test END will appear on the display

## Zeroing Pressure

Make sure that the calibrator is in VENT position. By holding pressing  for 5 second the Calibrator will perform the ZERO function. This function will only work with-in 50 % of the full scale and it has no effect on the bar graph indication

## Peak Function

MicroCal P100 disply both Peak+ and Peak- value. When in measurement mode, keep pressing the  for a second and the display wil always show the highest pressure measured

When the  is pressed for 5 seconds , the disp ally will activate the PEAK- function which will show the lowest presssure measured

## Getting started with the Calibrator

Press  to turn on the Calibrator . The Calibrator will perform an auto test cycle during which will display for 3 seconds the software release version indicated as **R.E.L.F 0** or progressive number. Once **ON**, the calibrator will show the applied pressure in the central part of the display, the bar graph on the lower part of the display and the selected pressure unit on the right side on the display identified by the  symbol positioned on the desired pressure unit. If during the Auto test the display will show a row of "L" or a series of "U" this means that the full scale have been exceeded and immediate action need to be taken for avoiding damage to the internal pressure sensor (please refer to the technical specification for the over range and breaking pressure value)

## Error messages

|         |  |
|---------|--|
| UUUUU   | Overpressure. Calibration might be altereded   |
| LLLLL   | Negative overload. Applied pressure was lower than -1 bar                                    |
| HHHHH   | OFFSCALE- Change scale   |
| Low Bat | Please replace the battery as the unit might not perform accordingly with it's specification |

## Push Bottom functions

By pressing  for about three seconds, the calibrator will take you into the program menu. First to appear is the Unit function menu. By pressing the key  again , the unit will take you trough the other calibrator function

| Pushbutton  | Function   |
|---|--|
|  | Press ON to switch the gauge on<br>SET: if pressed for 3 secs it t akes into the configuration menu. If pressed for more than 5 secs it switches the gauge of f                              |
|  | Zero when in measurement mode wil zero the display<br>When into configuration menu will decrease values of defined step  |
|  | During the measurement if pressed for 1 sec it activates the Peak+ function. If pressed for 5 secs it acticvates the Peak- function. In configuration menu increases value of a desired step |

## Filter/Damping function

A programmable filter/damping function display **FL XX** allows for reading of unstable or very high pulsing pressure. It is possible to "weight" the pressure reading by applying a digital filter constant between a value of 0 and 99. Once in the SET menu, press  once again to display **FL XX**. Move with the arrow key  and  to set the desired value and press 5 times  to return to measurement mode

## Resolution

It is possible to change the display resolution of the P100 by a factor of 1, 2, 5 and 10. To access this menu, enter the SET menu, then press the  key twice to display **r XX**. Move with the arrow key  and  to set the desired value and press 4 times  key to return to measurement mode.

## Power Saving

The Calibrator automatically turns off after 30 minutes as default. To reduce this time or disable this feature : Once in SET menu, press 3 times the  key until **OFF XX** is displayed. The **XX** is the turn off time in minutes. Move with the arrow key  and  to set the desired value and press 3 times  key to return to measurement mode. To disable the Auto Power of function, set the **XX value to 0**

## RS 232 communication (option A1)

If option A is ordered, Microcal P100 is delivered with the RS 232 digital communication/output. The serial communication speed can be changed by accessing the SET menu. Press for three seconds  key, the calibrator will take you into the program menu. Press 4 times the SET key to Display **BAUD**. Press Again the SET key to Display **X** where **X** is the BAUD rate speed. Move with the arrow key  and  to set the desired value and press one time the set key to return to measurement mode  
The Baud rate can be changed from 4800, 9600 or 19200.

## 0 Value will disable the function

## Replacing the batteries

MicroCal P100 calibrator is powered by 4 type AA 1.5V batteries. These batteries allows 1 Year autonomy operative life. The "LOW BAT" message will be displayed if the batteries needs to be changed. Measured pressure will be incorrect if the LOW BAT message is displayed. To replace the battery:  
1) open the gauge unscrewing the two socket head screw(3mm)  
2) Carefully replace the battery, with-out reverse the polarity

Note: Alkaline battery must be disposed properly

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## General Specification

| Pressure        | Accuracy  | Resolution | Maximum pressure |
|-----------------|-----------|------------|------------------|
| -0.5 to 0.5 bar | 0.05 % FS | 0.0001     | 150 % FS         |
| -1 to 1 bar     | 0.05 % FS | 0.0001     | 150 % FS         |
| -1 to 2.5 bar   | 0.05 % FS | 0.0005     | 150 % FS         |
| -1 to 5 bar     | 0.05 % FS | 0.0005     | 150 % FS         |
| -1 to 10 bar    | 0.05 % FS | 0.001      | 150 % FS         |
| -1 to 20 bar    | 0.05 % FS | 0.002      | 150 % FS         |
| 0 to 50 bar     | 0.05 % FS | 0.005      | 150 % FS         |
| 0 to 100 bar    | 0.05 % FS | 0.01       | 150 % FS         |
| 0 to 250 bar    | 0.05 % FS | 0.02       | 150 % FS         |
| 0 to 350 bar    | 0.05 % FS | 0.05       | 150 % FS         |
| 0 to 700 bar    | 0.05 % FS | 0.05       | 150 % FS         |
| 0 to 1000 bar   | 0.05 % FS | 0.1        | 150 % FS         |
| 0 to 1500 bar   | 0.05 % FS | 0.2        | 150 % FS         |
| 0 to 2000 bar   | 0.05 % FS | 0.5        | 150 % FS         |

Accuracy 0.05 % FS include linearity and Hysteresis (model P100-05)

Accuracy 0.1 % FS include linearity and Hysteresis (model P100-01)

Temperature range 0 to 50 °C

Temperature coefficient 0.002 % rdg/°C

Calibrate temperature 23 °C

Compensated temperature range 0 to 50 °C

Pressure media: all liquid and gas compatible with AISI 316 (non corrosive)

Wetted Part SS Inox 17-4 PH

Pressure unit: mbar, bar, KG/CM2, KPa, psi

Pressure connection: 1/2 " BSP male for all ranged

## Storage temperature

-10 °C to 60°C

## Display

Graphic, custom LCD display, 16 mm height

## Sealing

IP 65

## Power Supply

4X AA size alkaline battery (1 year autonomy)

## Physical

Aluminium case, 86 X 85 X 44mm (P100 only)

## Conformity

89/336/CEE-93/68/CEE-72/23/CE

EN61010(2001)-EN61326-1-EN 61326/A1

## Warranty

1 year (battery not included)

## Ordering Information

P100-05, Digital Pressure Gauge, 0.05 % FS accuracy

P100-01, Digital Pressure Gauge, 0.1 % FS accuracy

P100-05-PC Pneumatic Calibration Kit, 0.05 % FS accuracy

P100-05-HC Hydraulic Calibration Kit, 0.05 % FS accuracy

P100-01-PC Pneumatic Calibration Kit, 0.1 % FS accuracy

P100-01-HC Hydraulic Calibration Kit, 0.1 % FS accuracy

Option A1) RS232 Digital interface

BB260130 CalPman 2007 software package

## Limited Warranty & Limitation of liability

This Eurotron product is free from defect in material for 1 year from the date of purchase. This warranty does not cover disposable batteries or damage from accident, neglect misuse or abnormal conditions of operation or handling

Eurotron Instruments UK limited is not liable for any special, indirect, incidental or consequential damages or losses arising from any cause or theory

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