

# MicroCal P4

Hand-Held Pressure Indicator



## PRESSURE CALIBRATORS

- ▶ Up to  $\pm 0.05\%$  FS Accuracy
- ▶ Ranges from 25 mbar to 90 bar
- ▶ Lightweight, Rugged, and Ergonomic
- ▶ Large Graphic Backlit Display
- ▶ Real-Time Clock
- ▶ Data Memory for 10,000 Measurements
- ▶ Built-in Data Transfer to PCs with IR Interface
- ▶ 22 Selectable Measurements Units
- ▶ Max Load Capacity Up to 140 Bar
- ▶ Pneumatic Calibration Kits
- ▶ ATEX compliant models 2G EEx ia IIC T4
- ▶ **CalPMan 2007** Calibration Procedure Manager Software Package



## Introduction

The MicroCal P4 digital pressure gauge is a pressure-measuring instrument with an integrated pressure sensor for the measurement of differential, relative or absolute pressures and vacuum.

Its versatile range of functions and high precision render it suitable for a wide range of applications. Via the infrared interface (IR) and SCPI (Standard Commands for Programmable Instruments) commands, the MicroCal P4 can communicate with a PC. Its operation is very simple, and supports the user in his measurement tasks.

### Operating modes

- Pressure measurement / Differential pressure
- Min./Max. values
- Mean value (average)
- Pressure change rate
- Data logging (10,000 measures)

The explosion-proof version is designed as a test and measuring instrument applications in hazardous areas, and is certified for 2G EEx ia IIC T4 (Zone1).

22 selectable measurement units complete off the specification of this precise manometer.

## Accessories

- BB530218 IR/RS232 serial interface
- BB530208 RS232/USB serial interface adapter
- BB260233 LogMan HM35 software package
- EE480054 1/4" BSP gauge pressure adapter kit (1/2" M, 1/2" F, 3/8" F, 1/8" F)
- EE480055 1/4" NPT gauge pressure adapter kit (1/8" F, 1/4" F, 3/8" F, 1/2" F)
- F3280019 700 bar hydraulic hand pump
- BB206215 CalPMan 2007 - Calibration Procedure Manager

## Ordering Code

Code	Model
3209 STD	MicroCal P4 pressure calibrator; instruction manual, Eurotron calibration certificate
3209 IS	MicroCal P4 IS pressure calibrator; Eex ia IIC T4 compliance; instruction manual, Eurotron calibration certificate
<b>Table A</b>	<b>Sensor Accuracy</b>
0.2%	±0.2% FS ±1 digit accuracy
0.1%	±0.1% FS ±1 digit accuracy
0.05%	±0.05% FS ±1 digit accuracy
<b>Table B</b>	<b>Sensor Range - Available accuracies</b>
D - 25m	25 mbar gauge and differential dry sensor - 0.1% / 0.2%
D - 70m	70 mbar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
D - 200m	200 mbar gauge and differential dry sensor - 0.1% / 0.2%
D - 300m	300 mbar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
D - 500m	500 mbar gauge and differential dry sensor - 0.1% / 0.2%
D - 1000m	1000 mbar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
A - 1100m	1100 mbar absolute sensor - 0.1%
D - 2000m	2000 mbar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
G - 2000m	2000 mbar gauge wet sensor - 0.1% / 0.2%
A - 2000m	2000 mbar absolute dry sensor - 0.1%
D - 7500m	7500 mbar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
G - 7500m	7500 mbar gauge wet sensor - 0.1% / 0.2%
A - 7500m	7500 mbar absolute dry sensor - 0.1%
D - 17	17 bar gauge and differential dry sensor - 0.05% / 0.1% / 0.2%
G - 17	17 bar gauge wet sensor - 0.1% / 0.2%
G - 35	35 bar gauge wet sensor - 0.1% / 0.2%
G - 70	70 bar gauge wet sensor - 0.1% / 0.2%
G - 90	90 bar gauge wet sensor - 0.1% / 0.2%
BAR	200 mbar barometric sensor - 0.1% rdg.
3209 IS - 0.1% - D - 500m	Typical ordering code

## Specifications

**Measuring media:** inert gases and instrument air

**Media compatible rel./abs.:** all media which are compatible with stainless steel 18/8 (DIN 1.4305). Range from 1 bar to 90 bar

**Units of measurement (depending on range):** mbar, bar, Pa, hPa, kPa, MPa, kg/cm<sup>2</sup>, kg/m<sup>2</sup>, mmHg, cmHg, mHg, inHg, mmH<sub>2</sub>O, cmH<sub>2</sub>O, mH<sub>2</sub>O, inH<sub>2</sub>O, ftH<sub>2</sub>O, psi, lb/in<sup>2</sup>, lb/ft<sup>2</sup>, torr, atm

**Temperature calibration:** 0°C... 50°C

**Operating temperature:** 0°C... 50°C

**Humidity:** max. 95 % rH

**Communication:** serial Infrared (IR) Protocol and SCPI-commands

**Display rate:** 2 M/s

**Power supply:** 3 x 1.5 V battery IEC LR6, battery life time appr. 90 h or appr. 60 h (IS-Version) or external power supply unit 6 VDC (not included), **Attention:** for the EX-version no external power supply connection available

**Memory interval:** manual, 10, 25 M/s, 1s... 24h selectable

**Pneumatic connection:** hose Ø 4/6 mm (up to 10 bar) - NPT 1/8" (from 10 bar)

**Case, type of protection:** IP 54

**Case dimension:** 200 x 94/58 x 40/28 mm

**Weight incl. batteries:** 300 g

Measuring ranges	Resolution	Max. Static Pressure	Error limit %FS ±1 digit Dry sensors	Error limit %FS ±1 digit Wet sensors
0... 25 mbar	0.001	17 bar	0.2% / 0.1%	--
0... 70 mbar	0.001	17 bar	0.2% / 0.1% / 0.05%	--
0... 200 mbar	0.01	17 bar	0.2% / 0.1%	--
0... 300 mbar	0.01	17 bar	0.2% / 0.1% / 0.05%	--
0... 500 mbar	0.01	17 bar	0.2% / 0.1%	--
0... 1000 mbar	0.01	17 bar	0.2% / 0.1% / 0.05%	0.1%
0... 2000 mbar	0.1	17 bar	0.2% / 0.1% / 0.05%	0.1%
0... 7500 mbar	0.1	17 bar	0.2% / 0.1% / 0.05%	0.1%
0... 17 bar	0.0001	27 bar	0.2% / 0.1% / 0.05%	0.1%/0.2%
0... 35 bar	0.001	--	--	0.1%/0.2%
0... 70 bar	0.001	--	--	0.1%/0.2%
0... 90 bar	0.001	--	--	0.1%/0.2%
0... 1100 mbar abs	0.01	--	0.1%	--
0... 2000 mbar abs	0.1	--	0.1% / 0.05%	--
0... 7500 mbar abs	0.1	--	0.1%	--
0... 2000 mbar abs	0.1	--	0.1% rgd	--

### EE480058 2 Bar Calibration Kit

- F3280013 Pneumatic hand pump from -0.80 to 2 bar
- EE480060 Hose 4/6 mm connection kit
- EE480054 BSP adapters kit
- ABS carrying case

### EE480059 40 Bar Calibration Kit

- F3280019 Pneumatic hand pump from -0.95 to 40 bar
- EE480061 Hose and connection adapter kit
- EE480054 BSP adapters kit
- ABS carrying case

