P200 PRO

Field pressure process calibrator with
removable generation pump

P200 PRO is a field calibrator that measures and generate pressure from -1 to 700 bars with an accuracy of 0.025% FS. It is developed for the calibration, verification and testing of pressure sensors and transmitters, manometers, pressostats and flow transmitters.

Description

P200 PRO is a field calibrator that measures and generate pressure from -1 to 700 bars with an accuracy of 0.025% FS. It is developed for the calibration, verification and testing of pressure sensors and transmitters, manometers and pressostats.
Besides, it measures and generates process voltage and current and has a Pt100 input for calibrating flow transmitters.

- Pressure range: -1 to 700 bars
- Leak test
- Switch test
- Calibration of transmitters and pressostats

P200 PRO is a versatile, robust and handy instrument with its IP65 measurement head and removable pump. It is a comprehensive calibration system yet easy-to-use. It has an internal pressure sensor and accepts an external module in addition.
It simultaneously displays the output pressure and input current or voltage, the pressure percentage, the pressostat status or the MIN / MAX pressure value.
P200 PRO stores not only 1,500 measurement values but several calibration procedures, leak test or switch test procedures.
The instrument is delivered in standard with a factory calibration report traceable to the national standards that states the nominal and actual values and deviation errors.
The pressure calibrator is widely used and recommended for maintenance, regulation, metrology departments of process industries, energy field, applied or scientific research activities.

Specifications

Specifications and performances @23°C ±5°C

Pressure

Pressure media: AISI 316 SS compatible fluids (water, gas, and oil)
Engineering units: mbar, bar, hPa, kPa, Mpa, kg/cm2, kg/m2, psi, mmH2O, cmH2O, mH2O, Torr, atm, lb/ft2, inH2O, FTH2O, mmHg, cmHg, mHg, inHg
Accuracy: accuracies given for 1 year, include non linearity, hysteresis, and repeatability.
Temperature coefficient inside the temperature compensated range: ±0.002% RDG /°C
Temperature compensation: Automatic with built-in calibration matrix from 0°C to 45°C

	By interne moduel	By external sensor
Accuracy	±0.025% FS	±0.025% FS
Overpressure	125% FS	125% FS
Port	3/8" BSP male	1/4" BSP male
Connexion cable	Internal	2 m

Process voltage

Type	Measurement / Emission	Range	Resolution	Accuracy / 1 year
Voltage	IN / OUT	-200 to 200 mV	1 mV	0.02% RDG + 3 mV
		-0.2 to 2 V	10 mV	0.02% RDG + 10 mV
		-2 to 20 V	100 mV	0.02% RDG + 100 mV

Process current

Type	Measurement / Emission	Range	Resolution	Accuracy / 1 year
Current	IN / OUT	-5 to 22 mA	0.1 mA	0.02% RDG + 0.4 mA

Loop supply: 24 V ±10% (30 mA maximum)

Temperature

Type	Measurement / Emission	Range	Resolution	Accuracy / 1 year
Pt100 (=3926)	Measurement only	-200°C to +850°C	0.01°C	0.02% RDG + 0.05°C

Further features

Scaling in measurement mode	Scaling allows process signals to be displayed in % of FS or in pressure, offering a direct comparison between the measured pressure value and the transmitter output value and allowing sensors to be corrected after a calibration.
Transmitters tests	The feature enables any pressure transmitter to be controlled and calibrated with simultaneous display of input and output values in % F.S. or in actual unit. The measuring circuit is also able to power the loop for a direct connection to the transmitter under test.
Switch test	In pressure, P200 PRO controls and displays the applied pressure and the switch status OPEN or CLOSED of pressostats.
Leak test	P200 PRO detects the presence of any pressure leakage through a test procedure carrying out pressure fall measurements in a programmable time interval.

General specifications

Size	130 x 120 x 70 mm
Weight	Nett: 1.4 kg Gross: 2.5 kg
Display	Liquid crystal graphical display with automatic and manual backlite
Measurement sampling time	250 ms
Battery	Type: Rechargeable Ni-Mh with external charger Charging time: 5 h at 90% and 6 h at 99%, if instrument switched off Life time: 10 h in measurement mode without backlight
Communication ports	RS 232, full bidirectional
Storage capacity	1,500 measured values with date and time stamp

Environmental specifications

Reference range	23°C ±5°C
Operating reference range	-10 to 55°C (RH: 95 % non condensing)
Storage temperature limits	-30°C to +60°C (without battery)
IP protection	IP65 according to EN60529

Models and accessories

Instrument:

Ordering code structure: P200 PRO basic – A – B – C – D – E or P200 PRO plus – A – B – C – D – E

Please select the required options from tables A, B... below to define the right device reference.

P200 PRO basic   Calibrateur portable de pression
Delivered in standard with:

- Internal pressure module to select from the list below
- External sensor connector
- Adapter kit: ½ NPT.F, ½BSP.F, 3/8NPT.F, 3/8BSP.F, 1/8NPT.F, 1/8BSP.F, 1/4BSP.F
- Hoses
- Battery charger
- User manual

P200 PRO plus   Calibrateur portable de pression
Delivered in standard with:

- Internal pressure module to select from the list below
- External sensor connector
- mA / V input / output and Pt100 input
- Adapter kit: ½ NPT.F, ½BSP.F, 3/8NPT.F, 3/8BSP.F, 1/8NPT.F, 1/8BSP.F, 1/4BSP.F
- Hoses
- Battery charger
- User manual

Table A – Accuracy of internal pressure sensor

1	±0.05% FS
2	±0.025% FS

Table B – Internal pressure sensor *(1 choice only)*

0.010G	-100 / 100 mbar, Gauge – Resolution: 0.001 mbar
0.050G	-500 to 500 mbar, Gauge – Resolution: 0.01 mbar
0001G	-0.95 to 1 bar, Gauge – Resolution: 0.01 mbar
0002G	-0.95 to 2 bar, Gauge – Resolution: 0.01 mbar
0007G	-0.95 to 7 bar, Gauge – Resolution. 0.1 mbar
0020G	-0.95 to 20 bar, Gauge – Resolution. 0.1 mbar
0035G	0 to 35 bar, Gauge – Resolution: 1 mbar
0070G	0 to 70 bar, Gauge – Resolution: 1 mbar
0150G	0 to 150 bar, Gauge – Resolution. 1 mbar
0350G	0 to 350 bar, Gauge – Resolution. 10 mbar
0700G	0 to 700 bar, Gauge – Resolution: 10 mbar
0002A	0 to 2 bar, Absolute – Resolution: 0.01 mbar
0020A	0 to 20 bar, Absolute – Resolution. 0.1 mbar

Table C - Alimentation

A	120 V – 50/60 Hz with US plug
B	100 V – 50/60 Hz with US/Japan plug
C	230 V – 50/60 Hz with European plug

| D | 230 V – 50/60 Hz with UK plug |
| E | 230 V – 50/60 Hz with Schuko plug |

Table D - Accessories

0	None
LP	Pneumatic pump, -0.85 to 3 bar
P	Pneumatic pump, -0.95 to 40 bar
H	Hydraulic pump, 700 bar
HF	Hydraulic pump, 700 bar + high pressure hydraulic hose

Table E – Calibration report

| E | Factory calibration report |

External pressure sensors - AISI316SS - ± 0.025% FS:

EE812009	-100 / 100 mbar, Gauge – Resolution: 0.001 mbar
EE812010	-500 to 500 mbar, Gauge – Resolution: 0.01 mbar
EE812011	-0.95 to 1 bar, Gauge – Resolution: 0.01 mbar
EE812012	-0.95 to 2 bar, Gauge – Resolution: 0.01 mbar
EE812013	-0.95 to 7 bar, Gauge – Resolution. 0.1 mbar
EE812014	-0.95 to 20 bar, Gauge – Resolution. 0.1 mbar
EE812015	0 to 35 bar, Gauge – Resolution: 1 mbar
EE812016	0 to 70 bar, Gauge – Resolution: 1 mbar
EE812017	0 to 150 bar, Gauge – Resolution. 1 mbar
EE812018	0 to 350 bar, Gauge – Resolution. 10 mbar
EE812019	0 to 700 bar, Gauge – Resolution: 10 mbar
EE812020	0 to 2 bar, Absolute – Resolution: 0.01 mbar
EE812021	0 to 20 bar, Absolute – Resolution. 0.1 mbar

Pompes à main :

EE300203	2 test leads 2 mm with clamps
EE480053	1/4" BSPM / NPT.F adapter kit (1/8"; 1/4"; 3/8"; 1/2")
EE480054	it 1/4" BSPM / BSP adapter kit (1/2" M; 1/2" F, 3/8" F, 1/8" F)
EE880052	ABS carrying case for pump, calibrator and accessories
TP1-40	Pneumatic pump, -0.95 to 40 bar
HTP1-700	Hydraulic pump, 700 bar
LTP1	Pneumatic pump -0.85 to 3 bar

Further accessories:

BB530203	RS232 cable
BB530213	USB cable
BB260198	LogMan data management software

Packing information:

Size	130 x 120 x 70 mm
Weight (nett)	1.4 kg
Weight (gross)	2.5 kg