

Precision Pressure Controller/Calibrator

DPC 3800

HDG

Gauge and absolute pressure

Applications

- Calibration laboratories
- Service industries and calibration services
- Laboratories for research and development
- Pressure gauge, pressure switch and sensor manufacturing as well as transmitter calibration and creation of certificates
- Long-term measurements

Construction

- **Pressure ranges**
gauge pressure: 0 – 100 bar to 0 – 220 bar
(0 – 1500 psi to 0 – 3000 psi)
absolute pressure and combinations: as in data sheet 10461 upon request
measurement uncertainty (k = 2): better than 0.01 % FS
- Pressure controller with precision pressure sensor
- Up to 3 precision sensors can be actuated automatically (plus barometric reference)
- Customised configurations of the pressure controller possible
- Very high measuring rate
- Colour touch screen, LED backlight
- Easily calibrated
- Modular construction
- Fully digital measuring instrument
- Automatic creation of test certificates via full version calibration software DynaCal

Description

Application

The modular controller DPC 3800 HDG is equipped with up to three precision sensors and an optional barometric reference. Due to a measurement uncertainty of 0.01 % FS of the entire measuring chain and its control stability of 0.003 % FS, this instrument is perfectly suited for the automatic calibration of pressure measuring instruments for which liquids are excluded as transfer medium.

Functionality

This instrument stands out due to its up to three precision sensors that combine maximum precision with highest long-term stability. The DPC 3800 HDG achieves a control stability of 0.003 % FS of the currently active pressure range.

The instrument is operated intuitively via touch screen. All advanced functions are accessible via submenus.

Software

Besides the full version calibration software DynaCal, which allows for comfortable calibration of pressure measuring instruments including automatic creation of test certificates, the user is able to create own software programmes, e.g. via LabVIEW®.

Communication

For integration in existing systems, an RS-232, Ethernet or optionally an IEEE-488.2 interface or an analogue output is available.

Complete Testing and Calibration Systems

Fully mobile or stationary test benches can be manufactured upon customer request.

barotec
KALIBRIERTECHNIK



Technical Data

Pressure Ranges

Gauge pressure	0 – 100 bar	0 – 1500 psi
	0 – 160 bar	0 – 2500 psi
	0 – 220 bar	0 – 3000 psi

For higher pressures or for differential pressures, we recommend our DPC 3800 and DPC 3800 HD

Optional Barometric Reference

The barometric reference is required for the change of absolute pressure ⇔ gauge pressure. A pressure controller with relative reference sensors requires vacuum ranges for full functionality. Pressure range: 800 mbar to 1200 mbar abs. (12 psi to 17 psi abs.) Accuracy: 0.008 % FS

Pressure Units

23 fixed and 1 freely programmable

Instrument Version

Desktop case

Optional: 19" rack mounting with side panels incl. mounting kit

Display

Screen division: actual value, reference value, steps

Resolution: 6 digits

Keypad: colour touch screen

Warm-up time: < 10 minutes

Response time: approx. 10 ms

Pressure Range

Max. 3 pressure ranges and barometric reference

Pressure Connections

G 1/8" female

Optional: 6 mm (0.24") Swagelok® tube fitting or connection adapter

Medium

Clean, dry, non-corrosive, non-combustible and non-oxidising gases

ARMANO

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Technical Data, Options, Scope of Delivery, Ordering Information

Overrange Protection

150 % of the largest pressure range
Optional: external pressure relief valves

Supply Voltage

Auxiliary energy 88...264 V AC, 47...63 Hz

Permissible Ambient Conditions

Operating temperature: +10 °C to +40 °C (+50 °F to +104 °F)
Storage temperature: 0 °C to +70 °C (+32 °F to +158 °F)
Relative humidity: 0 to 95 % r. h. (non-condensing)
Compensated temperature range: +15 °C to +35 °C (+59 °F to +95 °F)

Communication

Interfaces: RS-232, USB, Ethernet
Optional Interface: IEEE-488.2
Analogue output (16 bit): 0...1 V, 0...5 V, 0...10 V or 4...20 mA
Switching outputs: 24 V DC PWM or TTL level
Analogue inputs: 4...20 mA or 0...10 V, others upon request

Instruction Sets

DPC 3800 HDG
Option: alternative instruction sets possible, alignment to existing HOST software upon request

Approvals and Certificates

EMC directive 2014/30/EU, DIN EN 61 326-1 emission (group 1, class A) and stability (industrial sector)

Calibration certificate 3.1 according to DIN EN 10 204
Optional: internationally traceable calibration certificate (e.g. DAkkS)

Further Options

The DPC 3800 HDG is equipped with 4 switching outputs that can be used for options. Furthermore, up to four precision sensors can be actuated.

Option M

The following features were integrated:

- On and off switch for a vacuum pump
 - Internal separation of regulator and test item
 - An additional ventilation valve for the test item side
- This option is suitable, for example, for pressure gauge adjustment.

Option StdBy

A valve uncouples the regulator and the precision sensors from the test item connection. This option is required in order to operate several DPC pressure controllers in parallel.

Option Rack (only in combination with Option StdBy)

With this option, several DPC pressure controllers can be combined in one controller unit. Sensors, e.g. barometers, can also be mirrored to connected DPC pressure controllers.

Option Vac

With this option, a 24 V signal can be actuated in order to switch a vacuum pump on or off, for example.

Scope of Delivery

- Precision pressure controller/calibrator
- Full version calibration software DynaCal
- Mains cable 1.5 m
- Operating instruction
- Calibration certificate 3.1 according to DIN EN 10 204

Options

- Portable case
- Dirt traps
- Medium separators
- Pressure generators
- Vacuum pumps

Ordering Information

Please specify in your order:

Basic model DPC 3800 HDG
Pressure range 1. pressure range, e.g. 0 – 100 bar
2. pressure range, e.g. 0 – 160 bar
3. pressure range, e.g. 0 – 220 bar
e.g. Option M

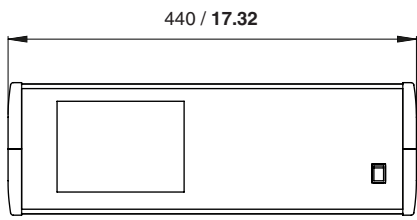
Options

Example: DPC 3800 HDG, 0 – 100 bar,
0 – 160 bar, 0 – 220 bar, Option M

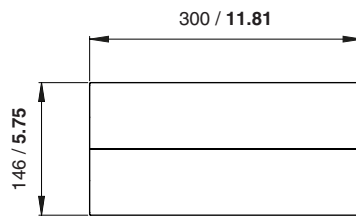
Dimensional Data and Weight

Dimensional Data in mm/inch

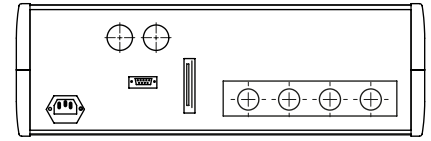
Front view



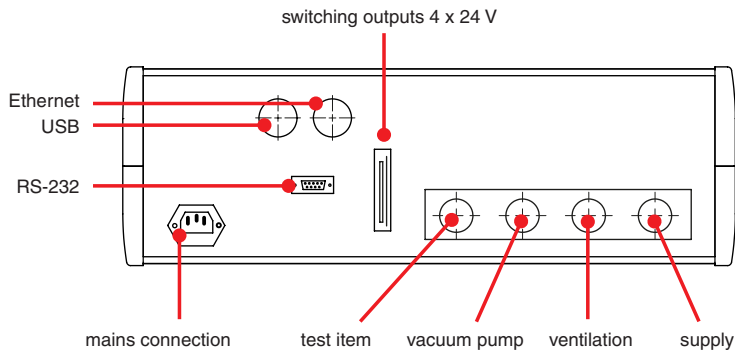
Lateral view



Back view



Electrical connections and pressure connections – back



Weight

Approx. 7.0 kg (15.43 lb)