

DATASHEET P-802CV

EL-PRESS P-802CV

Process Pressure Controller



Process Pressure Controller

Bronkhorst® model P-802CV Process Pressure Controllers (PPCs) are suited for precise pressure control with closed volumes, i.e. with one fluid connection. This PPC model is suited for pressure ranges between 17,5...350 mbar and 3,2...64 bar absolute or gauge. The instrument comprises a diaphragm type piezo-resistive pressure sensor, a microprocessor based pc-board with signal and fieldbus conversion and a PID controller for pressure control by means of two integrated control valves. This dual valve construction is a compact, economical alternative to configurations where forward pressure controllers are combined with separate bleed ports and relief valves. It is considered as a great advantage that the relief valve does not vent to the atmosphere. Furthermore the system can be set for either fast or smooth controlled (de)pressurization.

EL-PRESS series are equipped with a digital pc-board, offering high accuracy, excellent temperature stability and fast response. The main digital pc-board contains all of the general functions needed for measurement and control. In addition to the standard RS232 output the instruments also offer analog I/O. As an option, an on-board interface can be mounted to provide CANopen®, DeviceNet™, EtherCAT®, PROFIBUS DP, PROFINET, Modbus RTU, ASCII or TCP/IP, EtherNet/IP, POWERLINK or FLOW-BUS protocols.

Technical specifications

Measurement / control system

| | |
|---|---|
| Pressure ranges | min. 17,5 ... 350 mbar max. 3,2 ... 64 bar |
| Accuracy (incl. linearity and hysteresis) | standard: ± 0,5 % FS |
| Repeatability | < 0,25 % RD |
| Pressure rangeability | 1:20 (with flow range 1:50) |
| Response time (sensor) | 2 msec |
| Operating temperature | -10 ... +70 °C |
| Temperature sensitivity | 0,1% FS/°C |
| Leak integrity, outboard | tested < 2 x 10 ⁻⁹ mbar l/s He |
| Attitude sensitivity | max. error at 90° off horizontal < 0,3 mbar |
| Warm-up time | negligible |

Mechanical parts

| | |
|-------------------------|---|
| Material (wetted parts) | stainless steel 316L or comparable |
| Process connections | compression type or face seal (VCR/VCO) couplings |
| Seals | standard: Viton®; options: EPDM, Kalrez® (FFKM), FDA and USP Class VI approved compounds |

Mechanical parts

| | |
|--------------------|--------|
| Weight | 2,3 kg |
| Ingress protection | IP40 |

Electrical properties

| | | | | |
|------------------------|--|----------------|----------------|--------------------|
| Power supply | +15 ... 24 Vdc | | | |
| Max. power consumption | Supply | at voltage I/O | at current I/O | extra for fieldbus |
| | 15 V | 290 mA | 320 mA | <75 mA |
| | 24 V | 200 mA | 215 mA | <50 mA |
| Analog output | 0...5 (10) Vdc or 0 (4)...20 mA (sourcing output) | | | |
| Digital communication | standard: RS232; options: CANopen®, DeviceNet™, EtherCAT®, PROFIBUS DP, PROFINET, Modbus RTU, ASCII or TCP/IP, EtherNet/IP, POWERLINK or FLOW-BUS | | | |

Electrical connection

| | |
|---|--|
| Analog/RS232 | 9-pin D-connector (male); |
| PROFIBUS DP | bus: 9-pin D-connector (female); power: 9-pin D-connector (male); |
| CANopen® / DeviceNet™ | 5-pin M12-connector (male); |
| FLOW-BUS/Modbus-RTU/ASCII | RJ45 modular jack |
| Modbus TCP / EtherNet/IP / POWERLINK | 2 x RJ45 modular jack (in/out); |
| EtherCAT® / PROFINET | 2 x RJ45 modular jack (in/out); |

Control valve options

External actuator options to be connected to the controller

Ex-proof specifications

Approvals / certificates

Technical specifications subject to change without notice.

Note: The measuring cell of the pressure sensor is separated from the external pressure by a thin, sensitive stainless steel diaphragm, and the sealed off cavity between diaphragm and cell is filled with oil. Since the standard oil filling is flammable, Bronkhorst advises to take precautions when oxygen or any other explosive fluid is used.

For dimensional drawings and hook-up diagrams please visit the [product page](#) on our [website](#)

Recommended accessories



E-8000 SERIES

Digital Readout / Control Systems

Bright, wide angle, 1.8" display (TFT technology)
User friendly operation, menu driven with 4 push buttons



BRIGHT SERIES

Compact Local R/C Module

Bright, wide angle, 1.8" display
User friendly operation
Indication/operation/configuration



PIPS SERIES

Plug-in Power Supply

For lab-style or industrial devices
Interchangeable plugs (Euro, UK, USA, Australian, IEC) for mains connection

Related products



EL-PRESS P-812CV

Min. pressure 3,2...64 bar
Max. pressure 5...100 bar
Absolute or gauge pressure
Fast or smooth pressure control



EL-PRESS P-822CV

Min. pressure 5...100 bar
Max. pressure 10...200 bar
Absolute or gauge pressure
Fast or smooth pressure control



IN-PRESS P-802CI

Min. pressure 17,5...350 mbar
Max. pressure 3,2...64 bar
Absolute or gauge pressure
Fast or smooth pressure control
Rugged IP65 construction



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