

# 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:  $\pm 0,5\%$  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 <  $2 \times 10^{-9}$  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

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Weight	2,3 kg
Ingress protection	IP40

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## Electrical properties

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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			

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## Electrical connection

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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);

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## 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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