

# P-812CV

## EL-PRESS P-812CV

### Process Pressure Controller

- Dual valve pressure control (inlet/relief)
- For absolute or gauge pressure
- High accuracy and repeatability
- Low gas consumption (no gas bleed)
- On-board PID controller for pressure control
- Analog, RS232 and fieldbus communication



### Process Pressure Controller

Bronkhorst® model P-812CV 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 3,2...64 bar and 5...100 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 DeviceNet™, PROFIBUS DP, Modbus, EtherCAT®, PROFINET or FLOW-BUS protocols.

### Technical specifications

#### Measurement / control system

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 couplings
Seals	standard: Viton <sup>®</sup> ; options: EPDM, Kalrez <sup>®</sup> (FFKM)
Weight	2,3 kg
Ingress protection (housing)	IP40

## Electrical properties

Power supply	+15...24 Vdc		
Max. power consumption	Supply	at voltage I/O	at current I/O
	15 V	290 mA	320 mA
	24 V	200 mA	215 mA
PROFIBUS DP	add 53 mA (15 V supply) or 30 mA (24 V supply)		
PROFINET	add 77 mA (15 V supply) or 48 mA (24 V supply)		
EtherCAT <sup>®</sup>	add 66 mA (15 V supply) or 41 mA (24 V supply)		
DeviceNet™	add 48 mA (24 V supply)		
Analog output/command	0...5 (10) Vdc or 0 (4)...20 mA (sourcing output)		
Digital communication	standard: RS232; options: PROFIBUS DP, DeviceNet™, PROFINET, EtherCAT <sup>®</sup> , Modbus RTU or ASCII, 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);
Devicenet™	5-pin M12-connector (male);
EtherCAT <sup>®</sup> / PROFINET	2 x RJ45 modular jack (in/out)
FLOW-BUS/Modbus-RTU/ASCII	RJ45 modular jack

**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.

Technical specifications subject to change without notice.

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

## Recommended accessories



### E-8000 - DIGITAL READOUT / CONTROL SYSTEMS

Bright, wide angle, 1.8" display (TFT technology)

User friendly operation, menu driven with 4 push buttons



### BRIGHT - COMPACT LOCAL READOUT/CONTROL MODULE

Bright, wide angle, 1.8" display

User friendly operation

Indication/operation/configuration



### PIPS - 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-802CV

Min. pressure 17,5...350 mbar  
Max. pressure 3,2...64 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-812CI

Min. pressure 3,2...64 bar  
Max. pressure 5...100 bar  
Absolute or gauge pressure  
Fast or smooth pressure control  
Rugged IP65 construction



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