DATASHEET P-812CV

EL-PRESS P-812CV

Process Pressure Controller



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 CANopen®, DeviceNet™, PROFIBUS DP, Modbus RTU / ASCII or FLOW-BUS protocols.

Technical specifications

Measurement / control system

Pressure ranges	min. 3,2 ... 64 bar max. 5 ... 100 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
Weight	2,3 kg

Mechanical parts

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™, PROFIBUS DP, Modbus RTU / ASCII 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

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-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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