DATASHEET P-822CI

IN-PRESS P-822CI

Process Pressure Controller, Industrial Style



Process Pressure Controller, Industrial Style

Bronkhorst® model P-822CI 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 5…100 bar and 10…200 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. The IN-PRESS model is of rugged design (IP65) for use in industrial environments.

IN-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. 5 ... 100 bar max. 10 ... 200 bar
Accuracy (incl. linearity and hysteresis)	± 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

Mechanical parts

Seals	Standard: Viton 514162; Option: Kalrez 7090
Ingress protection	IP65

Electrical properties

Power supply	+15 … 24 Vdc			
Max. power consumption	Supply 15 V 24 V	at voltage I/O 290 mA 200 mA	at current I/O 320 mA 215 mA	extra for fieldbus <75 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	8 DIN (male);
PROFIBUS DP	bus: 5-pin M12 (female); power: 8 DIN (male);
CANopen® / DeviceNet™	5-pin M12-connector (male);
FLOW-BUS/Modbus-RTU/ASCII	5-pin M12 (male)
Modbus TCP / EtherNet/IP / POWERLINK	bus: 2 x 5-pin M12 (female) (in/out); power: 8 DIN (male);
EtherCAT®/ PROFINET	bus: 2 x 5-pin M12 (female) (in/out); power: 8 DIN (male)

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



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



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



EL-PRESS P-822CV

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

Bronkhorst®

www.bronkhorst.com

Bronkhorst High-Tech designs and manufactures innovative instruments and subsystems for low-flow measurement and control for use in laboratories, machinery and industry. Driven by a strong sense of sustainability and with many years of experience, we offer an extensive range of (mass) flow meters and controllers for gases and liquids, based on thermal, Coriolis and ultrasonic measuring principles. Our global sales and service network provides local support in more than 40 countries. Discover Bronkhorst®!