P-602CV

EL-PRESS P-602CV (P2-CONTROL)

Digital Electronic Forward Pressure Controller



- Forward pressure control (controls downstream pressure "P2")
- For absolute or gauge pressure
- High accuracy and repeatability
- Well proven, compact thru-flow design
- Compact design with on-board PID controller and direct acting control valve
- Analog, RS232 and fieldbus communication

Digital Electronic Forward Pressure Controllers

Bronkhorst® model P-602C Electonic Pressure Controllers (EPCs) are suited for precise measurement and control of downstream pressure ranges between 5… 100 mbar and 3,2…64 bar absolute or between 1,75...35 mbar and 3,2...64 bar gauge. The EPC has a well-proven compact thru-flow design and includes a diaphragm type piezo-resistive pressure sensor, a microprocessor based pc-board with signal and fieldbus conversion and a compact, fast acting control valve.

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

Absolute pressure sensors	Code: 350A - Ranges (FS): 100 ... 350 mbara - P-max: 1,0 bara - Burst pressure: 1,4 bara Code: 1K1A - Ranges (FS): 0,35 ... 1,1 bara - P-max: 3,1 bara - Burst pressure: 4,2 bara Code: 6K0A - Ranges (FS): 1,1 ... 6 bara - P-max: 10,5 bara - Burst pressure: 14 bara Code: 21KA - Ranges (FS): 6 ... 21 bara - P-max: 62 bara - Burst pressure: 84 bara Code: M10A - Ranges (FS): 20 ... 100 bara - P-max: 200 bara - Burst pressure: n.a.
Relative pressure sensors	Code: 100R - Ranges (FS): 35 ... 100 mbarg - P-max: 0,7 barg - Burst pressure: 0,8 barg Code: 350R - Ranges (FS): 100 ... 350 mbarg - P-max: 1,0 barg - Burst pressure: 1,4 barg Code: 1k1R - Ranges (FS): 0,35 ... 1,1 barg - P-max: 3,1 barg - Burst pressure: 4,2 barg Code: 6K0R - Ranges (FS): 1,1 ... 6 barg - P-max: 10,5 barg - Burst pressure: 14 barg Code: 21KR - Ranges (FS): 6 ... 21 barg - P-max: 62 barg - Burst pressure: 84 barg
Accuracy (incl. linearity and hysteresis)	standard: ± 0.,5 % FS
Repeatability	< 0,1 % RD
Pressure rangeability	1 : 20 (with flow range 1 : 50)
Control stability	≤ ±0,05% FS (typical for 1 l_n/min N_2 at specified process volume)
Operating temperature	-10 … +70 °C
Temperature sensitivity	0,1% FS/°C
Max. Kv-value	6,6 x 10^{-2}
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	0,7 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);

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-612CV (P2-CONTROL)

Min. pressure 3,2...64 bar
Max. pressure 5...100 bar

Absolute or gauge pressure

High accuracy



IN-PRESS F-0XXAI+P-5X2CI (P2-CONTROL)

Min. pressure 2...100 mbar
Max. pressure 8...400 bar

Absolute or gauge pressure

Compact IP65 design



IQ+FLOW IQP-600C EPC (P2-CONTROL)

Min. pressure 0,025...0,5 bar
Max. pressure 0,5...10 bar

Ultra compact

MEMS technology



IQ+FLOW IQPD-600C EPC (P2-CONTROL)

Min. pressure 0,025...0,5 bar
Max. pressure 0,5...10 bar

Ultra compact; downported

MEMS technology

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