

# P-5X2CI-F-0XXAI

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## IN-PRESS P-5X2CI+F-0XXAI (P1-CONTROL)

Industrial Style Back Pressure Controller

- Back pressure control (controls upstream pressure "P1")
- For absolute or gauge pressure
- High accuracy and repeatability
- Well proven, compact thru-flow design
- Rugged, weatherproof housing (IP65, dust and waterproof)
- Analog, RS232 and fieldbus communication



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## Industrial Style Forward Pressure Controllers

Bronkhorst® models P-502CI through P-532CI Electronic Pressure Transducers (EPTs) can be combined with control valves for precise measurement and control of pressure ranges between 2...100 mbar and 8...400 bar absolute or gauge. The standard direct acting valves (F-001AI/F-011AI) are normally closed, have a pressure capability up to 100 bar and are available for Kv-values up to  $6.6 \times 10^{-6}$ . Normally opened valves can also be supplied. For pressure control in combination with high flow rates, Bronkhorst has pilot operated valves models F-002AI and F-003AI/F-003BI with Kv-values up to 6.0! The so-called Vary-P valve F-033 that can cope with 400 bar delta-P. And finally, our bellows valve F-004 can be used for applications with very low differential pressure.

All combinations of IN-PRESS pressure meters with control valves are of rugged design (IP65) for use in industrial environments or even Zone 2 hazardous areas, with optional ATEX Cat. 3 approval.

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™, PROFIBUS DP, PROFINET, Modbus or FLOW-BUS protocols.

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## Technical specifications

## Measurement / control system

Absolute pressure sensors  
Code: 350A - Ranges (FS): 100 ... 350 mbara - P-max: 1,0 bara  
Code: 1K1A - Ranges (FS): 0,35 ... 1,1 bara - P-max: 3,1 bara  
Code: 6K0A - Ranges (FS): 1,1 ... 6 bara - P-max: 10,5 bara  
Code: 21KA - Ranges (FS): 6 ... 21 bara - P-max: 62 bara  
Code: M10A - Ranges (FS): 20 ... 100 bara - P-max: 200 bara  
Code: M40A - Ranges (FS): 100 ... 400 bara - P-max: 500 bara

Relative pressure sensors  
Code: 100R - Ranges (FS): 35 ... 100 mbarg - P-max: 0,7 barg  
Code: 350R - Ranges (FS): 100 ... 350 mbarg - P-max: 1,0 barg  
Code: 1k1R - Ranges (FS): 0,35 ... 1,1 barg - P-max: 3,1 barg  
Code: 6K0R - Ranges (FS): 1,1 ... 6 barg - P-max: 10,5 barg  
Code: 21KR - Ranges (FS): 6 ... 21 barg - P-max: 62 barg

Accuracy (incl. linearity and hysteresis)  $\pm 0,5\%$  FS

Repeatability  $< 0,1\%$  Rd

Pressure rangeability 1 : 5

Operating temperature  $-10...+70^{\circ}\text{C}$ ;  
for ATEX cat. 3 0...50°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®; options: EPDM, Kalrez® (FFKM)

Ingress protection (housing) IP65

## Electrical properties

Power supply +15...24 Vdc

Max. power consumption	Supply	at voltage I/O	at current I/O
	15V	290 mA	320 mA
	24V	200 mA	215 mA

PROFIBUS DP add 53 mA (15 V supply) or 30 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: CANopen®, DeviceNet™, PROFIBUS DP, PROFINET, Modbus or FLOW-BUS

## Electrical connection

Analog/RS232	8 DIN (male);
PROFIBUS DP	bus: 5-pin M12 (female); power: 8 DIN (male);
PROFINET	bus: 2 x 5-pin M12 (female) (in/out); power: 8 DIN (male);
Devicenet™	5-pin M12 (male);
FLOW-BUS/Modbus-RTU/ASCII	5-pin M12 (male)

**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 [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



### 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 F-0XXAI+P-5X2CI (P2-CONTROL)**

Min. pressure 2...100 mbar  
Max. pressure 8...400 bar  
Absolute or gauge pressure  
Compact IP65 design



**IN-PRESS P-502CI**

Min. pressure 2...100 mbar  
Max. pressure 1,28...64 bar  
Absolute or gauge pressure  
Compact IP65 design



**IN-PRESS P-532CI**

Min. pressure 4...200 bar  
Max. pressure 8...400 bar  
Absolute or gauge pressure  
Compact IP65 design



**EL-PRESS P-702CV (P1-CONTROL)**

Min. pressure 20...100 mbar  
Max. pressure 12,8...64 bar  
Absolute or gauge pressure  
High accuracy



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