

DATASHEET P-512CI

IN-PRESS P-512CI

Digital Electronic Pressure Meter, Industrial Style



Digital Electronic Pressure Meters, Industrial Style

Bronkhorst® model P-512CI Electronic Pressure Transducers (EPTs) are suited for precise measurement of pressure ranges between 1,28...64 bar and 2...100 bar absolute or gauge. The EPT 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 PID controller for optional pressure control by means of a separately mounted control valve. The IN-PRESS model is 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™, 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: M10A - Ranges (FS): 20 ... 100 bara - P-max: 200 bara Code: M40A - Ranges (FS): 100 ... 400 bara - P-max: 500 bara
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Accuracy (incl. linearity and hysteresis)	± 0,5 % FS
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Repeatability	< 0,1 % RD
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Pressure rangeability	1:50 for pressure meter; 1:20 for P2-control; 1 : 5 for P1-control
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Response time (sensor)	2 msec
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Operating temperature	-10 ... +70 °C for ATEX cat. 3 0...50°C
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Temperature sensitivity	0,1% FS/°C
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Leak integrity, outboard	tested < 2 x 10 ⁻⁹ mbar l/s He
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Attitude sensitivity	max. error at 90° off horizontal < 0,3 mbar
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Warm-up time	negligible
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Mechanical parts

Material (wetted parts)	stainless steel 316L or comparable
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Process connections	compression type or face seal (VCR/VCO) couplings
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Mechanical parts

Seals	standard: FKM/Viton®; options: EPDM, FFKM/Kalrez®, FDA and USP Class VI approved compounds
Ingress protection	IP65

Electrical properties

Power supply	+15 ... 24 Vdc			
Max. power consumption meter	Supply	at voltage I/O	at current I/O	extra for fieldbus
	15 V	95 mA	125 mA	<75 mA
	24 V	65 mA	85 mA	<50 mA
Max. Power consumption controller	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	8 DIN (male);
PROFIBUS DP	bus: 5-pin M12 (female); power: 8 DIN (male);
CANopen® / DeviceNet™	5-pin M12 (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



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-502CI

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



IN-PRESS P-522CI

Min. pressure 2...100 bar
Max. pressure 4...200 bar
Absolute or gauge pressure
Compact IP65 design



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-5X2CI+F-0XXAI (P1-CONTROL)

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