

# P-512C

## EL-PRESS P-512C

### Digital Electronic Pressure Meter

- For absolute or gauge pressure
- High accuracy and repeatability
- Well proven, compact thru-flow design
- On-board PID controller for pressure control
- Analog, RS232 and fieldbus communication



## Digital Electronic Pressure Meters

Bronkhorst® model P-512C 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.

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: M10A - Ranges (FS): 20 ... 100 bara - P-max: 200 bara  
Code: M40A - Ranges (FS): 100 ... 400 bara - P-max: 500 bara

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

Repeatability  
< 0,1 % RD

Pressure rangeability  
1:50 for pressure meter;  
1 : 20 for P2-control; 1 : 5 for P1-control

Response time (sensor)  
2 msec

Operating temperature  
-10 ... +70 °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 (VCR/VCO) couplings
Seals	standard: Viton®; options: EPDM, Kalrez® (FFKM), FDA and USP Class VI approved compounds
Weight	0,4 kg
Ingress protection	IP40

## 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	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-502C**

Min. pressure 2...100 mbar  
Max. pressure 1,28...64 bar  
Absolute or gauge pressure  
High accuracy



**EL-PRESS P-612CV (P2-CONTROL)**

Min. pressure 3,2...64 bar  
Max. pressure 5...100 bar  
Absolute or gauge pressure  
High accuracy



**EL-PRESS P-712CV (P1-CONTROL)**

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



**EL-PRESS P-522C**

Min. pressure 2...100 bar  
Max. pressure 4...200 bar  
Absolute or gauge pressure  
High accuracy



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