



MPS4232, MPS4264 EPx, MPS4216, MPS4264 CPx

Overview

The Scanivalve MPS4200 Series represents a cutting-edge family of miniature, intelligent Ethernet pressure scanners engineered for high-performance data acquisition in demanding environments. Designed with precision and scalability in mind, the series includes 16, 32, and 64 channel models to meet a wide range of aerodynamic, fluid dynamic, and industrial testing needs.

Each scanner in the MPS4200 Series features synchronous scanning, 24-bit A/D converters, and IEEE1588v2 PTP time synchronization, ensuring accurate, high-resolution pressure measurements at scan rates in excess of 1000Hz per channel. The compact form factor and robust Ethernet-based communication make these scanners ideal for embedded applications, remote installations, and high channel synchronized systems.

The MPS4264 Gen2 expands the series with advanced capabilities including an internal valve for purge and calibration features, and compatibility with the optional MPSTCU Thermal Control Unit, enabling reliable operation in extreme temperature environments. The 16 and 32 channel models were engineered with a streamlined design ideal for embedded or space-constrained installations where internal valving is not required, but allow for applications where pressures may reach up to 100PSI.

Whether used in wind tunnels, flight tests, automotive aerodynamics, or research labs, the MPS4200 Series delivers reliable, high-speed pressure data with minimal setup and maximum flexibility.

Features

- 16, 32, and 64 channel options
- Pressure ranges from 0.145PSI (4" H₂O) to 100PSI
- Accuracies as low as $\pm 0.02\%$ FS
- Dual-core processor
- Ethernet Communication: TCP, UDP and FTP; ASCII and Binary data output
- Data rates up to 3,500Hz (samples/channel/second)
- One 24 bit A/D per channel for synchronous scanning
- IEEE1588-2008 PTPv2 compatible
- Removable input headers
- Wide operating voltage: 5-36Vdc
- Integral web server
- Dynamic zero correction for unmatched sensor stability
- Valve control options; pneumatic or electric (MPS4264 only)
- Thermal Control Unit available for extended operating temperature range (MPS4264 only)

Applications

- Wind tunnel testing (low pressure and supersonic)
- Flight tests
- Engine inlet measurements
- Aerospace aerodynamics
- Automotive aerodynamics (on-car/in tunnel)
- Wind and building engineering
- Education and R&D environments

MPS4200



Specifications

	MPS4216	MPS4232	MPS4264 Gen2
Dimensions	See dimension drawings		
Weight	0.12lbs [52.6g]	0.19lbs [86.2g]	NPx: 0.488lbs [221g] CPx: 0.478lbs [217g] EPx: 0.804lbs [365g]
Channels	16	32	64
Pressure Ranges*	0.145PSI to 100PSI		
Accuracy	See pressure ranges table		
A/D Resolution	24-bit ADC		
Binary Data Output Rate[†]	3,500Hz	2,500Hz	1,250Hz
ASCII Data Output Rate[†]	200Hz	100Hz	50Hz
Power Connector	TE Connectivity PLG 8P8C Mini1		
Power Supply	5 to 36VDC		CPx & NPx: 9 to 36VDC EPx: 18 to 36VDC
Power Consumption	3.5W		CPx & NPx: 3.5W EPx: 5.5W
External Trigger	5 to 15 VDC, 6.5mA		
Ethernet Connector	TE Connectivity PLG 8P8C Mini2		
Ethernet Connection	100BaseT, MDIX Auto-crossing		
Communication Protocols	TCP/IP, UDP, FTP, HTTP, IEEE1588-2008v2 PTP		
Data Synchronization	IEEE1588-2008v2 PTP Timestamping External Hardware Triggering		
Valve Options / Control	No	No	Yes, See valve configuration
Channel (Px) Inputs	0.042" [1.067mm] OD Tubulations (standard) 0.031" [0.787mm] OD non-bulged tubulations (optional)		
Reference (REF) Inputs	0.063" [1.067mm] OD Tubulations		
Calibration (CAL) Inputs	N/A [‡]		0.063" [1.067mm] OD Tubulations
Purge (PRG) Inputs	N/A [‡]		0.063" [1.067mm] OD Tubulations
Control (CTL) Inputs	N/A		0.063" [1.067mm] OD Tubulations
Operating Temperature	0° to 70°C ^{**}		
Temperature Compensated Range	0° to 70°C		
Storage Temperature	0° to 80°C		
Humidity	5 to 95% RH, Non-condensing		
Environment Pressure	Minimum: 0.5PSIA (3.4kPa abs) Maximum: 100PSIA (690kPa abs)		
Media	Dry gases compatible silicon, silicone, aluminum, Buna-N, gold, RTV		
Standards	CE, MIL-STD-810G Cat 24, RoHS v3		

* See pressure ranges table for all standard ranges available

[†] Maximum data rate may vary based on network limitations

[‡] Removable headers available to provide Calibration and Purging capabilities

^{**} Can be extended to -50°C and up to 125°C when installed in a TCU (MPS4264 Only)

Pressure Ranges and Accuracies

Full-Scale Pressure Range ¹		Output Resolution ²	Proof Pressure ³	Burst Pressure ⁴	Maximum Reference Pressure	Measurement Range ⁵			Total System Accuracy ⁶	Typical Measurement Error ⁷
PSI	kPa	Pa			PSIG	-PSI	to	+PSI	%FS	%FS
0.145	0.999	0.0005	1PSI	4PSI	50PSI	-0.145	0.145		±0.2	±0.12
0.289	1.993	0.0006				-0.289	0.289		±0.15	±0.07
1	6.894	0.0017				-1	1			±0.03
5	34.47	0.0086				-5	5			±0.03
10	68.95	0.0172				-10	10			
15	103.4	0.0259					15			
30	206.8	0.0517					30			
50	344.7	0.0862					50			
100 ⁸	689.5	0.1724					100			
									±0.06	±0.02

¹ Standard ranges available. Custom ranges may be available, but may have a reduced accuracy. Please consult Scanivalve for more information.

² Output resolution absolute value based on typical 24-bit ADC output at calibrated range. Actual resolution will vary from sensor to sensor.

³ Proof Pressure is the maximum pressure that may be applied without changing the performance or characteristics of the pressure sensors.

⁴ Burst Pressure is the maximum pressure that may be applied without physically damaging the unit.

⁵ Modules cannot be used to measure pressure beyond 110% of the listed measurement range.

⁶ The worst-case error over a 6-month period, including linearity, hysteresis, repeatability, and temperature effects, with a quick-zero calibration.

⁷ A statistically derived error band based on historical calibration data representing the 95th percentile, or 2 x sigma, of observed performance after a quick-zero calibration. Includes contributions from sensor behavior, temperature variation, and system-level effects.

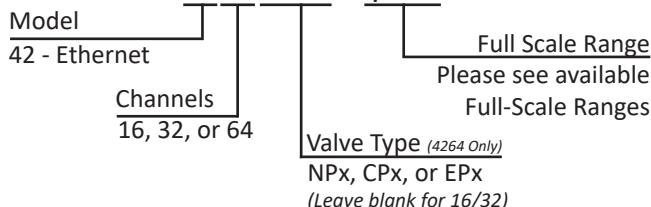
⁸ Not available in the MPS4264 64-channel scanners.

Valve Configuration and Information (MPS4264 Only)

Valve Type	Description	Control	Best Use Case
NPx (Normally Px)	Defaults to measurement mode; requires control pressure only for calibration/purge	Pneumatic 90-120PSI	Simplified systems without constant control pressure, or used alongside Scanivalve DSA modules
CPx (Control Px)	Legacy-compatible; requires control pressure to switch modes (bi-directional operation)	Pneumatic 65-120PSI	Integration with legacy Scanivalve ZOC systems
EPx (Electric Px)	Software-controlled valve switching; no pneumatic control	Electric (motorized)	Remote, or applications where no supply pressure is available

Ordering Information

MPS4264 NPx - 1psid



Supporting Accessories

Each MPS4200 is shipped with:

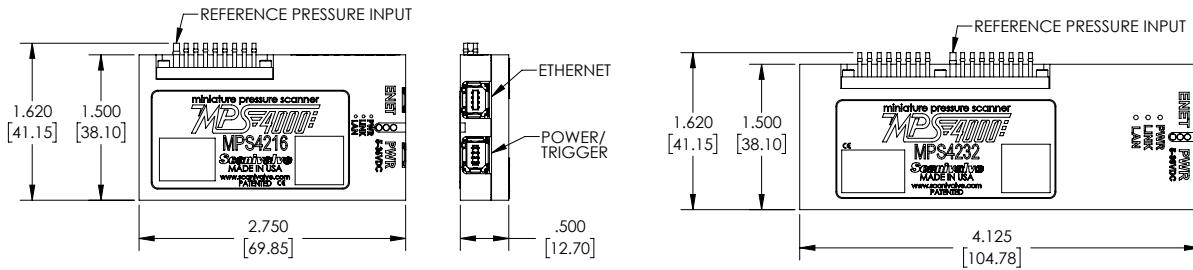
- 3ft long cable with flying leads for power/external trigger connections (PN: 155625-01)
- 3ft long Ethernet extender cable for Ethernet connection (PN: 156110-01)
- Protective case and calibration information

Additional accessories such as power supplies, TCU, input and calibration headers, plumbing dummies, mini Ethernet switches, cabling, and more can be found in the Scanivalve Module Accessory Catalog.

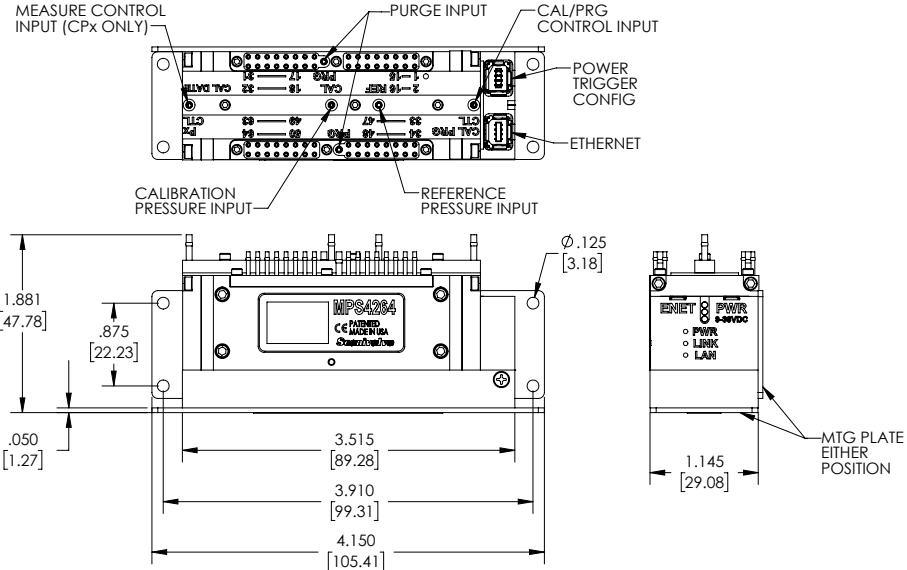
MPS4200

Dimensions Inches [mm]

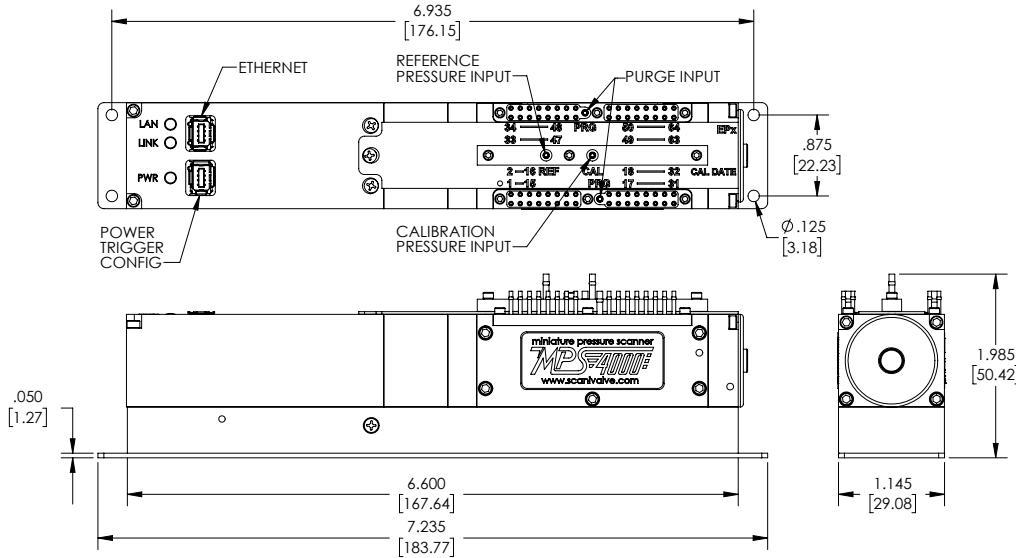
MPS4216 & MPS4232



MPS4264/NPx & CPx



MPS4264/EPx



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