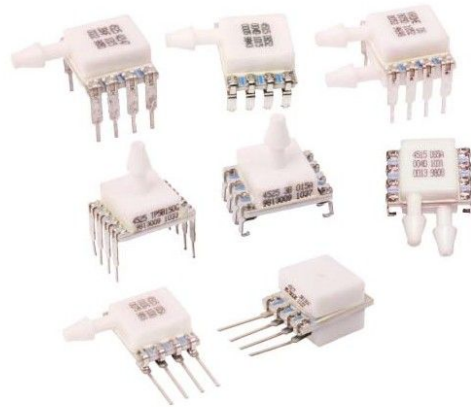


MS45XX Series

The PCB-mounted pressure sensor features analog outputs for temperature and pressure, along with I2C and SPI digital outputs. It measures gauge pressure, differential pressure, absolute pressure, and mixed pressure, with single power supply options at either 3.3V or 5.0V.

characteristic

- PCB install
- High precision analog output, I2C and SPI digital output
- Type J pin interface
- 0 to 30 inch water and 0 to 150PSI pressure force range



apply

- ◆ Filter blockage detection
- ◆ Altitude and air velocity measurements
- ◆ medical instruments
- ◆ fire-extinguishing system
- ◆ panel meter
- ◆ factory automation
- ◆ Leak detection

I. Product Description

The MS45XX series is a compact, ceramic substrate PCB-encapsulated pressure sensor. Featuring state-of-the-art CMOS sensing elements and control circuits, this product line offers both analog output (MS4515, MS4525) and digital output (MS4515DO, MS4525DO) variants. The digital outputs come equipped with I2C and SPI interfaces, delivering 14-bit pressure measurement while also providing 11-bit temperature output.

The MS45xx series has undergone full-scale calibration and temperature compensation, with a total error below 1.0% within the temperature compensation range. This rugged sensor operates on a single 3.3V or 5.0V DC power supply and offers multiple installation options including side pressure-tapping tubes or top-mounted pressure-tapping tubes, capable of measuring differential pressure, gauge pressure, absolute pressure, and mixed pressures. The MS45xx series features two pin configurations: DIL (through-hole, J-type pins) and SIL (through-hole). It is compatible with 1/8" pressure-tapping tubes and 3/32" [2.4mm] ID conduits. The product design allows flexible customization for OEM customers regarding precision, pressure range, output method, or operating temperature. The MS4525 digital output model typically consumes 0.6μA, making it the optimal choice for low-power battery-powered devices.

II. Product Definition

module	Pressure stroke	Pressure type*	output (%Vs)	service voltage (Vs)	Compensation temperature range	product features
MS4515	0-2,4,5,10, 20,30inH2O	G, D	10%~95% 5%~95%	3.3,5.0Vdc	0~60°C	inches of water analog output
MS4515DO	0-2,4,5,10, 20,30inH2O	G, D	14-bit digital SPI or I2C	3.3,5.0Vdc	0~60°C	inches of water analog output
MS4525	0-1,2,5,15,30, 50,100,150 PSI	G, A D, C	10%~95% 5%~95%	3.3,5.0Vdc	-10~+85°C	Low voltage range analog output (super stable)
MS4525DO	0-1,2,5,15,30, 50,100,150 PSI	G, A D, C	14-bit digital SPI or I2C	3.3,5.0Vdc	-10~+85°C	Low voltage range Digital output (super stable) temperature & pressure

*: A= absolute pressure; D= differential pressure; G= gauge pressure; C= mixed pressure;

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