

# PRESSURE SENSORS

We design and manufacture pressure sensors ranging from the sensing element to system packaging for harsh environments. We are an industry leader for our range of both standard and custom pressure sensors, from board level components to fully amplified and packaged transducers. Based on piezoresistive Microelectromechanical (MEMS) and silicon strain gage (Microfused, Krystal Bond) technology, our sensors measure everything from inches of water column (<5 mbar) to 100K psi (7K bar). Sophisticated design and advanced manufacturing techniques create reliable cost-effective solutions for medical, HVACR, off road/heavy equipment and general industrial applications. We manufacture one of the world's lowest power and smallest package pressure sensors for altimeter/NAV applications. Our sensors are signal conditioned, calibrated over temperature and include digital or analog outputs.



## BOARD LEVEL PRESSURE SENSORS

Digital Output and Altimeter



### MEAS MS4515DO, MS4525DO

Package	8 pin DIL
Type	Gage, compound (MS4515DO) Gage, absolute, differential, compound (MS4525DO)
Pressure Range	0 - 2 to 30" H <sub>2</sub> O (MS4515DO) 0 - 1 to 150 psi (MS4525DO)
Output / Span	14-bit ADC SPI or I <sup>2</sup> C
Resolution	—
Unique Features	<ul style="list-style-type: none"> <li>• Optional gel coat, low power</li> <li>• Pressure and temperature measurement</li> <li>• Single supply of 3.3 or 5.0 VDC</li> <li>• Top, side barbed or manifold o-ring port</li> <li>• J lead or thru hole pins</li> </ul>
Linearity/Absolute Accuracy	0.25% / 1% TEB
Overpressure	300 psi
Operating Temp.	-10°C to 85°C (MS4515DO) -25°C to 105°C (MS4525DO)
Dimensions (mm)	12.5 x 9.9
Typical Applications	Medical instruments, air flow measurements, process control, leak detection



### MEAS MS5803

Package	Surface mountable
Type	Absolute
Pressure Range	0 - 1 to 30 bar
Output / Span	24-bit ADC I <sup>2</sup> C and SPI (Mode 0, 3)
Resolution	12 µbar (MS5803-01BA) 0.5 mbar (MS5803-30BA)
Unique Features	<ul style="list-style-type: none"> <li>• 24-bit digital sensor, software calibration and temperature compensation (I<sup>2</sup>C and SPI), no external components</li> <li>• Supply voltage 1.8 to 3.6 V</li> </ul>
Linearity/Absolute Accuracy	±1.5 mbar at 25°C (MS5803-01BA) ±250 mbar at 0°C to 40°C (MS5803-30BA)
Overpressure	10 bar (1, 2 bar), 30 bar (5, 7, 14 bar) 50 bar(30 bar)
Operating Temp.	-40°C to 85°C
Dimensions (mm)	6.4 x 6.2 x 2.9
Typical Applications	Precision altimeter, diving and multi-mode watches, in-building navigation, variometers / flight instruments



### MEAS MS5837

Package	Surface mountable
Type	Absolute
Pressure Range	0 - 30 bar
Output / Span	24-bit ADC I <sup>2</sup> C
Resolution	0.2 mbar
Unique Features	<ul style="list-style-type: none"> <li>• Supply voltage: 1.5 to 3.6 V</li> <li>• Excellent long term stability</li> <li>• Hermetically sealable for outdoor devices</li> <li>• Sealing designed for 1.8 x 0.88 mm o-ring</li> </ul>
Linearity/Absolute Accuracy	±400 mbar
Overpressure	50 bar
Operating Temp.	-20 to 85 °C
Dimensions (mm)	3.3 x 3.3 x 2.75
Typical Applications	Mobile water depth measurement systems, diving computers, adventure or multi-mode watches, data loggers



### MEAS MS5525DSO

Package	SOIC-14
Type	Gage, absolute, differential, compound
Pressure Range	0 - 1 to 30 psi
Output / Span	24-bit ADC SPI or I <sup>2</sup> C protocol
Resolution	—
Unique Features	<ul style="list-style-type: none"> <li>• 24-bit digital small outline sensor</li> <li>• Pressure and temperature measurement</li> <li>• Single supply of 1.8 or 3.6 VDC</li> <li>• Barb, tube and hole package style options</li> </ul>
Linearity/Absolute Accuracy	0.25% / 2.5% TEB
Overpressure	3X range
Operating Temp.	-40°C to 125°C
Dimensions (mm)	12.5 x 7.9
Typical Applications	Medical respirators, ventilators, factory automation, altitude and airspeed measurements, leak detection, home appliances



### MEAS MS5607, MS5611, MS5637

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output / Span	24-bit ADC I <sup>2</sup> C
Resolution	0.016 mbar
Unique Features	<ul style="list-style-type: none"> <li>• 24-bit digital sensor</li> <li>• 13 cm resolution (MS5607, MS5637)</li> <li>• 10 cm resolution (MS5611)</li> <li>• Supply voltage: 1.5 to 3.6 V (MS5637)</li> <li>• Supply voltage: 1.8 to 3.6 V (MS5607, MS5611)</li> <li>• Low power, 0.6 µA (Standby ≤ 0.1 µA at 25°C)</li> </ul>
Linearity/Absolute Accuracy	±2.0 mbar at 25°C
Overpressure	6 bar
Operating Temp.	-40 to 85°C
Dimensions (mm)	3 x 3 x 0.9 (MS5637) 5 x 3 x 1 (MS5607, MS5611)
Typical Applications	Smart phones, tablets, personal navigation devices, tire pressure monitoring, compressors



### MEAS MS5805

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output / Span	24-bit ADC I <sup>2</sup> C
Resolution	0.02 mbar
Unique Features	<ul style="list-style-type: none"> <li>• 24-bit digital sensor</li> <li>• 20 cm resolution</li> <li>• Supply voltage: 1.8 to 3.6 V</li> <li>• Sealing designed for 2.5 x 1 mm o-ring</li> <li>• Silicone gel protection</li> <li>• Waterproof</li> </ul>
Linearity/Absolute Accuracy	±2.0 mbar at 25°C
Overpressure	5 bar
Operating Temp.	-40 to 85°C
Dimensions (mm)	4.5 x 4.5 x 3.5
Typical Applications	Mobile altimeter and barometer systems, bike computers, adventure or multi-mode watches, variometers, data loggers



### MEAS MS8607

Package	Surface mountable
Type	Absolute
Pressure Range	10 - 2K mbar
Output / Span	24 bit ADC I <sup>2</sup> C
Resolution	0.016 mbar
Unique Features	<ul style="list-style-type: none"> <li>• Integrated pressure, humidity and temperature</li> <li>• Supply voltage: 1.5 to 3.6 V</li> <li>• Fully factory calibrated sensor</li> </ul>
Linearity/Absolute Accuracy	±4 mbar
Overpressure	6 bar
Operating Temp.	-40°C to 85°C
Dimensions (mm)	5 x 3 x 1
Typical Applications	Smart phones, tablets, HVACR, weather stations, printers, home appliances and humidifiers

## BOARD LEVEL PRESSURE SENSORS

Amplified Output



### MEAS MS4515, MS4525

<b>Package</b>	8 pin DIL
<b>Type</b>	Gage, differential (MS4515) Gage, absolute, differential, compound (MS4525)
<b>Pressure Range</b>	0 - 2 to 30" H <sub>2</sub> O (MS4515) 0 - 1 to 150 psi (MS4525)
<b>Output / Span</b>	10% to 90% or 5% to 95% of supply
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Ratiometric analog output sensor</li> <li>• Single supply of either 3.3 or 5.0 VDC</li> <li>• Top, side barbed or manifold o-ring port</li> <li>• J lead or thru-hole pins</li> <li>• Optional gel coat</li> </ul>
<b>Accuracy</b>	0.25% span / 1% TEB
<b>Operating Temp.</b>	-10°C to 85°C (MS4515), -25°C to 105°C (MS4525)
<b>Dimensions (mm)</b>	12.5 x 9.9
<b>Typical Applications</b>	Medical instruments, air flow measurements, process control, leak detection



### MEAS MS5525ASO

<b>Package</b>	SOIC-14
<b>Type</b>	Gage, absolute, differential, compound
<b>Pressure Range</b>	0 - 1 to 30 psi
<b>Output / Span</b>	10 - 90% VDC
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Temperature compensated</li> <li>• 2.75 to 5.5 VDC supply voltage</li> <li>• Amplified ratiometric analog output</li> <li>• Barb, tube and hole package style options</li> </ul>
<b>Accuracy</b>	±0.5% span / 2.5% TEB
<b>Operating Temp.</b>	-25°C to 105°C
<b>Dimensions (mm)</b>	12.5 x 7.9
<b>Typical Applications</b>	Factory automation, altitude and airspeed measurements, medical instruments, leak detection

mV Output



### MEAS 1210, 1220, 1230, 1240

<b>Package</b>	8 pin DIL
<b>Type</b>	Gage, absolute, differential
<b>Pressure Range</b>	0 - 5 and 10" H <sub>2</sub> O 0 - 1 to 100 psi
<b>Output / Span</b>	50 mV and 100 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Temperature compensated</li> <li>• High performance UltraStable die (1230, 1240)</li> <li>• Current excitation (1210, 1230)</li> <li>• Voltage excitation (1220, 1240)</li> </ul>
<b>Accuracy</b>	±0.1% non-linearity
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	15.2 x 14.7
<b>Typical Applications</b>	Medical instruments, air flow measurement, process control, factory automation, leak detection



### MEAS 13, 23, 33, 43, 17, 27, 37, 47

<b>Package</b>	TO-8
<b>Type</b>	Gage, absolute, differential
<b>Pressure Range</b>	0 - 1 to 250 psi
<b>Output / Span</b>	100 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Temperature compensated</li> <li>• High performance UltraStable die (17, 27, 37, 47)</li> <li>• Can gel fill for humid conditions</li> </ul>
<b>Accuracy</b>	±0.1% non-linearity
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	Ø11.4, application dependent
<b>Typical Applications</b>	Medical instruments, air flow measurement, HVACR, process control, factory automation, leak detection



### MEAS MS4425, MS4426

<b>Package</b>	6 pin DIL
<b>Type</b>	Gage, absolute, differential
<b>Pressure Range</b>	0 - 1 to 300 psi
<b>Output / Span</b>	60 mV, 90 mV, 100 mV, and 150 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Temperature compensated</li> <li>• High performance UltraStable die</li> <li>• Voltage excitation</li> </ul>
<b>Accuracy</b>	±0.1% non-linearity
<b>Operating Temp.</b>	-25°C to 85°C
<b>Dimensions (mm)</b>	15.2 x 13.7
<b>Typical Applications</b>	Drop-in for 6 pin industrial sensor for PCB mounted medical

## BOARD LEVEL PRESSURE SENSORS

mV Output



### MEAS MS1451, MS1471

<b>Package</b>	Surface mountable
<b>Type</b>	Gage, absolute
<b>Pressure Range</b>	0 - 5 to 500 psi
<b>Output / Span</b>	60 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Low cost</li> <li>• Coarse calibrated at room temp. (MS1471)</li> <li>• With gel to protect against moisture</li> <li>• Tube or hole</li> </ul>
<b>Accuracy</b>	±0.25% non-linearity
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	7.6 x 7.6, application dependent
<b>Typical Applications</b>	Altitude measurement, barometric pressure, medical instrumentation, consumer appliances, tire pressure

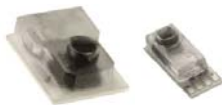


### MEAS MS52xx, MS54xx

<b>Package</b>	Surface mountable
<b>Type</b>	Gage, absolute
<b>Pressure Range</b>	0 - 1 to 12 bar
<b>Output / Span</b>	150 mV, 240 mV
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Small size (MS54xx)</li> <li>• High linearity or high sensitivity options</li> <li>• Plastic tube or metal ring options</li> <li>• With gel to protect against moisture</li> <li>• High endurance (Option HM)</li> </ul>
<b>Accuracy</b>	±0.05%, ±0.15% FS non-linearity (MS52xx) ±0.05%, ±0.2% FS non-linearity (MS54xx)
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	7.6 x 7.6, application dependent (MS52xx) 6.4 x 6.2 (MS54xx)
<b>Typical Applications</b>	Absolute pressure sensor systems, engine controls, high resolution altimeters, variometers, waterproof watches, diver computers, barometers, tire pressure monitoring systems (TPMS), medical instrumentation, pneumatic controls

## DISPOSABLE MEDICAL PRESSURE SENSORS

mV Output



### MEAS 1620, 1630

<b>Package</b>	Hybrid assembly
<b>Type</b>	Gage
<b>Pressure Range</b>	-30 to 300 mmHg
<b>Output / Span</b>	5 $\mu$ V/V/mmHg
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Low cost, disposable design</li> <li>• Supplied in tape and reel</li> <li>• Compliant to AAMI spec</li> <li>• ISO13485 certified</li> </ul>
<b>Accuracy</b>	±1.0% FSO
<b>Operating Temp.</b>	10°C to 40°C
<b>Dimensions (mm)</b>	1620: 11.43 x 8.13 x 4.20 1630: 12.7 x 5.08 x 3.94
<b>Typical Applications</b>	Disposable blood pressure, surgical procedures, ICU, kidney dialysis machines, medical instrumentation



### MEAS Fully Assembled 1620 (Customized per customer specifications)

<b>Package</b>	Plastic housing
<b>Type</b>	Gage
<b>Pressure Range</b>	-30 to 300 mmHg
<b>Output / Span</b>	5 $\mu$ V/V/mmHg
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Low cost, disposable design</li> <li>• Compliant to AAMI spec</li> <li>• Custom designs available</li> </ul>
<b>Accuracy</b>	±1.0% FSO
<b>Operating Temp.</b>	10°C to 40°C
<b>Dimensions (mm)</b>	42.8 x 30.3 x 19.0
<b>Typical Applications</b>	Disposable blood pressure, kidney dialysis machines, surgical procedures and intensive care units. Ready to use, fully assembled disposable sensor units with cable, connector, stop cock, flush device in a plastic housing.

## MEDIA ISOLATED PRESSURE SENSOR MODULES

Digital Output



### MEAS 85BSD

Package	<ul style="list-style-type: none"> <li>• 13 mm diaphragm diameter</li> <li>• Weldable or threaded process fittings</li> </ul>
Type	Gage, absolute
Pressure Range	0 - 0.35 to 20 bar / 0 - 5 to 300 psi
Output / Span	14-bit ADC I <sup>2</sup> C or SPI
Unique Features	<ul style="list-style-type: none"> <li>• Pressure and temperature read-out</li> <li>• Cable and connector options</li> <li>• Low power option</li> </ul>
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø15.85 x 7.9
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring



### MEAS 86BSD

Package	<ul style="list-style-type: none"> <li>• 16 mm diaphragm diameter</li> <li>• O-ring mount</li> </ul>
Type	Gage, absolute
Pressure Range	0 - 0.07 to 20 bar / 0 - 1 to 300 psi
Output / Span	14-bit ADC I <sup>2</sup> C or SPI
Unique Features	<ul style="list-style-type: none"> <li>• Pressure and temperature read-out</li> <li>• Cable and connector options</li> <li>• Low power option</li> </ul>
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø15.82 x 9.3
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring



### MEAS 89BSD

Package	<ul style="list-style-type: none"> <li>• 9 mm diaphragm diameter</li> <li>• Threaded or weldable</li> </ul>
Type	Absolute, sealed gage
Pressure Range	0 - 6 to 30 bar
Output / Span	24-bit ADC I <sup>2</sup> C
Unique Features	<ul style="list-style-type: none"> <li>• Pressure and temperature read-out</li> <li>• Low power: 1 µA (Standby &lt; 0.15 µA)</li> <li>• Low power option</li> </ul>
Accuracy	±0.3% span
Total Error Band	±3.0% FSO max.
Overpressure	2X
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Ø9.04 x 7.5
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, dive computers



### MEAS 154BSD

Package	<ul style="list-style-type: none"> <li>• 19 mm diaphragm diameter</li> <li>• O-ring mount</li> </ul>
Type	Gage, absolute
Pressure Range	0 - 1 to 300 psi
Output / Span	14-bit ADC I <sup>2</sup> C or SPI
Unique Features	<ul style="list-style-type: none"> <li>• Pressure and temperature read-out</li> <li>• Cable and connector options</li> <li>• Low power option</li> </ul>
Accuracy	±0.25% span
Total Error Band	±1.0% FSO
Overpressure	2X
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Ø19 x 13.8
Typical Applications	Level controls, tank level measurement, corrosive fluids and gas measurement systems, sealed systems, manifold pressure measurement, submersible depth monitoring

## MEDIA ISOLATED PRESSURE SENSOR MODULES

Analog Output



### MEAS 82, 85 with Fittings

Package	Weldable (85) or process fitting
Type	Gage, absolute, vacuum gage
Pressure Range	0 - 5 to 500 psi (85) 0 - 1 to 500 psi (82)
Output / Span	100 mV typical
Unique Features	<ul style="list-style-type: none"> <li>• Modular design</li> </ul>
Non-linearity	±0.3% FSO (1 psi) ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	Fittings: application dependent
Typical Applications	Medical, process control, refrigeration compressor, oceanography, level systems



### MEAS 89 Button, 89 with Fittings

Package	Weldable or process fitting
Type	Sealed gage, absolute
Pressure Range	0 - 1K to 10K psi
Output / Span	100 mV typical
Unique Features	<ul style="list-style-type: none"> <li>• High pressure</li> <li>• Modular design</li> </ul>
Non-linearity	±0.25% FSO
Operating Temp.	-40°C to 125°C
Dimensions (mm)	89 Button: Ø9.04 x 13.2 89 with Fittings: application dependent
Typical Applications	Air tank pressure, hydraulics, process control, robotics, refrigeration compressors, oceanography



### MEAS 86A Amplified

Package	5/8" (16 mm) diameter o-ring mount
Type	Gage, absolute
Pressure Range	0 - 1 to 150 psi
Output / Span	0.5 - 4.5 VDC
Unique Features	<ul style="list-style-type: none"> <li>• Small diameter, amplified output</li> <li>• Bar ranges available</li> </ul>
Non-linearity	±1.0% FSO
Operating Temp.	-20°C to 85°C
Dimensions (mm)	Ø15.82 x 9.3
Typical Applications	Level measurement, OEM transmitters and transducers, process control

## MEDIA ISOLATED PRESSURE SENSOR MODULES

Analog Output



### MEAS 82, 85, 85F, 86, 154N

<b>Package</b>	<ul style="list-style-type: none"> <li>• 3/4" (19 mm) diameter o-ring mount (82, 154N)</li> <li>• 5/8" (16 mm) diameter o-ring mount (86)</li> <li>• 1/2" (13 mm) diameter o-ring flush mount (85F)</li> <li>• 1/2" (13 mm) diameter o-ring mount (85)</li> </ul>
<b>Type</b>	Gage, absolute, vacuum gage (82, 85, 86, 154N) Gage, absolute (85F)
<b>Pressure Range</b>	0 - 1 to 500 psi (Absolute, gage: 82, 154N) 0 - 5 to 500 psi (Absolute, gage: 85, 86) 0 - 15 to 500 psi (85F, vacuum gage: 82, 85, 86, 154N)
<b>Output / Span</b>	100 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• High performance</li> <li>• High stability for OEM applications</li> <li>• Minimizes trapped volume (85F)</li> </ul>
<b>Non-linearity</b>	±0.3% FSO (1 psi), ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi), ±0.1% FSO (85F)
<b>Operating Temp.</b>	-40°C to 125°C (82 / 85 / 86 / 154N), -20°C to 125°C (85F)
<b>Dimensions (mm)</b>	82: Ø19 x 6.48      86: Ø15.82 x 11.4 154N: Ø18.97 x 13.8      85F: Ø17.2 x 11.33 85: Ø15.85 x 9.3
<b>Typical Applications</b>	Hydraulic controls, process control, oceanography, refrigeration/compressors, pressure transmitters, level systems, dialysis machines, infusion pumps, medical systems



### MEAS DP86 O-Ring Mount, with Fittings/Cable

<b>Package</b>	• 5/8" (16 mm) diameter o-ring mount or threaded process fittings
<b>Type</b>	Differential
<b>Pressure Range</b>	0 - 1 to 500 psi
<b>Output / Span</b>	100 mV typical / sensitivity dependent
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Wet/wet differential pressure</li> <li>• Line pressure max. 1000 psi</li> </ul>
<b>Non-linearity</b>	±0.3% FSO (1 psi) ±0.2% FSO (5 psi) ±0.1% FSO (≥15 psi)
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	O-ring: Ø15.82 x 17.5 Fittings: Application dependent
<b>Typical Applications</b>	Level controls, tank level measurement, corrosive fluids and gas measurement systems, flow measurement



### MEAS U86B

<b>Package</b>	• Mountable with o-ring seal
<b>Type</b>	Sealed gage, absolute
<b>Pressure Range</b>	0 - 5 to 13 bar / 0 - 50 to 200 psi
<b>Output / Span</b>	0.5 - 4.5 VDC (Ratiometric output)
<b>Unique Features</b>	• Amplified
<b>Non-linearity</b>	±0.5% FSO
<b>Operating Temp.</b>	-7°C to 105°C
<b>Dimensions (mm)</b>	Ø15.82 x 13.6 Socket spacing: 31.75
<b>Typical Applications</b>	Urea level, urea pressure, air brakes, corrosive fluid measurement for E&V applications

## TRANSDUCERS AND TRANSMITTERS

Wireless



### MEAS M5600, U5600

<b>Type</b>	Gage, sealed, absolute, compound
<b>Pressure Range</b>	0 - 50 to 15K psi (M5600) 0 - 5 to 10K psi (U5600)
<b>Output / Span</b>	24-bit ADC I <sup>2</sup> C
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Pressure and temperature</li> <li>• 2.3 - 3.6 V supply voltage</li> <li>• Compact and battery-powered</li> <li>• Weather resistant (IP66 and IP67)</li> <li>• Stainless steel and polycarbonate enclosure</li> </ul>
<b>Accuracy</b>	±0.25% FS (M5600) Down to ±0.1% FS (U5600)
<b>Operating Temp.</b>	-20°C to 85°C
<b>Dimensions (mm)</b>	24 x 24 x 69
<b>Typical Applications</b>	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off-road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management
<b>Agency Approvals</b>	CE, FCC

Industrial



### MEAS MSP100

<b>Type</b>	Gage
<b>Pressure Range</b>	0 - 100 to 500 psi
<b>Output / Span</b>	100 mV typical
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Microfused</li> <li>• Low cost stainless steel isolated transducer</li> <li>• No threads needed for pressure connect</li> <li>• Highly customized for OEM application</li> <li>• Small size</li> <li>• Solid state reliability</li> </ul>
<b>Accuracy</b>	±0.5% FSO
<b>Operating Temp.</b>	0°C to 55°C
<b>Dimensions (mm)</b>	12.7 x 24.38 x 20.32
<b>Typical Applications</b>	Beverage dispensing systems, automation, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment
<b>Agency Approvals</b>	—



### MEAS MSP300, MSP340

<b>Type</b>	Gage
<b>Pressure Range</b>	0 - 100 to 10K psi (MSP300) 0 - 50 to 10K psi (MSP340)
<b>Output / Span</b>	0 - 100 mV, 0.5 - 4.5 VDC, 1 - 5 VDC, 4 - 20 mA
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Microfused</li> <li>• Highly customized for OEM applications</li> <li>• Small size</li> <li>• Solid state reliability</li> </ul>
<b>Accuracy</b>	±1% FSO
<b>Operating Temp.</b>	-20°C to 85°C
<b>Dimensions (mm)</b>	MSP300: 22.23 x 22.23 x 55.88 MSP340: 15.88 x 15.88 x 75.44
<b>Typical Applications</b>	Paint sprayers, braking systems, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment, off road heavy equipment, agriculture equipment
<b>Agency Approvals</b>	UL 508 (MSP300)

TRANSDUCERS AND TRANSMITTERS

Industrial



**MEAS US300**

Type	Gage, absolute
Pressure Range	0 - 15 to 5K psi
Output / Span	0 - 10 mV/V, 0.5 - 4.5 V, 1 - 5 V, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> <li>• UltraStable technology</li> <li>• Highly customized for OEM applications</li> <li>• Small size</li> <li>• Solid state reliability</li> </ul>
Accuracy	±0.15% FSO (15 - 1K psi), ±0.25% FSO (>1K psi)
Operating Temp.	-40°C to 105°C
Dimensions (mm)	15.88 x 15.88 x 98.00
Typical Applications	Paint sprayers, braking systems, HVACR controls, energy and water management, pumps, compressors, pneumatic equipment, off road heavy equipment, agriculture equipment
Agency Approvals	—



**AST20HA, AST20PT, AST20SW**

Type	Gage, sealed gage, absolute
Pressure Range	0 - 1 to 60K psi
Output / Span	0.5 - 4.5 V [Ratiometric] 1 - 5 V, 4 - 20 mA, 0 - 5 V, 0 - 10 V, switch (AST20SW)
Unique Features	<ul style="list-style-type: none"> <li>• Excellent performance over temperature</li> <li>• Semi-custom designs available</li> <li>• Fault mode condition settings</li> <li>• Four standard sensor material options</li> <li>• Additional temperature output (AST20PT)</li> </ul>
Accuracy	±0.1% FSO
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	Test and measurement, industrial controls
Agency Approvals	ABS, CE



**AST4000**

Type	Gage, sealed gage, compound
Pressure Range	0 - 25 to 10K psi
Output / Span	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 1 - 10 V, 4 - 20 mA, 0.5 - 2.5 V
Unique Features	<ul style="list-style-type: none"> <li>• Four standard sensor material options</li> <li>• Rugged construction</li> <li>• 100 V/m EMI/RFI protection</li> <li>• Semi-custom designs available</li> </ul>
Accuracy	±0.5% FSO
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	Water, hydraulic equipment, HVACR, industrial controls
Agency Approvals	UL/cUL508, ABS, CE



**MEAS M5200**

Type	Gage, sealed, compound
Pressure Range	0 - 3.5 to 1K bar / 0 - 50 to 15K psi
Output / Span	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V
Unique Features	<ul style="list-style-type: none"> <li>• Microfused technology</li> <li>• High performance at a low cost</li> <li>• Solid state reliability</li> <li>• ±1% FSO TEB (-20°C to 85°C)</li> <li>• Weatherproof</li> <li>• 17 - 4 PH or 316L SS</li> </ul>
Accuracy	±0.25% FSO
Operating Temp.	-40°C to 125°C
Dimensions (mm)	24 X 24 X 82 max.
Typical Applications	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management
Agency Approvals	CE (EMC)



**MEAS U5200, U5300**

Type	Gage, sealed, absolute, compound
Pressure Range	0 - 0.14 to 700 bar / 0 - 2 to 10K psi
Output / Span	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V
Unique Features	<ul style="list-style-type: none"> <li>• UltraStable technology</li> <li>• High performance at a low cost</li> <li>• ±0.75% FSO TEB (-20°C to 85°C, &gt;5 psi and ≤5000 psi) (U5200)</li> <li>• ±0.5% FSO TEB (-20°C to 85°C) (U5300)</li> <li>• Weatherproof</li> <li>• High accuracy (U5300)</li> </ul>
Accuracy	±0.1% FSO (>5 and ≤500 psi)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	24 X 24 X 82 max.
Typical Applications	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic and pneumatic systems, agriculture equipment, energy generation and management, military and aerospace test stands, calibration equipment, high accuracy applications, stationary motor fuel control, high end industry machinery
Agency Approvals	CE (EMC), UL 508



**MEAS D5100**

Type	Differential wet/wet
Pressure Range	0 - 0.07 to 35 bar / 0 - 1 to 500 psi
Output / Span	80 mV / 100 mV, 0.5 - 4.5 VDC, 1 - 5 VDC, 4 - 20 mA
Unique Features	<ul style="list-style-type: none"> <li>• UltraStable technology</li> <li>• High performance at a low cost</li> <li>• Solid state reliability</li> <li>• ±1% FSO TEB (-20°C to 85°C)</li> <li>• Line pressure max. 1000 psi</li> </ul>
Accuracy	±0.3% FSO (<5 psi), ±0.25% FSO (5 psi), ±0.1% FSO (≥15 psi)
Operating Temp.	-40°C to 125°C
Dimensions (mm)	25.4 x 58.4 x 72.0
Typical Applications	Process controls, tank level measurement, filter performance monitoring, corrosive fluids and gas measurement systems, flow measurement
Agency Approvals	CE (EMC)



## TRANSDUCERS AND TRANSMITTERS

### Industrial



#### MEAS M7100, U7100

<b>Type</b>	Gage, no vent gage (M7100) Gage, sealed gage, absolute (U7100)
<b>Pressure Range</b>	0 - 10 to 700 bar / 0 - 150 to 10K psi (M7100) 0 - 1 to 10 bar / 0 - 15 to 150 psi (U7100)
<b>Output / Span</b>	0.5 - 4.5 VDC [Ratiometric output] 1 - 5 VDC [Regulated] (M7100) 0.5 - 4.5 VDC [Ratiometric output] (U7100)
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• ±1% FSO TEB (-20°C to 85°C)</li> <li>• Solid state reliability</li> <li>• Survives high vibration and immersion</li> <li>• Microfused technology (M7100)</li> <li>• UltraStable technology (U7100)</li> <li>• Copper tube for HVACR (M7100)</li> </ul>
<b>Accuracy</b>	0.25% FSO
<b>Operating Temp.</b>	-40°C to 125°C
<b>Dimensions (mm)</b>	26.7 x 26.7 x 50.0
<b>Typical Applications</b>	HVACR refrigeration controls, off road vehicles engine control, compressors, hydraulic, energy and water management
<b>Agency Approvals</b>	CE (EMC), UL 508

### Heavy Industrial



#### MEAS P900, P981, P1200, P700, P9000

<b>Type</b>	Gage, absolute
<b>Pressure Range</b>	0 - 5 bar to 700 bar / 0 - 75 to 10K psi
<b>Output / Span</b>	0 - 5 VDC, 0 - 10 VDC, 4 - 20 mA
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• High overpressure (10X over pressure)</li> <li>• Shock and vibration resistant</li> <li>• Heavy industrial grade transducer (P9000)</li> <li>• Advanced digital compensation / calibration</li> <li>• Mechanical over pressure stops</li> <li>• High temperature operation</li> </ul>
<b>Accuracy</b>	0.1% to 0.2% FSO
<b>Operating Temp.</b>	-54°C to 120°C
<b>Dimensions (mm)</b>	Application dependent
<b>Typical Applications</b>	Steel mills, hydraulic controls, power generation equipment, torpedo depth, military and aerospace, vehicle braking systems
<b>Agency Approvals</b>	CE, CENELEC (Intrinsically Safe)



#### MEAS P101, P105, P125

<b>Type</b>	Gage
<b>Pressure Range</b>	0 - 10 to 7K bar / 0 - 150 to 100K psi
<b>Output / Span</b>	7.5 to 20 mV (4 V; 5 V optional)
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Stainless steel diaphragm</li> <li>• Female pressure connectors: M16 x 1.5, M20 x 1.5, 1/4 NPT</li> <li>• Metal to metal seal</li> </ul>
<b>Accuracy</b>	±0.3% FSO
<b>Operating Temp.</b>	-20°C to 80°C
<b>Dimensions (mm)</b>	Ø29 x 85 max.
<b>Typical Applications</b>	Harsh environments, aggressive liquids
<b>Agency Approvals</b>	—

## TRANSDUCERS AND TRANSMITTERS

### Miniature



#### MEAS XP Series

<b>Type</b>	Gage, sealed, absolute
<b>Pressure Range</b>	0 - 1 to 350 bar / 0 - 15 to 5K psi (XP5, XPM10) 0 - 5 to 200 bar / 0 - 75 to 3K psi (XPM4) 0 - 100 to 1K bar / 0 - 1.5K to 15K psi (XPM6)
<b>Output / Span</b>	20 - 100 mV, 4 V FSO (Amplified)
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Titanium construction (XP5, XPM4)</li> <li>• Stainless steel housing (XPM6, XPM10)</li> <li>• Amplified output options (XP5, XPM6, XPM10)</li> <li>• Cable and connector options</li> <li>• For static and dynamic applications</li> </ul>
<b>Accuracy</b>	Down to ±0.25% FSO (XP5, XPM6, XPM10), down to ±0.35% FSO (XPM4)
<b>Operating Temp.</b>	-40°C to 120°C
<b>Dimensions (mm)</b>	XPM4: M4 x 0.7 thread; Hex 8 XP5: M5 x 0.8 or 10-32 UNF thread; Hex 10 XPM6: M6 x 1 thread; Hex 12 XPM10: M10 x 1 thread; Hex 15
<b>Typical Applications</b>	Corrosive liquids and gases, braking system pressure, onboard equipment monitoring, military and aerospace, explosive test benches, robotics and effectors, laboratory and research, extreme miniature devices



#### MEAS XPC10

<b>Type</b>	Gage, sealed, absolute
<b>Pressure Range</b>	0 - 10 to 500 bar / 0 - 150 to 7.5K psi
<b>Output / Span</b>	12 mV FSO, 4 V FSO (Amplified)
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Amplified output available</li> <li>• For static and dynamic applications</li> <li>• Optional IP67 ingress protection</li> <li>• High temperature operation</li> </ul>
<b>Accuracy</b>	Down to ±0.25% FSO
<b>Operating Temp.</b>	-40°C to 220°C
<b>Dimensions (mm)</b>	M10 x 1 or 3/8-24 UNF thread; Hex 15
<b>Typical Applications</b>	Aerospace, test benches, oven monitoring equipment, cooling regulation systems



TRANSDUCERS AND TRANSMITTERS

Miniature



**MEAS EB, EPRB**

Type	Gage, sealed, absolute
Pressure Range	0 - 0.35 to 700 bar / 0 - 5 to 10K psi
Output / Span	0.5 to 4.5 VDC
Unique Features	<ul style="list-style-type: none"> <li>• High accuracy</li> <li>• Miniature design</li> <li>• UltraStable technology</li> <li>• EMI protected</li> <li>• Combined pressure and temperature</li> </ul>
Accuracy	±0.25% FSO
Operating Temp.	-40°C to 125°C (Available option up to 150°C)
Dimensions (mm)	11 body diameter
Typical Applications	Motor sport, hydraulic / pneumatic systems, automotive test stands, military and aerospace test stands
Agency Approvals	CE (EMC)



**MEAS EPIH**

Type	Gage, sealed, absolute
Pressure Range	0 - 0.35 to 20 bar / 0 - 5 to 300 psi
Output / Span	12 mV to 75 mV
Unique Features	<ul style="list-style-type: none"> <li>• Diffused silicon diaphragm with a large variety of sizes and shapes available as small as 0.05" outside diameter</li> <li>• High frequency response (To 1.7 MHz)</li> <li>• Ultra-miniature design</li> </ul>
Accuracy	±1.0% FSO
Operating Temp.	-40°C to 120°C
Dimensions (mm)	Application dependent
Typical Applications	Aerospace testing, wind tunnels, biomedical testing, aircraft body and wing dynamics, high frequency measurements
Agency Approvals	—



**MEAS EPB, EPB-PW, EPL**

Type	Gage, sealed, absolute
Pressure Range	0 - 0.35 to 350 bar / 0 - 5 to 5K psi
Output / Span	10 mV to 125 mV
Unique Features	<ul style="list-style-type: none"> <li>• Miniature flush mountable</li> <li>• Flush stainless steel diaphragm, flanged or non-flanged</li> <li>• Bonded silicon gage, high frequency response (To 400 KHz)</li> <li>• IP68 ingress protection in Titanium construction (EPB-PW)</li> </ul>
Accuracy	±0.5 to ±1% FSO
Operating Temp.	-40°C to 120°C
Dimensions (mm)	3.2 to 7 outside diameter
Typical Applications	Air flow testing, hydraulic pressure systems, air pressure systems, bearing studies, ballistics, water hammer, miniature scale model testing, centrifuge pore water pressure measurements
Agency Approvals	—

TRANSDUCERS AND TRANSMITTERS

Liquid Level



**MEAS U5700**

Type	Gage, sealed, absolute, compound
Pressure Range	0 - 2 to 10K psi
Output / Span	0.5 - 4.5 V, 1 - 5 V, 0 - 5 V, 0 - 10 V, 4 - 20 mA, 1 - 6 V
Unique Features	<ul style="list-style-type: none"> <li>• UltraStable technology</li> <li>• High accuracy</li> <li>• IP68 rated connection and submersible polyurethane jacketed cable</li> <li>• Optional Polyoxymethylene cap</li> </ul>
Accuracy	0.1 % FSO
Operating Temp.	-10°C to 60°C
Dimensions (mm)	22.23 x 22.23 x 98.04
Typical Applications	Industrial process control and monitoring, advanced HVACR systems, refrigeration systems, automotive test stands, off road vehicles, pumps and compressors, hydraulic / pneumatic systems, agriculture equipment, energy generation and management, liquid level applications
Agency Approvals	CE (EMC)



**AST45xx**

Type	Gage, absolute
Pressure Range	0 - 1 to 100 psi (AST4500, AST4510, AST4520)
Output / Span	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V
Unique Features	<ul style="list-style-type: none"> <li>• Intrinsically safe ratings</li> <li>• Material options including: 316L, alloy C276, and PVDF</li> <li>• Low power options</li> <li>• High quality cable options</li> </ul>
Accuracy	±0.25% FSO
Operating Temp.	-40°C to 85°C
Dimensions (mm)	Application dependent
Typical Applications	Diesel tanks, chemical tanks, water tanks
Agency Approvals	UL/CSA Class I Div I, ATEX/IECEX Exia, ABS, CE

## TRANSDUCERS AND TRANSMITTERS

### Hazardous Location



#### AST43xx, AST44xx

<b>Type</b>	Gage, sealed gage, compound, absolute
<b>Pressure Range</b>	0 - 1 to 15 psi (AST43LP, AST44LP) 0 - 25 to 20K psi (AST4300, AST4400, AST4401)
<b>Output / Span</b>	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Available with 316L, alloy C276, or alloy 718 materials</li> <li>• Low current consumption options</li> <li>• Low power options</li> <li>• High proof and burst pressure</li> </ul>
<b>Accuracy</b>	±0.25% FSO
<b>Operating Temp.</b>	-40°C to 85°C
<b>Dimensions (mm)</b>	Application dependent
<b>Typical Applications</b>	Compressors, well sites, ships, factory automation, SCADA equipment, offshore equipment
<b>Agency Approvals</b>	UL/CSA Class I Div I and II, ATEX/IECEX Exia/Exn, CCOE, CNEX, ABS, CE



#### AST46xx

<b>Type</b>	Gage, sealed gage, compound, absolute
<b>Pressure Range</b>	0 - 1 to 20K psi
<b>Output / Span</b>	0.5 - 4.5 V [Ratiometric], 1 - 5 V, 4 - 20 mA, 0.5 - 2.5 V, switch (AST46SW)
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Available with 316L, alloy C276, or alloy 718 materials</li> <li>• Low current consumption options</li> <li>• Low power options</li> <li>• Local display (AST46DS)</li> <li>• Additional temperature output</li> </ul>
<b>Accuracy</b>	±0.25% FSO (AST4600, AST46DS), ±0.1% FSO (AST46HA, AST46PT)
<b>Operating Temp.</b>	-40°C to 85°C
<b>Dimensions (mm)</b>	Application dependent
<b>Typical Applications</b>	SCADA/RTU, well sites, offshore equipment, hydraulic controls
<b>Agency Approvals</b>	CSA Class I/II Div I, ATEX/IECEX Exd, ABS, CE



#### AST5100, AST5300, AST5400

<b>Type</b>	Differential
<b>Pressure Range</b>	0 - 5 H <sub>2</sub> O" to 5K psi
<b>Output / Span</b>	0.5 - 4.5 V [Ratiometric], 0 - 5 V, 1 - 5 V, 4 - 20 mA
<b>Unique Features</b>	<ul style="list-style-type: none"> <li>• Wide range of pressures available</li> <li>• Full line pressure on either side without zero shifts</li> <li>• Hazardous location approvals (AST5300, AST5400)</li> </ul>
<b>Accuracy</b>	±0.25% FSO (AST5100, AST5300), 1% TEB (AST5400)
<b>Operating Temp.</b>	-40°C to 85°C
<b>Dimensions (mm)</b>	Application dependent
<b>Typical Applications</b>	Filter monitoring, flow measurement, tank level measurement
<b>Agency Approvals</b>	CSA Class I/II Div I and II, ATEX/IECEX Exd/Exn, ABS, CE