



SM5501/SM5502

Standard Pressure, Constant Current Standard Pressure, Constant Voltage

• OEM PRESSURE TRANSDUCER FULLY TEMPERATURE COMPENSATED AND CALIBRATED

DESCRIPTION

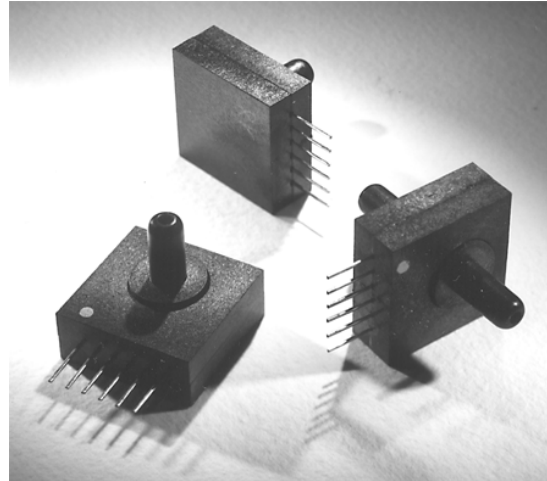
Pressure sensor models SM5501 and SM5502 are fully temperature-compensated and calibrated. Each sensor is housed in a rugged plastic enclosure.

Each series covers a wide range of full-scale pressures. Differential, gage and absolute measurement configurations are available for a wide variety of applications.

Factory calibration provides either a gain-set resistor (Model SM5501) or a fixed 50mV full-scale output (Model SM5502). By eliminating the need for customer gain adjustments, these parts are truly interchangeable and offer remarkable assembly-cost savings for a wide variety of OEM industrial, medical and consumer products.

Rugged pins, sealed into the package to prevent breakage, allow simple placement in PC boards using standard 0.1 inch center-to-center pin spacing. Full high-temperature plastic enclosure prevents substrate drift and eases handling.

Custom pressure ranges available in high-volume applications.



FEATURES

- 5, 15, 30, 60, and 100 PSI Ranges Available
- Fully Temperature-compensated
- Thoroughly Calibrated and Interchangeable
- Both Constant Voltage or Constant Current Drive Configuration Available
- Differential, Gage or Absolute Measurement
- Calibrated to Better than 2%

APPLICATIONS

- Barometric Pressure
- Medical Instrumentation
- Environmental Control
- Altimeters
- Automotive Diagnostics
- Appliances

SM5501/SM5502

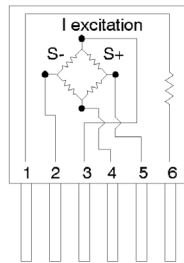
CHARACTERISTICS FOR SM5501/SM5502 - SPECIFICATIONS

Test Conditions: Model SM5501 w/excitation = 1.500mA @ 25 °C, Model SM5502 w/excitation = 10.00Vdc @ 25 °C, unless otherwise specified.

	Min.	Typ.	Max.	Units	Notes
Excitation					
Current (SM5501)	0.00	1.50	3.00	mA	
Voltage (SM5502)	0.00	10.00	20.00	V	
Output					
Span (SM5501)	50.0	100.0	175.0	mV	1
Span (SM5502)	49.5	50.0	50.5	mV	
Offset	-1.00	+0.20	1.00	mV	
Temperature Performance					
TC Span	-1.20	+0.20	1.20	%FS/100°C	2,3
TC Offset	-1.20	+0.20	1.20	%FS/100°C	2
Temp Hysteresis	-0.15	+0.05	0.15	%FS	
Accuracy					
Linearity	-0.15	+0.05	0.15	%FS	4
Repeatability	-0.15	+0.05	0.15	%FS	
Pressure Hysteresis	-0.15	+0.05	0.15	%FS	
Impedance (SM5501)					
Z Input	2.20	3.00	3.80	kΩ	
Z Output	2.90	3.30	3.80	kΩ	
Impedance (SM5502)					
Z Input	4.50	8.00	25.00	kΩ	
Z Output	2.00	2.50	3.80	kΩ	
Temperature Range					
Calibration	0		70	°C	
Operating	-40		85	°C	
Storage	-55		125	°C	
Dynamic Characteristics					
Proof Pressure	3 Times full-scale output or 225 PSI, whichever is less				
Burst Pressure	5 Times full-scale output or 225 PSI, whichever is less				

Notes:

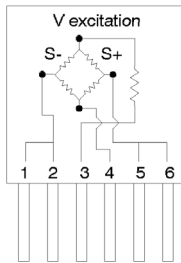
- Gain-set resistor for constant current (SM5501); see application note AN5500.
- Measured over a temperature range of 0 to 70 °C. For explanation of RMS error, see application note AN5500.
- FS denotes full scale output
- Best fit straight line



Model SM5501
Constant Current

1 Rs (Span Cal)
2 -Signal Out
3 I excitation
4 Ground
5 +Signal Out*
6 Rs (Span Cal)

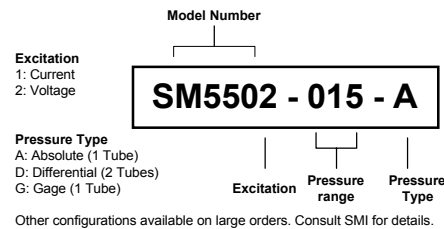
*Output increases as top-port pressure is increased



Model SM5502
Constant Voltage

1 -Signal Out
2 -Signal Out
3 V excitation
4 Ground
5 +Signal Out*
6 +Signal Out*

ORDERING INFORMATION:

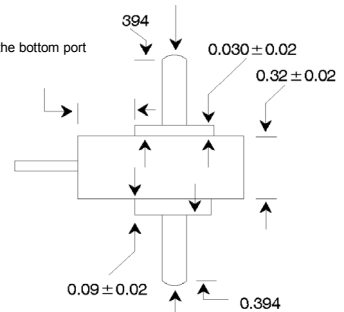
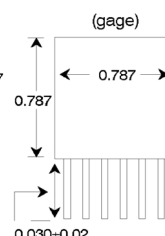
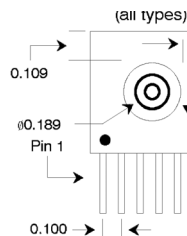


Pressure Ranges

PSI	5501/ 5502
5	005
15	015
30	030
60	060
100	100

Notes:

- All dimensions are shown in inches
- Tolerance on all dimensions ± 0.005 unless otherwise specified.
- Side view for gage/absolute parts is same as the differential without the bottom port



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