Humidity Sensors - continued

Capacitive with Signal Conditioning - continued

212382

Type	Order Code	Price Each 1+	10+	25+	100+
Slotted TO-39 can	**723-4648**	3,539.00	3,283.00	3,125.00	– –
Filtered TO-5 can with thermistor	**723-4650**	6,684.00	6,364.00	6,029.00	6,013.00
Filtered TO-5 can with RTD	**723-4661**	5,112.00	4,808.00	4,554.00	4,542.00

Pressure Sensors

General Data

Piezo-Resistive Principle

Many pressure transducers employ the piezo-resistive principle to convert pressure to an electrical signal. The key element is a silicon chip which has been micro-machined to create a diaphragm around which four resistors are diffused in a bridge configuration. The application of pressure to this silicon diaphragm causes the bridge resistors to change their value creating a differential voltage output proportional to the applied pressure.

Open Sensors, Isolated Transducers - Applications

Transducers come in two main forms; open sensors, where the pressure medium comes into contact with the silicon diaphragm and isolated transducers, where the silicon chip is isolated from the media by a stainless steel diaphragm. Most open transducers contain a protective coating over the silicon chip to protect it from humidity and dust are generally recommended for use with air and dry gases.

Typical Open Sensor Applications: medical equipment, pneumatic control, instrumentation, barometry and HVAC. The isolated range of transducers is intended for use with corrosive or non-corrosive liquid or gaseous media compatible with stainless steel, often in rugged or hostile environments.

Typical Isolated Transducer Applications: process control, industrial control water, gas and chemical industries, hydraulics, combustion control and many others. We offer a wide range of pressure transducers to cover the many different applications for these products. These include transducers with and without calibration and temperature compensation, from devices with basic mV output to fully conditioned devices, offering 1-6V and 20mA output and intrinsically safe versions.

Types of Pressure Measurement

This product range covers the three types of pressure measurement: gauge, differential and absolute.

Gauge Pressure: Pressure measured relative to ambient pressure.
Differential Pressure: Pressure measured relative to another pressure.
Absolute Pressure: Pressure measured relative to a vacuum

Pressure Unit Conversion Constants

There are many different units used to measure pressure in different industries, and the chart below shows the conversion factor needed to change form one unit to another. These are the most commonly used as per international convention.

	PSI[1]	in. H_2O[2]	in. Hg[3]	k Pascal	millibar	cm. H_2O[4]	mm. Hg[5]
PS[1]	1.000	27.680	2.036	6.8947	68.947	70.308	51.715
in. H_2O[2]	$3.6127\ 10^{2}$	1.000	$7.3554\ 10^{2}$	0.2491	2.491	2.5400	1.8683
in. Hg[3]	0.4912	13.596	1.000	3.3864	33.864	34.532	25.400
k Pascal	0.14504	4.00147	0.2953	1.000	10.000	10.1973	7.5006
millibar	0.01450	0.40147	0.02953	0.100	1.000	1.01973	0.75006
cm. H_2O[4]	$1.42237\ 10^{2}$	0.3937	$2.8958\ 10^{-2}$	0.09806	0.9806	1.000	0.7355
mm. Hg[5]	$1.9337\ 10^{-2}$	0.53525	$3.9370\ 10^{-2}$	0.13332	1.3332	1.3595	1.000

Note:
1. PSI - pounds per square inch
2. at 39°F
3. at 32°F
4. at 4°C
5. at 0°C

224668

Basic Sensors - SX Series

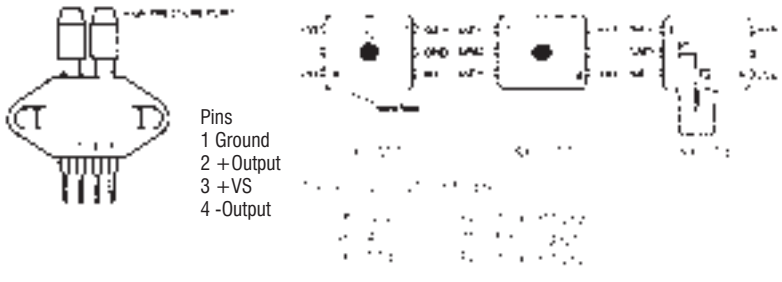
Honeywell SenSym

Single Port
SX...AD2/SX...GD2
H= 13.84, W =13.97
D=11.94
Pressure Port O/D =2.6

Dual Port
SX...DD4
H=9.65, W= 13.97
D= 11.94
Pressure Port O/D = 2.28

Pin Spacing = 15.24 x 2.54

Sx..N Series
H= 27.2, W=29.2, D = 10.2
Pressure ports O/D = 4.83
Fixing Centers = 22.9
Pin Spacing = 2.54



Pins
1 Ground
2 +Output
3 +VS
4 -Output

- Easy pressure connection using plastic tubing
- DIP package for easy PCB mounting
- Standard differential types can be used for gauge or differential pressure measurements

Pressure sensors featuring only the basic shear stress IC pressure sensor element. The sensors are for use with non-corrosive and non-ionic media, eg. air, dry gases.

Reference conditions	Vs = 5V dc, TA = 25°C	Repeatability	0.5% FS typ
Supply voltage	12V dc max.	Output impedance	4.5Ω
Linearity & hysteresis	0.2% FS typ., 0.5% FS max	Operating temp. range	-40°C to +85°C

Operating Pressure Range	Maximum Pressure	Full Scale Span (typ)	Operating Pressure Range	Maximum Pressure	Full Scale Span (typ)
0 to 1 psig	20Psi	20mV	0 to 30 psig	60Psi	110mV
0 to 5 psig	20Psi	75mV	0 to 100 psig	150Psi	150mV
0 to 15 psia	30Psi	110mV	0 to 150 psid	200Psi	150mV

212228

Operating Pressure	Mftrs. List No.	Order Code	Price Each 1+	10+	25+
Dip Package					
0 to 15 psia	SX15AD2	**674-217**	1,847.00	1,695.00	1,554.00
0 to 1 psig	SX01GD2	**674-229**	1,865.00	1,712.00	1,570.00
0 to 1 psid	SX01DD4	**674-230**	1,865.00	1,712.00	1,570.00
0 to 5 psig	SX05GD2	**674-242**	1,865.00	1,712.00	1,570.00
0 to 5 psid	SX05DD4	**674-254**	1,865.00	1,712.00	1,570.00
0 to 15 psig	SX15GD2	**674-266**	1,847.00	1,695.00	1,554.00
0 to 15 psid	SX15DD4	**674-278**	1,908.00	1,823.00	1,606.00
0 to 30 psid	SX30DD4	**674-291**	1,865.00	1,712.00	1,570.00
0 to 100 psig	SX100GD2	**674-308**	1,865.00	1,712.00	1,570.00
Standard Package					
0 to 1 psid	SX01DN	**414-773**	2,038.00	1,865.00	1,732.00
0 to 5 psid	SX05DN	**414-785**	2,038.00	1,865.00	1,732.00
0 to 15 psid	SX15DN	**414-797**	2,038.00	1,957.00	– –
0 to 30 psid	SX30DN	**414-803**	2,038.00	1,865.00	1,732.00
0 to 100 psid	SX100DN	**414-815**	2,038.00	1,865.00	1,732.00
0 to 150 psid	SX150DN	**414-827**	2,038.00	1,865.00	1,732.00

Temperature Compensated Sensors

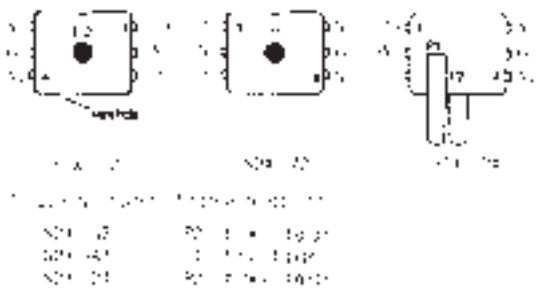
Honeywell SenSym

DIP Package — SDX Series

Single Port
SDX A2 Series
SDX G2 Series
H=15.1, W=13.97,
D=11.94
Pressure port O/D=2.67

Dual Portp
SDX D4 Series
H=9.65, W=13.97,
D=11.94
Pressure port O/D=2.28

Pin Spacing=15.24x2.54



This family of compensated and calibrated sensors is the second generation of Sensym's SCX Series. Incorporating "constraint-wafer" technology the SDX Series provides:-

- Up to 5 times improvement of long term stability and repeatability
- Greater immunity to package stress
- Tight calibration of offset and span
- Temperature compensation of offset and span, giving an accurate and stable output over 0-50°C range
- New DIP package features standard IC dimensions and pin spacing for easy PCB mounting
- For use with non-corrosive, non-ionic media, eg. air and dry gases

Reference conditions	V_S = 12V, T_A = 25°C
Max. supply voltage	V_S = 20V
Linearity & hysteresis	±±0.2%FS typ, ±1% FS max
Repeatability	±0.2% FS typ, ±0.5% FS max
Span shift with temp. (0°C to 50°C)	±0.4% FS typ, ±2% FS max
Offset shift with temp. (0°C to 50°C)	±0.2mV typ, ±1mV max
Output impedance	SDX = 4kΩ typ, SDXL = 6kΩ typ.
Operating temp. range	-40°C to +85°C
Offset calibration	0 ± 1mV
Common mode voltage	1.5V min, 3.0V typ, 5V max

Operating Pressure Range	Proof Pressure	Full Scale Span	Operating Pressure Range	Proof Pressure	Full Scale Span
0 to 5" H2O	5 Psi	25mV	0 to 15 psig	30 Psi	90mV
0 to 10" H2O	5 Psi	25mV	0 to 30 psig	60 Psi	90mV
0 to 1 psig	20 Psi	18mV	0 to 100 psig	150 Psi	100mV
0 to 5 psig	20 Psi	60mV			

212227

Prices are in Thai Baht and exclude 7% VAT.
Due to the volatile nature of certain products, prices are subject to change without notice.