

## Temperature Compensated Sensors – SCX Series



- Pins  
 1 Temp output +  
 2 V<sub>s</sub>  
 3 Output +  
 4 Ground  
 5 Output-  
 6 Temp output-

- Very tight offset and full scale calibration
- Guaranteed temperature compensation to max 1% over a 70°C temperature range
- For non-corrosive, non-ionic fluids, eg. dry gases
- Rugged plastic package
- Differential types can be used for gauge or differential pressure measurement

H = 25.4, W = 27.9, D = 26.2,  
 Pressure ports O/D = 4.83,  
 Fixing centres = 21.6, Pin spacing = 2.54

This low cost range is designed for applications where the user can typically provide fine adjustment of zero and span in external circuitry.

Reference V <sub>s</sub>	12V dc
Reference temp	25°C
Supply voltage, V <sub>s</sub>	+30Vdc max
Linearity & hysteresis	0.1% FS typ, 0.5% FS max (precision). 0.2% FS typ, 1.0% FS max (low cost)
Repeatability	0.2% FS typ, 0.5% FS max (precision).
Span shift with temp (0°C to 70°C)	0.2% FS typ, 1.0% FS max (precision). 0.4% FS typ, 2.0% FS max (low cost)
Offset shift with temp (0°C to 70°C)	±0.1mV typ, ±0.5mV max (precision). ±0.2mV typ, ±1.0mV max (low cost)
Output impedance	4kΩ typ
Operating temp range	-40°C to +85°C
Offset calibration	0 ± 0.3mV (precision). 0 ± 1.0mV (low cost)

Operating Pressure Range	Proof Pressure	Full Scale span (mV)	Mfrs. List No.	Order Code
0 to 15 psia	30 psia	90.0±5%	SCX15ANC	414-839
0 to 1 psid	20 psid	18.0±5%	SCX01DNC	414-840
0 to 15 psid	30 psid	90.0±5%	SCX15DNC	414-852
0 to 15 psia	30 psia	90.0±1%	SCX15AN	414-864
0 to 1 psid	20 psid	18.0±1%	SCX01DN	414-888
0 to 5 psid	20 psid	60.0±1%	SCX05DN	414-890
0 to 15 psid	30 psid	90.0±1%	SCX15DN	414-906
0 to 30 psid	60 psid	90.0±1%	SCX30DN	414-918
0 to 100 psid	150 psid	100.0±1%	SCX100DN	414-920
0 to 150 psid	200 psid	150.0±1%	SCX150DN	414-931

SEN29X

Operating Pressure	Order Code	1+	10+	25+
<b>Low Cost</b>				
0 to 15 psia	<b>414-839</b>			
0 to 1 psid	<b>414-840</b>			
0 to 15 psid	<b>414-852</b>			
<b>Precision</b>				
0 to 15 psia	<b>414-864</b>			
0 to 1 psid	<b>414-888</b>			
0 to 5 psid	<b>414-890</b>			
0 to 15 psid	<b>414-906</b>			
0 to 30 psid	<b>414-918</b>			
0 to 100 psid	<b>414-920</b>			
0 to 150 psid	<b>414-931</b>			

## Low Pressure Sensor – 0 to 4" H<sub>2</sub>O Temperature Compensated



- Low pressure version of the SCX series sensors above
- The sensor offers high accuracy over the range 0 to 4" H<sub>2</sub>O (0 to 0.145 psi) with a high sensitivity of 10mV/inch H<sub>2</sub>O
- Internally calibrated and temperature compensated to give an accurate and stable output over the range 0°C to +50°C
- For non-corrosive, non-ionic fluids, eg. air, dry gases

This precision sensor is a low pressure version of the SCX series sensors, it is housed in the same package and has the same pin connections.

Operating pressure range	0 to 4" H <sub>2</sub> O (0 to 0.145 psid)	Linearity and hysteresis	1.0% FS typ, 2.0% FS max.
Proof pressure	28" H <sub>2</sub> O	Repeatability	0.2% FS typ, 0.5% FS max.
Full scale span	40mV ± 2mV	Span shift with temp. (0°C to +50°C)	0.5% FS typ, 2.0% FS max.
Sensitivity	10mV/inch H <sub>2</sub> O	Offset shift with temp. (0°C to +50°C)	0.5% FS typ, 1.5% FS max.
Reference V <sub>s</sub>	12V dc	Output impedance	4kΩ typ
Reference temp	25°C	Operating temp. range	0°C to +70°C
Supply voltage	+18V dc	Offset calibration	0 ± 1.5mV
		Position sensitivity	0.25mV/g

**WARNING: PRODUCT IS SENSITIVE TO SHOCK AND VIBRATION AND MUST BE HANDLED WITH CARE**

SEN99X

Mfrs. List No.	Order Code	1+	10+	25+
SCXL004DN	<b>232-671</b>			

## Ultra Low Pressure Sensors – Sursense™



- Differential or Gauge pressure
- Self-compensating
- Small outline dimensions
- Superior linearity
- Almost no position sensitivity
- Exceptional stability
- Pressure media must be clean, non-corrosive and non-ionising, i.e. dry gases

**DUXL:** H = 7.1, W = 19.1 (excl. pins), D = 12.7

**DCXL & DCAL:** H = 26.2 (incl. ports), W = 27.4 (excl. pins), D = 20.3

The SURSENSE<sup>®</sup> family of low-pressure sensors is based upon proprietary, DSC (Dynamic Self-Compensation), technology designed to reduce all output offsets and common mode errors. Changes in output due to temperature, warm-up, long term stability and position sensitivity have all been significantly reduced when compared with conventional sensors. In addition, all models utilise a stress relieving construction that reduces zero offset and linearity errors due to mounting induced stresses.

DUXL differential & gauge	1" H <sub>2</sub> O	5" H <sub>2</sub> O	>20" H <sub>2</sub> O
Supply voltage	≤8V	≤8V	≤8V
Output span (Ratiometric @ 4.5V)	4-8mV	15-30mV	15-45mV
Offset voltage	<10mV	<10mV	<10mV
Offset warm-up shift (first 10 secs.)	±10μV	±10μV	±10μV
Offset position sensitivity (±1g)	±15μV	±15μV	±5μV
Temp. effect on offset (0-50°C)	100μV	100μV	100μV
Temp. effect on span (0-50°C)	100μV	100μV	100μV
Combined linearity and hysteresis	0.1% nom.	0.1% nom.	0.1% nom.
Input resistance	1-3KΩ	1-3KΩ	1-3KΩ
Storage temperature	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Common mode pressure	50psig	50psig	50psig

DCXL compensated, differential & gauge	1" H <sub>2</sub> O	5" H <sub>2</sub> O	>20" H <sub>2</sub> O
Supply voltage	≤16V	≤16V	≤16V
Output span (Ratiometric with 12V supply)	9-11mV	19-21mV	19-21mV
Offset voltage	<±500μV	<±500μV	<±500μV
Offset warm-up shift (first 1 hour)	±100μV	±50μV	±50μV
Offset position sensitivity (±1g)	±50μV	±10μV	±5μV
Temp. effect on offset (0-50°C)	±250μV	±45μV nom.	±45μV nom.
Temp. effect on span (0-50°C)	±200μV	±200μV	±200μV
Combined linearity and hysteresis	0.05% nom.	0.05% nom.	0.05% nom.
Input resistance	4.5KΩ	10KΩ	10-13KΩ
Storage temperature	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Common mode pressure	50psig	50psig	50psig

DCAL Amplified Ratiometric, compensated, differential & gauge	1" H <sub>2</sub> O	5" H <sub>2</sub> O	>20" H <sub>2</sub> O
Supply voltage	3-16V	3-16V	3-16V
Output span (±0.1V with 5V supply)	0.25-4.25mV	0.25-4.25mV	0.25-4.25mV
Offset voltage	0.15-0.35V	0.15-0.35V	0.15-0.35V
Offset warm-up shift (first 1 hour)	±20mV	±5mV	±5mV
Offset position sensitivity (±1g)	±10mV	±5mV	±1mV
Temp. effect on offset (0-50°C)	<±60mV	<±40mV	<±20mV
Temp. effect on span (0-50°C)	±2% span	±1% span	±1% span
Combined linearity and hysteresis	0.05% nom.	0.05% nom.	0.05% nom.
Storage temperature	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Common mode pressure	50 psig	50 psig	50 psig
Operating temperature	-25°C to +85°C	-25°C to +85°C	-25°C to +85°C

SEN388

Operating Pressure	Mfrs. List No.	Order Code	1+	10+	25+
<b>Differential and Gauge</b>					
0 - 1" H <sub>2</sub> O	DUXL 01D	<b>310-6986</b>			
0 - 5" H <sub>2</sub> O	DUXL 05D	<b>310-6998</b>			
0 - 10" H <sub>2</sub> O	DUXL 10D	<b>310-7000</b>			
0 - 20" H <sub>2</sub> O	DUXL 20D	<b>310-7012</b>			
0 - 30" H <sub>2</sub> O	DUXL 30D	<b>310-7024</b>			
<b>Compensated, Differential and Gauge</b>					
0 - 1" H <sub>2</sub> O	DCXL 01DN	<b>310-6937</b>			
0 - 5" H <sub>2</sub> O	DCXL 05DN	<b>310-6949</b>			
0 - 10" H <sub>2</sub> O	DCXL 10DN	<b>310-6950</b>			
0 - 20" H <sub>2</sub> O	DCXL 20DN	<b>310-6962</b>			
0 - 30" H <sub>2</sub> O	DCXL 30DN	<b>310-6974</b>			
<b>Amplified, PCB Mounting Gauge</b>					
0 - 1" H <sub>2</sub> O	DCAL 401GN	<b>310-6834</b>			
0 - 5" H <sub>2</sub> O	DCAL 405GN	<b>310-6846</b>			
0 - 10" H <sub>2</sub> O	DCAL 410GN	<b>310-6858</b>			
0 - 20" H <sub>2</sub> O	DCAL 420GN	<b>310-6860</b>			
0 - 30" H <sub>2</sub> O	DCAL 430GN	<b>310-6871</b>			
<b>Amplified, PCB Mounting Differential</b>					
0 ± 1" H <sub>2</sub> O	DCAL 401DN	<b>310-6883</b>			
0 ± 5" H <sub>2</sub> O	DCAL 405DN	<b>310-6895</b>			
0 ± 10" H <sub>2</sub> O	DCAL 410DN	<b>310-6901</b>			
0 ± 20" H <sub>2</sub> O	DCAL 420DN	<b>310-6913</b>			
0 ± 30" H <sub>2</sub> O	DCAL 430DN	<b>310-6925</b>			

**Note:** Differential units have an offset voltage of 2.25V and span of ±2V nominal

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