Non-Contact Capacitive Displacement Measurements and Sensing

Nanometer resolution at high bandwidths

100 kHz bandwidth

Selectable filters for maximum resolution

External low noise power supply

Industry standard analog output

Designed for High Dynamic Displacement Gauging and Sensing Applications

Non-contact displacement measurements

Easy to integrate into OEM test and measurement systems

High performance

Designed for adaptability to many applications

Single analog output

Downloadable calibrations

Custom sensors readily available

High / Low limit outputs

Laser Calibration

High precision individual unit calibration at factory using Microsense developed laser interferometry system. Calibration traceable to NIST. Performance graph included.

Ultra-high RPM mechanism analysis

- Hard Disk Drive motors
- Rotary spindle applications
- Machine tool performance analysis
- 100K+ RPM applications
- High speed air bearings

High volume OEM gauging applications

Precision dimensional gauging

High-frequency, high-resolution slide and spindle runout analysis

High-resolution vibration analysis

Fast Tool Servo-loop positioning system feedback

Predictive maintenance transducers

Operating Ranges

Operating range is preset at factory for selected probe. Range may be additionally amplified by means of internal jumpers.

Custom Configurations

Available for multiple unit orders. Contact factory.

Microsense II - 5810

Non-Contact Capacitance Gauging Module for High Dynamic Applications

www.microsense.net
**Performance**

**Measurement Range**

\[ \pm 25 \mu m \text{ to } \pm 1000 \mu m \text{ full scale, depending on probe selection} \]

**Measurement Resolution**

Typical resolution is better than 2 nm (r.m.s.) @ 1 kHz.

<table>
<thead>
<tr>
<th>Sensor ø (mm)</th>
<th>Range (± um)</th>
<th>Bandwidth (kHz)</th>
<th>Resolution (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>25</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>0.5</td>
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<td>100</td>
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<td>250</td>
<td>5</td>
<td>2.9</td>
</tr>
<tr>
<td>5.0</td>
<td>500</td>
<td>1</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**Linearity**

Typically 0.25% over full scale range, depending on probe model and operating range.

**Stability**

Typically better than 200 ppm per °C over temperature range of 15°C to 35°C.

**Bandwidth**

Jumper selectable from: 1 kHz, 5 kHz, 20 kHz, 100 kHz

**Inputs / Outputs**

**Probe Input**

Single, accepts Series 5000 probe family

**Analog Output**


**Limits**

User adjustable digital outputs for detecting overrange and measurement limits

**Adjustments / Indicators**

**Front Panel Adjustments**

Calibration adjustment for scale factor
Offset adjustment for zero setting
Limit settings

**Front Panes LED Indicators**

+ Limit, - Limit

**Physical Dimensions**

18 cm- L x 11 cm-W x 4 cm-H
(7.0” x 4.25” x 1.5”)

**Weight**

1 kg (2.2 lbs)

**Operating Environment**

**Temperature**

5°C to 50°C (41°F to 122°F)

**Humidity**

0 to 95% RH, non-condensing

**Power Requirements**

90-240 VAC
Standard Microsense Universal Low Noise Power Supply with IEC Connector included with Module

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Microsense LLC
70 Industrial Ave E.
Lowell, MA 01852
Main Tel (978)843-7670
Fax (978)856-3375
Microsense LLC (specifications subject to change without notice)