

Microsense II - 5800

OEM Non-Contact Capacitance Gauging Module for High Dynamic Applications

Features

Non-contact capacitive displacement measurements and sensing

Nanometer resolution

100 kHz bandwidth

Field-replaceable probes

Downloadable calibration

Selectable filters for maximum resolution

Plug-in module for quick configuration changes - Eurocard format - designed for use with Model 5300 Gauging Console or OEM backplanes

Designed for OEM Gauging Applications

Non-contact measurements

Easy to integrate into turnkey test and measurement systems

High performance

Designed for adaptability to many applications

Single analog output

High / Low limit outputs

Laser Calibration

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

Applications

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

Predictive maintenance transducers

Options

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.



▲ Non-contact capacitive displacement measurements

▲ Nanometer resolution
100 kHz bandwidth

▲ Field-replaceable probes

▲ Downloadable calibration

▲ Selectable filters for maximum resolution

▲ Plug-in modules for quick configuration changes

Performance

Measurement Range

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

Measurement Resolution

Typically 1 to 10 nanometers rms. Actual resolution depends on probe selection, bandwidth, and operating range. Resolution improves with larger sensor area, reduced bandwidth, and smaller range.

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

Single & differential, preset ± 10 volts for full scale range. Jumpers set output scaling and bipolar/unipolar 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 Panel LED Indicators

+ Limit, - Limit

Physical Dimensions

6.75" x 5.06" x 1.39"
(Eurocard format 100 mm x 160 mm)

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

Regulated Power Supplies

+ 15 volts DC to ± 0.25 volts @ 200 mA
- 15 volts DC to ± 0.25 volts @ 125 mA



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