

CMP vibration smart sensor

Embrace the power of Industry 5.0 to connect your equipment, manufacturing process and personnel closer than ever before. SPS provides smart sensors that employ high speed measurements in conjunction with edge processing to enhance your predictive maintenance capabilities beyond what is achievable with the existing data collection and analysis on your equipment.

FEATURES

- Reduces wafer scrap and rework
- Eliminates unscheduled maintenance downtime
- Lowers equipment cost of ownership
- Equipment matching and benchmarking
- Data resides safely behind your firewall
- Fast same-day integration

TRUE PREDICTIVE MAINTENANCE

Replace parts and consumables based on monitored health rather than at failure or by hours in services.

FAULT PREDICTION

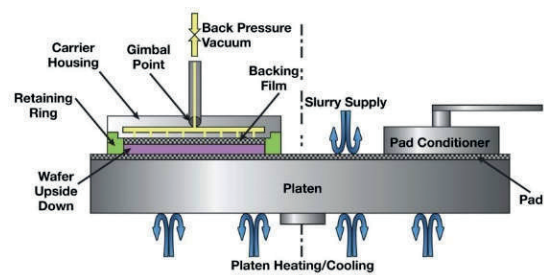
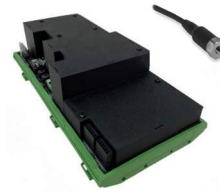
- Polishing heads
- Platens/Tables
- Pad conditioners
- Brush boxes
- Spin rinse dryers
- Wafer handling
- Wafer scratching

MODELING

Empirical model builder allows users to create custom vibration models.

DATA ANALYTICS AND ALERT LIMITS

Specialized health metrics with independent user defined alarm and abort limits.



FREQUENCY-BASED VIBRATION MONITORING

Fast Fourier Transform (FFT) converts time-based vibrations into the frequency domain.

INSTANT DATA STORAGE & VISUALIZATION

Collect, store, and visualize up to a year of health metric data directly on the smart sensor.

EXTERNAL DATA ANALYSIS

Export data from the user interface into Microsoft Excel.

SOFTWARE API

Easily integrate smart sensor data with any factory system for external collection and analysis.

ALERT NOTIFICATION

Easily integrate alerts directly to the equipment control system and automatically send e-mail or SMS messages.

Quickly add new sensors to your existing equipment to provide better visibility into your manufacturing process and equipment health. Utilize our smart sensor platform to easily access this new sensor data through your phone, tablet, or personal computer.



SPECIFICATIONS

Vibration smart sensor module

- Up to 8 accelerometers
- 5 kHz frequency range (Nyquist) with a 10 kHz measurement sampling frequency
- Two dry contact alert relays
- 1.2 GHz Broadcom BCM2837 CPU 1 GB RAM
- 32 GB MicroSD SSD (standard) or 120 GB SATA SSD with no removable MicroSD cards (optional)
- 100 Base-T Ethernet LAN
- 2.4 Ghz 802.11n Wireless LAN
- Power input 100 - 240 VAC 50/60 Hz 0.5 -0.2 A
- Operating temperature 14 to 158°F (-10 to +70°C)
- NGINIX web server
- NTP time synchronization
- SMTP e-mail interface
- User upgradable software
- DIN rail mount
- Dimensions:
 - 2-channel: 6.3 x 4.6 x 2.7" (16.0 x 11.7 x 6.9 cm)
 - 4-channel: 9.3 x 4.6 x 2.7" (23.6 x 11.7 x 6.9 cm)
 - 6-channel: 12.3 x 4.6 x 2.7" (31.2 x 11.7 x 6.9 cm)
 - 8-channel: 15.3 x 4.6 x 2.7" (38.9 x 11.7 x 6.9 cm)
- One-year hardware warranty

Standard accelerometer

- Single-axis ceramic piezo (IP68 enclosure)
- Sensitivity 100 mV/g (10.2 mV/(m/s²))
- Operating temperature -65 to 250°F (-54 to +121°C)
- Magnetic, bracket, and thread adapter mounts
- Integral cable 10' (3 m)
- Dimensions 0.6" (14 mm) Ø x 2.5" (64 mm) length
- Other accelerometer options available