SMART SENSORS

INTELLIGENTIA

www.intelligentia.eu

We are the ideal partner for innovative asset maintenance, utilizing cutting-edge technology.

We aim to provide a versatile solution that can be customized and integrated to meet all important application scenarios.

We collaborate with customers to generate synergies and develop new market opportunities with them.

More Intelligentia in your world

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intelligentia 🔗

The precision that matters.

Smart sensor
with **triaxial
Mems technology.**

⬡SEQUOIA
e-Sensor

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e-Sensor

Monitor
for optimal
performance.

Proactive management ensures uncompromised **efficiency.**

Minimize risks
by detecting
issues.

Targeted maintenance can help **extend the life of your machinery.**

Record, save
and analyze
log traces.

The e-Sensor **Black Box** ensures accurate tracking and data analysis.

SMART SENSORS

INTELLIGENTIA

Innovation is in our DNA

Smart sensors are frequently constructed as closed loop system systems with proprietary interface software and communication protocols, and are supplied as black boxes to OEM , integrator or end-user.

e-Sensor was created to provide all of the functionalities required for precise control of any type of equipment or process in a single unit.

We create valuable technology

Intelligent solutions for dynamic monitoring.

With its powerful algorithms, it can monitor and rapidly indicate any problems that might emerge on various components *(bearings, work-pieces, tools, spindle, axis),* preventing more significant damage and unscheduled maintenance interventions. *A little investment for a superior tool at your disposal.*

Technical Specifications

e-Sensor - Hardware Specs

No. of axis	3
Frequency range	0–2000 Hz
Dynamic range	110 dB
Measuring range	20 g (10-40 g)
Protection level	IP67
Temperature range	–10 to +100 °C
Communication	2 wires RS485

Output Signal (Modbus)

Unfiltered acceleration signals
Acceleration vector peak detection
RMS Speed
Peak-to-peak shift
FFT

e-Interface - Spec.

2 customizable analog inputs	4–20 mA, 0–20 mA, 0–10 V, PT100
8 inputs/outputs	Custom configuration

CODE FRIENDLY

e-SENSOR it has been built for easy integration with open source and free communication protocols.

Communication Interface

DIN rail support for wiring cabinets, Modbus TCP connection to the outside.

SEQUOIA e-Sensor

OEM & MTB

ADD-ON
FREQUENCY ANALYSIS
FFT on critical frequency bands.

SPINDLE WEAR
Indicator of correct use.

BLACK BOX
Record and save log files.

ADD-ON
RESIDUAL LIFE
For warranty programs.

OUTPUT SIGNAL ANALOG/DIGITAL
CNC integration for custom applications.

COMPATIBILITY WITH SENSORS
Up to 4 additional sensors (Oil, pressure, etc.).

END USER

COLLISION DETECTION
Stopping in case of accidental impact and consequent reduction of costs and losses.

UNBALANCE
Detection and evaluation of spindle and tool imbalance.

ADAPTIVE CONTROL
Self-adaptive working parameters based on detected information.

CHATTER DETECTION
Identifying the "chattering" phenomenon.

INTERFACE MIRRORING
Remote replication of the interface via VNC on your smartphone.

IMPROPER CLAMPING DETECTION

MAINTENANCE

ADD-ON
PREDICTIVE MAINTENANCE
Repair planning basedon the actual condition of the components.

MACHINE HEALTH
Constant monitoring of vibration levels.

TEMPERATURE MONITORING

DETECTION BEARING FAILURE

PLANNING

ONLINE MONITORING
Remote monitoring with event logs and graphical analysis.

PRODUCTION EFFICIENCY
Effective parts and machineries production efficiency controlling.

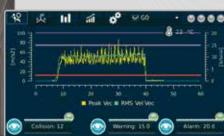**16 CUSTOMIZABLE TOOLS SCENARIOS**
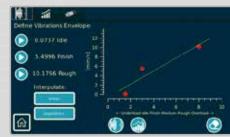Set threshold parameters for each tool usage scenario and machining type.

CHIP-CUTTING TIME WATCHDOG
It directly informs the shop manager whether there is room to optimize cycle-time.

SEQUOIA

Process Monitoring

Residual Spindle Life

Spectral analysis