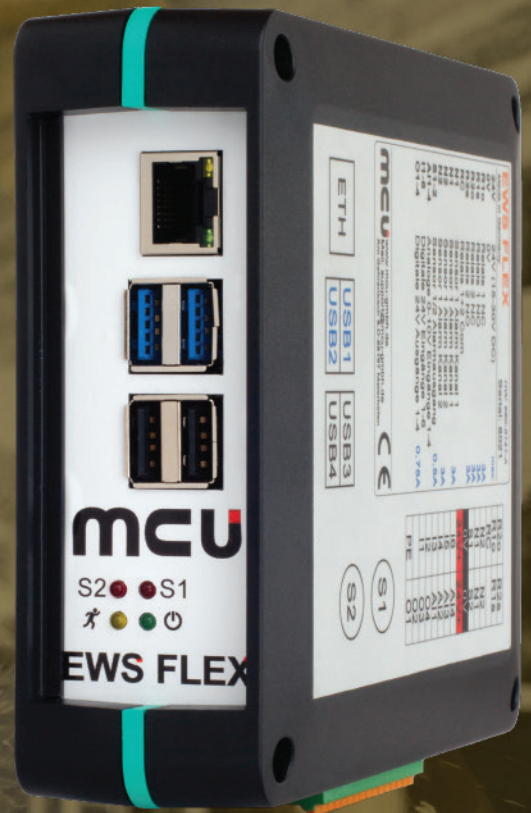


From machine data to operational decisions

The first platform able to read, integrate, monitor
and transform production data

- ✓ CNC / PLC / SENSOR INTEGRATION
- ✓ MACHINE AND TOOL MONITORING
- ✓ INDUSTRIAL EDGE COMPUTING
- ✓ CUSTOMIZABLE DASHBOARDS AND LOGIC

EXTRACTS AND MAKES AVAILABLE
NC AND PLC DATA WITH NO CHANGES,
NO OPTIONS AND NO WIRING



mcu
EWS FLEX BOX

A single system to connect,
analyze and act on machine data

Through **integration**, data generate **real value**

FEATURE

EWS FLEX BOX

Installation	<i>Centralized integration in a single system</i>
Data access	<i>Full access to CNC, PLC and sensor data</i>
Analysis	<i>Automatic analysis and data correlation</i>
Response time	<i>Continuous monitoring and rapid intervention</i>
Scalability	<i>Scalabile su più macchine e impianti</i>
Flexibility	<i>Customizable, configurable logic</i>
Existing machine integration	<i>Retrofit-compatible too</i>
Automation	<i>Automatic triggers and event management</i>

**EWS FLEX BOX turns disconnected systems
into a smart, integrated ecosystem**

Available data **become
interconnected and usable**

**In machine tools, data are spread across CNC, PLC and sensors,
but often aren't integrated or usable in real time**

Separate systems

Uncorrelated data

Complex analysis

Reactive-only action

The data exist, but **aren't really used**

During production, critical information is spread across CNC, PLC and sensors. This fragmentation makes it hard to get a complete view of the process and to act in time.

What happens in production

Difficulty correlating data

Lack of process visibility

High analysis times

Late decisions

The result is **inefficiency, waste and loss of control**

How it works

EWS FLEX BOX reads the CNC's internal data directly (spindle torque, axis forces, position, etc.) and analyzes it with advanced algorithms.

- Automatically learns the process
- Calculates the optimal limits
- Adapts to production variations
- Monitors every stage of machining

Native integration with B-Safe

Thanks to a unique combination of interfaces, sensors and software modules, the system can be adapted to a wide range of applications and production requirements.

You can connect up to 2 hybrid sensors (3D MEMS accelerometer + single-axis piezo) and enable advanced functions such as collision monitoring with rapid stop and limit definition directly from the NC program.



Discover B-Safe

Main features

- Data integration from CNC, PLC and sensors
- Collision monitoring with rapid response
- Limit definition via NC program
- OPC UA communication and machine-data access
- Integrated graphical display

Technical specs

- Single-board computer running Linux
- 4 GB RAM / 32 GB storage
- Up to 2 MODBUS RTU sensors
- 6 digital inputs 24V / 4 solid-state outputs
- 1 rapid collision output direct from sensor
- 3 contacts for limit management (including rapid stop)
- TCP/IP connection (RJ45)

Available modules

Machine History Logbook

Event history: collisions, RMS vibration, alarms and warnings

Collision Prevention

Prevention of collisions caused by operator errors

Vibration History

Signal recording for every collision event

Spindle Check-Up

Monitoring of operating hours and operating conditions

3 axes in real time

Display of spindle vibration during machining

A single **integration point** for all **machine data**

EWS FLEX BOX acquires and combines data from CNC, PLC, drive and sensors, creating a centralized system ready for advanced analytics and process automation.

Data sources

- NC / PLC / Drive data
- Sensors (vibration, temperature, collision)
- Digital and analog signals

Interfaces

- Hotlink TCP
- Modbus RTU (RS485) / 0-10V
- 24V I/O for retrofit on existing machines

From data to action

The collected data are turned into operational insight to improve the process, reduce risk and increase production efficiency

Advanced functions

Monitoring

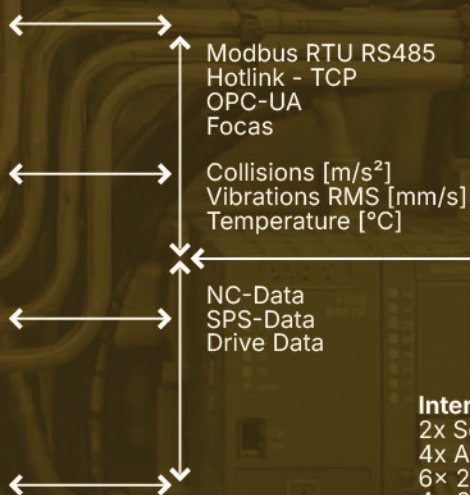
- In-process (parallel) analysis
- Rapid collision detection
- Process trend

Automation

- Automatic triggers
- Machine alarms
- PLC integration

Flexibility

- Custom configuration
- Built-in logic editor
- Adaptable to different plants



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EWS FLEX BOX



Interfaces

- 2x Sensor Modbus RTU RS485
- 4x Analog 0-10V / 4-20 mA
- 6x 24V Digital Input
- 4x 24V Digital Output
- 2x USB Type 3
- 2x USB Type 2

Node-RED:
Acquisizione/Combinazione
dei dati macchina



Dashboard

Key features and functions

Data acquisition

- Full reading of CNC and PLC variables
- Targeted logging and event traceability

Integration

- Compatible with existing systems
- No machine changes required

Collision Monitoring

Different limits per machine mode
(automatic, tool change, setup)

Tool Monitoring

Limiti configurabili direttamente da NC

Integration into the Siemens HMI



TCP / IP

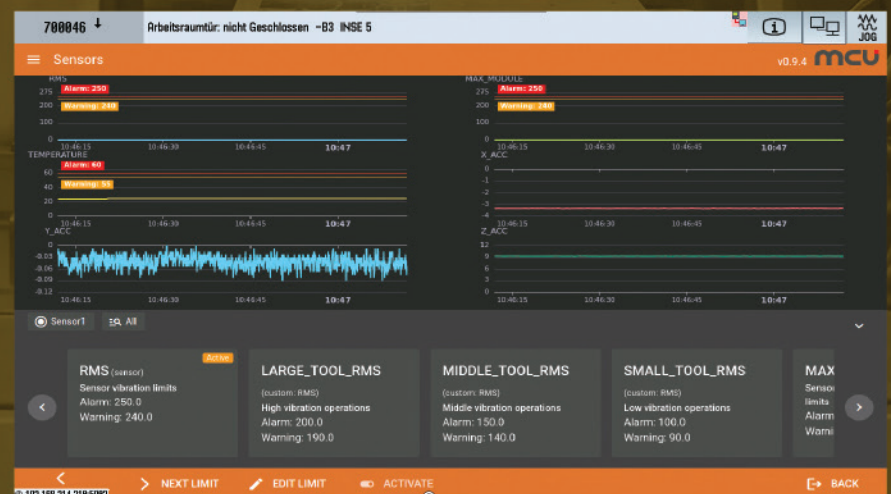
TCP / IP



MCU touch panel —
calculations built into the panel
EWS Box not required



**CORRELATION OF LOGGED
EVENTS WITH AXIS
POSITION, RPM, POWER
DRAW**





The new benchmark for intelligent process monitoring

Intelligentia Smart Sensors' mission is to bring together technologies, industrial expertise and premium brands to deliver intelligent, reliable monitoring solutions, ready for the challenges of modern industry.

Intelligentia Smart Sensors' growth strategy rests on three key pillars:

- **In-house sensor manufacturing**
- **Acquisition of leading brands**
- **International technology partnerships**

Your go-to partner, able to select and offer you the best technologies on the market and pinpoint the solution with the best price/performance ratio.

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