# Process Monitoring *Software*

GRINDING LINE

PROCESS MONITORING APPLICATIONS ON GRINDING MACHINES

In the line of MARPOSS acoustic sensors designed to manage and optimise grinding wheel processing and conditioning on grinding machines, the P7 system's versatility, processing speed, possible configurations and hardware/software standardisation place it at the top of its category.

Individual process monitoring requirements are completely fulfilled in the in-process measuring packages developed as a result of Marposs experience. The visualization can be made either by a graphic panel display or directly on CNC operator panel by means of MHIS software (Marposs Human Interface Software) developed in Windows® environment.
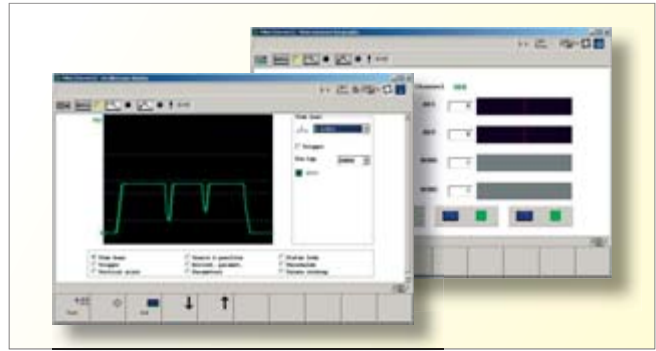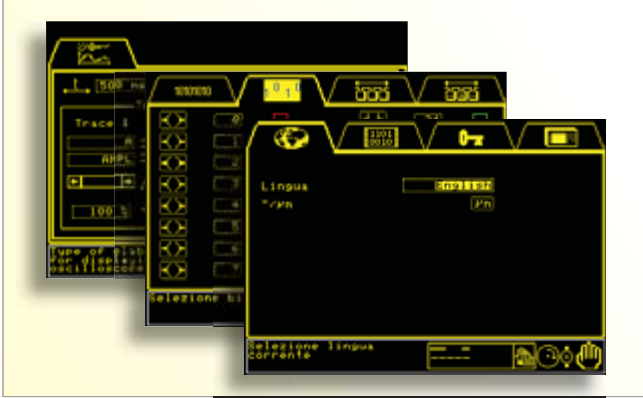
Process monitoring

- Management and processing of 4 high frequency acoustic sensors and 2 low frequency auxiliary analogue sensors
- Frequency band selection from 50 kHz to 1 MHz
- Processing of 4 digital output signals for GAP, CRASH, MONITORING 1 and MONITORING 2
- Absolute and incremental acquisition modes (eliminating background noise)
- Monitoring at thresholds that are fixed and constant over time (up to 4)
- Monitoring at thresholds that are variable over time (up to 2 auto-acquired or dynamic thresholds)
- Simultaneous display of 2 signals
- Amplitude or derivative signal processing

Measuring Heads

Electronic Units

Balancing Heads

Software

Sensors

Accessories
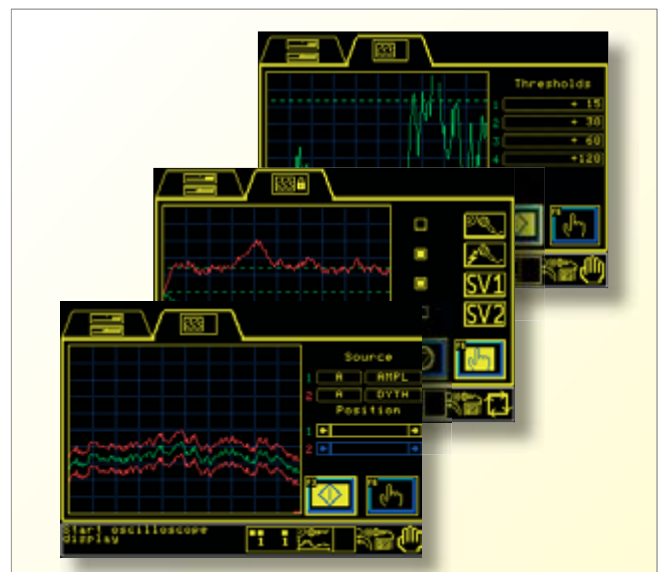
Process control

- Control of the signal from the acoustic sensors for monitoring the Air Gap and Collision
- Control of dressing process with increments lower than a few tenths of a micron
- Control of dressing on shaped grinding wheels (radii and profiles)

Configurability

A configuration tool is used to customise the device for the specific application so that the software, using preset menus, asks the operator only for the parameters relative to the monitoring cycles envisaged by the application.
The software's flexibility allows the person defining the application to select from the various types of sensors the one most suitable for the specific requirements and the input/output signal mode for interfacing with the PLC / machine CNC and transmission of the measuring values by selecting either conventional 37-pin cannon connectors or a fieldbus connection.
The high degree of P7 system standardisation allows it to adapt to different types of machines, including the development of dedicated solutions, and optimisation of the number of spare parts, containing the overall investment.

Versatility

Operator intervention is facilitated by the graphic interface, by hot keys for the main views and by an efficient debug of all input/output signals.
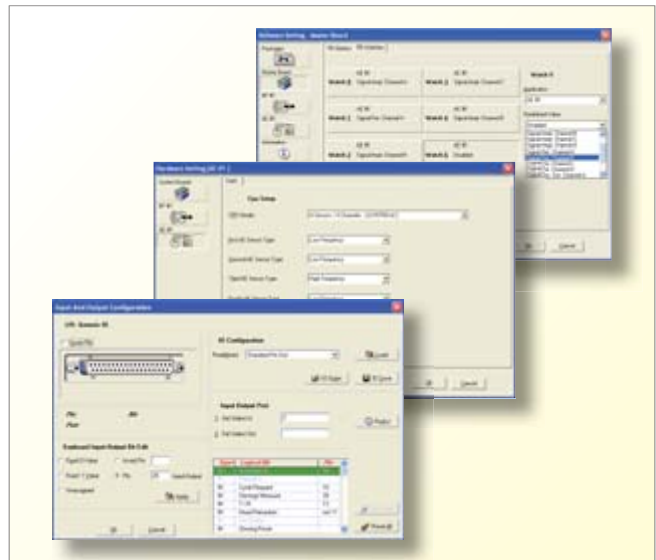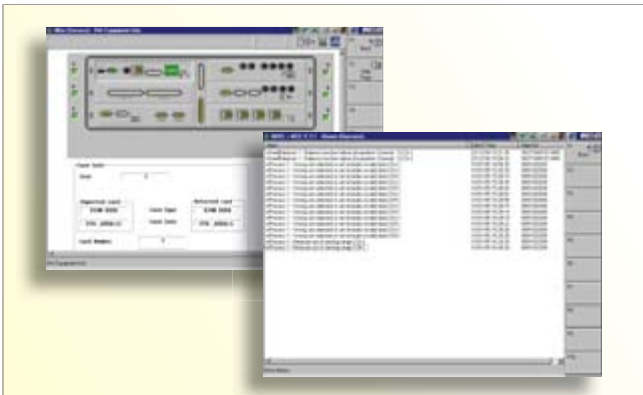A selection of languages and measuring systems further extends system flexibility.

Maintainability

Moitoring device management is made noticeably easier by programs developed in the Windows® environment designed to archive and restore the data programmed and to install the Marposs application packages.
Clear gauge diagnostics allow immediate checking of any hardware problems and appropriate messages facilitate process control.

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