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Tool Monitoring

Sensors and units for the perfect tool monitoring



SEM Modul

- Tool fracture recognition
- Tool wear recognition
- Machine protection
- Recognition of cut contact
- Control of work piece dimensions
- USB or RS232 connection
- Available sensors for:
 1. Cutting force
 2. Effective power
 3. Acoustic emission
 4. Differential pressure
 5. Laser reflection
 6. Laser shadowing

Hydro Distance Sensors HDS

- Tool breakage monitoring
- Non-contact using cooling lubricant
- Mounted on tool
- Ideal for monitoring multi-spindle drill heads
- Minimum drill bit diameter of .1mm
- Wet environment suitable
- Mounted directly on tool

Acoustic Emission Sensors

- Hydrophone SEH- direct pick up from the tool, tool holder, or work piece, using cutting lubricant
- Sensor SEA- low noise emission sensor with switchable frequency ranges up to 1MHz.
- Sensor SEA Mini- smaller version of SEA sensor
- Sensor BSA- non-contact inductive emission sensor
- Sensor RSA- rotating acoustic emission sensor
- Processor SEP- for amplification and filtering of measured values. Sealed against oil and water

Additional Sensors

- Non-contact strain sensor BDA-Q
- Force sensor BDA-Kralle
- Force sensor BDA-Duebel
- Work piece length sensor BDA-Pilz
- Sensor adjustment module ADDM

Power Measurement Modules

WLM-3 and WLM. These modules measure the effective power in frequency controlled spindle motors. Drill bit sizes as small as .75mm and a frequency range from 0Hz to 200kHz. Utilizing three (3) hall sensors on the three phases U, V, and W, the reaction time to sudden changes in measured values is shortened considerably. Excellent for detecting initial contact in grinding operations.



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