



IT PREVENTS CRASHES.  
IT ELIMINATES GAP TIME.  
IT CUTS CYCLE TIME BY 20%.

SAVE TIME.  
SAVE MONEY.

## Model AE-1000 Acoustic Emission Monitoring System

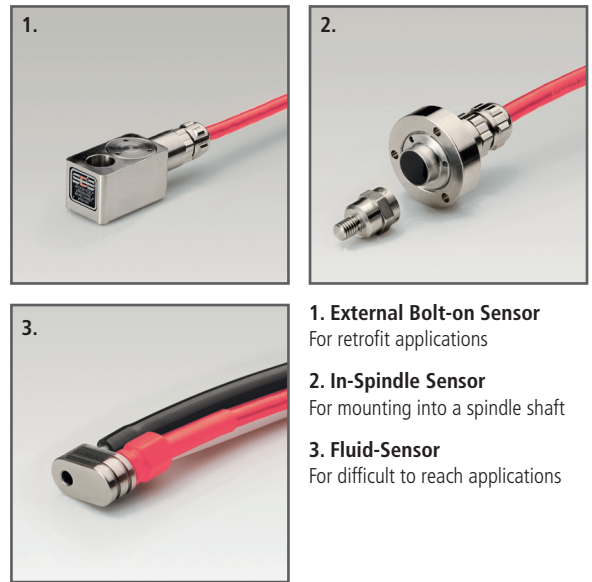
The **SBS AE-1000** reduces air grinding time and alerts the operator of crash conditions by using proprietary acoustic detection technology to monitor and analyze the high frequency signals generated by the grinding process.

The AE-1000 reports initial contact between the wheel and a new part to the machine control system so it can stop wheel in-feed without operator intervention, which can save up to 20% of the typical cycle time. It can also detect and report abnormal contact from an incorrectly loaded part or fixture within milliseconds, allowing the in-feed to be stopped, avoiding a crash, damage or injury.

Position control, used to zero the machine before beginning a grinding or dressing cycle, is possible by detecting the edge of the wheel touching a reference point known to the machine CNC. The CNC thereby can determine the exact position and diameter of a changing grinding wheel.

Monitoring for normal acoustic levels during wheel dressing permits the operator or CNC control to (1) determine if the wheel is being dressed fully across its width, (2) control the aggressiveness of the process, and (3) maintain the quality of the dressed wheel to conserve wheel material.

The AE-1000 works with a variety of SBS acoustic sensors, all of which are easy to retrofit. They are highly resistant to grinding machine coolants and grinding paste. Their reaction speeds are significantly faster than traditional methods of spindle load or alternative monitoring devices.



- 1. External Bolt-on Sensor**  
For retrofit applications
- 2. In-Spindle Sensor**  
For mounting into a spindle shaft
- 3. Fluid-Sensor**  
For difficult to reach applications

### BENEFITS:

- Precise monitoring of the grinding process
- Rapid, automatic grinding-wheel in-feed
- Increased productivity by up to 20%
- Cuts cycle time by eliminating gap time
- Works with a wide variety of grinding machine types
- Sensor options accommodate diverse environments
- Prevents crash conditions, damage, and injury
- Automates monitoring of wheel-dressing quality
- Enables CNC machines to re-position wheel at zero
- Backed by world-class SBS customer service



## SPECIFICATIONS

### Physical

#### Display:

OLED Graphical Display

#### User Interface:

Universal icon-driven

#### Dimensions:

W x H x D: 210 mm x 112 mm x 33 mm

### Power Input Requirements

#### Power Supply:

24VDC with terminal block connection, and M5 ground stud

#### Eingangsspannung:

+22 VDC to +26 VDC at 0,5 A max.

Surge protected

Negative protected (reverse protected from a non-grounded supply)

Fused

### Communications

#### CNC/PLC Hardwire Interface (Opto-isolated)

##### Inputs:

- Mode 1 selection
- Mode 2 selection
- Front Panel Inhibit
- Crash Reset

##### Outputs (Response time: < 5ms):

- Mode 1 in-use
- Mode 2 in-use
- Trigger-point Active (Gap)
- Crash

**USB 2.0:** System status and signal levels in dyne units

**Analog Output:** 0–10 VDC, auto scaling

### Acoustic Emission Signal

#### Display:

Graphically

Numerically in Dyne units

#### Four Selectable AE Frequency Bands:

50–170 kHz      160–280 kHz

270–390 kHz      380–500 kHz

#### Gain Control:

User selectable 0db–77db

Dual channel design permits two independent configuration modes using one or two sensors.

Works with all standard SBS AE sensors

### Safety and Environmental

#### Environmental and Installation Conditions:

- Pollution degree 2, Installation category II
- Intended for indoor use only
- IP54, NEMA 12
- Temperature range: 5°C to +55°C
- Humidity: 0 to 85% relative humidity (non-condensing) throughout temperature range.

#### Pending Certifications:

- ETL
- CE

For more information on SBS products, see [AccretechSBS.com](http://AccretechSBS.com) to find your local SBS distributor or Representative, or call Accretech SBS, Inc.



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