Dramatically improved SN comparison with our proprietary technology

Specialized grinding wheel touch monitor for high-sensitivity grinding machines

- **Tact time reduction & better functionality**
  The PULCOM GE-10 grinding wheel touch monitor detects contact between the grinding wheel and material being ground and instantaneously transmits signals to the NC to be input into the production cycle. This improves cycle times by speeding up cutting time, shortening non-cutting time to eliminate unneeded grinding cycles according to variations in dimensions from previous processes.

- **Optimizes dressing control and extends grind stone life**
  Monitors the AE waves generated through the contact between the dresser and the grind stone to detect when dressing is complete. Dressing time reduced and grind stone life extended dramatically compared to the conventional method of dressing cycles and time.

- **A Crush detection function protects the main shaft and prevents damage to the grind stone**
  The crush detector function prevents damage to the grind stone caused by impacts. Plus, it detects problems caused by chips or dust from the workpiece falling into the equipment.

- **New highly sensitive AE sensor developed**
  High-sensitivity AE sensor was developed specifically for detecting the contact between the workpiece and the grind stone. It detects as well as expensive sensors built in to dressers or shafts. The sensor is inside the amp to provide highly accurate S/N comparison and the cable can be extended so it can be installed anywhere.

- **High reliability with sensor diagnosis function**
  The PULCOM GE-10 can diagnose degradation in sensitivity or damage to the sensor head from the reflected AE waves generated by the sensor itself for diagnosis. This ensures long-term reliability.

- **Digital noise reduction cuts peripheral noise**
  Highly accurate detection is achieved through the built-in digital signal processor (DSP) that uses our proprietary digital noise reduction to eliminate peripheral noise from the bearings and the coolant spray.

![Diagram](image)

**Product Diagram**

- **Sensor head**
- **Controller**
- **DC 24 V power supply**
- **NC**
- **PC**
- **I/O cable**
- **Power cable**
- **RS-232C**

*1 Items enclosed in dotted lines are provided by the customer.
*2 Normally not needed.
Specifications

- **Detection method**: AE waves
- **Response speed**: 1msec
- **Temperature**: 0~45°C
- **Humidity**: 10~90%RH
- **Waterproof**: Sensor head IP67, Amplifier Unit IP54 (front panel only)
- **Vibration resistance**: Maximum 4.8 G (X, Y, Z axes)
- **Shock resistance**: Sensor head 50G (X, Y, Z axes, 10 time each), Amplifier Unit 25G (X, Y, Z axes, 10 time each)
- **Power Requirements**
  - **Rated voltage**: DC24V±10%
  - **Rated power**: 16W
- **Dimensions**
  - **Sensor head**: 30(W)×43(D)×25(H)mm
  - **Amplifier Unit**: 168(W)×147.5(D)×45(H)mm
  - **Controller**: 30(W)×102.5(D)×25(H)mm
- **Weight**
  - **Sensor head**: 0.34kg
  - **Amplifier Unit**: 1.1kg

### I/O Specifications

<table>
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<th>Input signal name</th>
<th>Remarks</th>
<th>Pin No.</th>
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</table>

**Product Code**

- **0936011**: PULCOM GE-10 1-channel specifications
  - One sensor, power cable, one I/O cable provided
- **0936012**: PULCOM GE-10 2-channel specifications
  - Two sensors, power cable, one I/O cable provided
- **0936203**: Sensor extension cable (6m)
- **0936212**: Analog output cable (10m)