FM-VEL-004B Series Velocity Transducer
Piezo Velocity Type Vibration Sensor, Top Connector

Introduction
The Forbes Marshall FM-VEL-004B series transducer is a piezoelectric type velocity vibration transducer which measures the casing vibration of rotating machinery and outputs a voltage signal.

The FM-VEL-004B series transducer has a built-in piezoelectric acceleration detection element and converts the input signal to a voltage signal proportional to velocity vibration by an integrating circuit.

In addition, the built-in integrating circuit can reject external noise to produce a noiseless signal even in the low frequency region.

Industries
Power generation
Steel
Cement
Pulp and paper
Waste water treatment
Automotive
Infrastructure
Mining
Dairy / Food / Beverages
Pharmaceutical

Features
Industrial ruggedness
Eliminates distortion caused by high frequency signals
Corrosion resistant
Internally integrated to velocity
Ultra low-noise electronics for clear signals at very low vibration levels
Reverse wiring protection

Typical Applications
Air compressors
Conveyors
Dryer sections <250°F
Motors
Presses and stamping
Roll and process
Air handlers
Cooling towers
Fans
Gear boxes
Pumps
Spindles
Turbines
### Technical Specifications

#### Dynamic
- **Sensitivity, ±10%, 25°C**: 100mV/in/sec
- **Velocity range**: 50 in/sec peak
- **Amplitude nonlinearity**: 2.5%
- **Frequency response:**
  - ±10%: 3.0 – 3500Hz
  - ±3 dB: 2.5 – 7000Hz
- **Resonance frequency, mounted, nominal**: 15 kHz
- **Transverse sensitivity, max**: 5% of axial

#### Electrical
- **Power requirement:** 18 - 30 VDC
- **Voltage source**: 2 - 10 mA
- **Output impedance, nominal**: 200 W
- **Bias output voltage, nominal**: 10 VDC
- **Grounding**: case isolated, internally shielded

#### Environmental
- **Temperature range**: -50 to 120ºC
- **Shock limit**: 2500g peak
- **Sealing**: hermetic

#### Physical
- **Weight**: 145g
- **Case material**: 316L stainless steel
- **Mounting**: 1/4-28 tapped hole
- **Output connector**: MIL-C-5015, 2-pin style

### Ordering Information

<table>
<thead>
<tr>
<th>FM-VEL-004B</th>
<th>Sensitivity</th>
<th>Cable Type</th>
<th>Thread Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.94mV/mm/sec, +/-10%</td>
<td>2 Pin connector type</td>
<td>1/4&quot;-28UNF, female</td>
</tr>
<tr>
<td>2</td>
<td>5 mtr integral, polyurethane cable</td>
<td>5 mtr integral, polyurethane cable</td>
<td></td>
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<tr>
<td>3</td>
<td>10 mtr integral, polyurethane cable</td>
<td>10 mtr integral, polyurethane cable</td>
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