

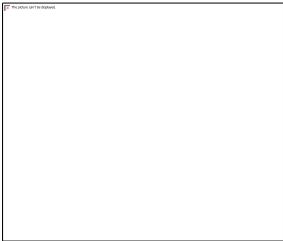
# KEMET Vibration Sensor

MSABG  
Product Management Gr

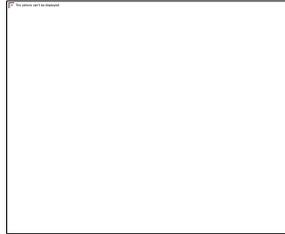
# Vibration Sensor

## Appearance

### VS-BV Series



### VS-JV Series



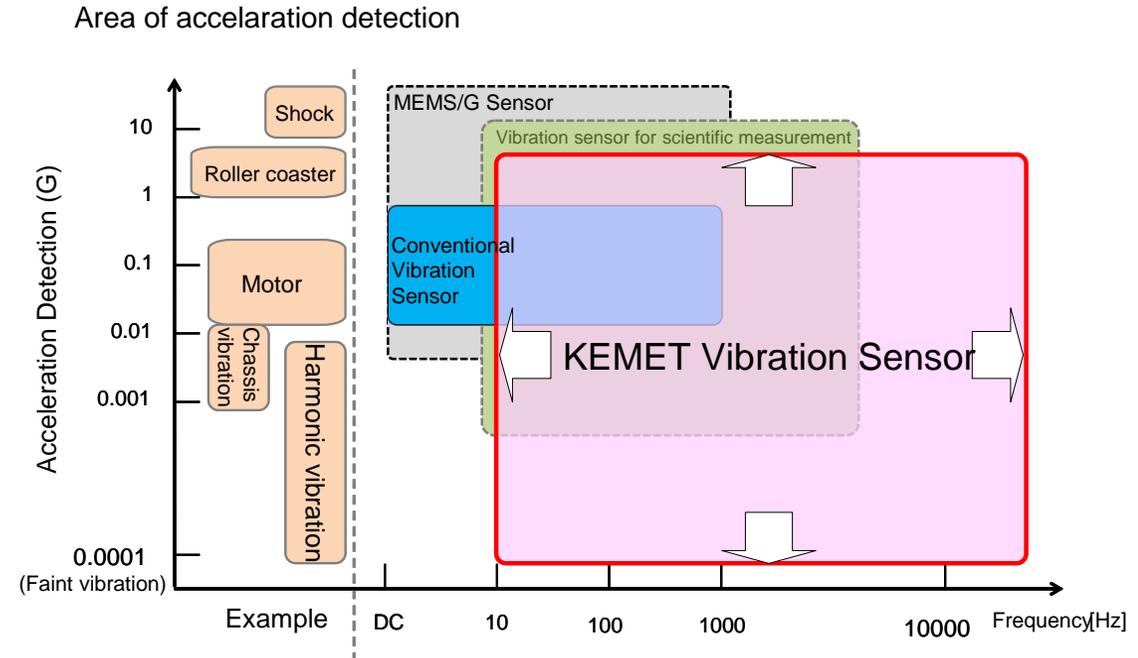
## Application

Monitor or Predictive Maintenance Production Line  
<Mass Production Line, Machine, Robot or Motor>

### High Sensitivity and Broadband Operation

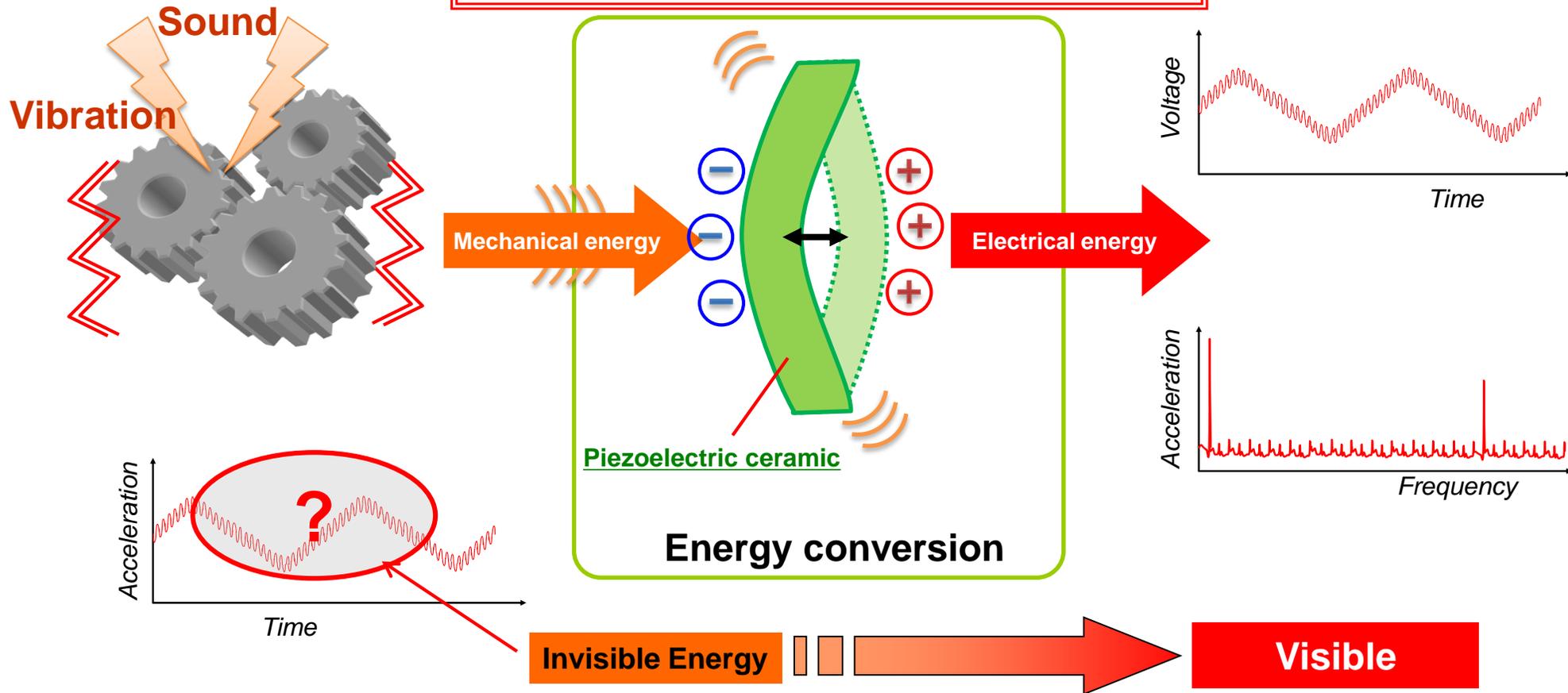
1. High Sensitivity (20times higher than Conventional)
2. Broadband Operation(10Hz ~ 15kHz)
3. 3V ~ 5V Operation with Built-in Amp.
4. Compact & Low Profile
5. Water-Proof, Dust-Proof and Oil-Resistant (VS-JV Series)

## Characteristics



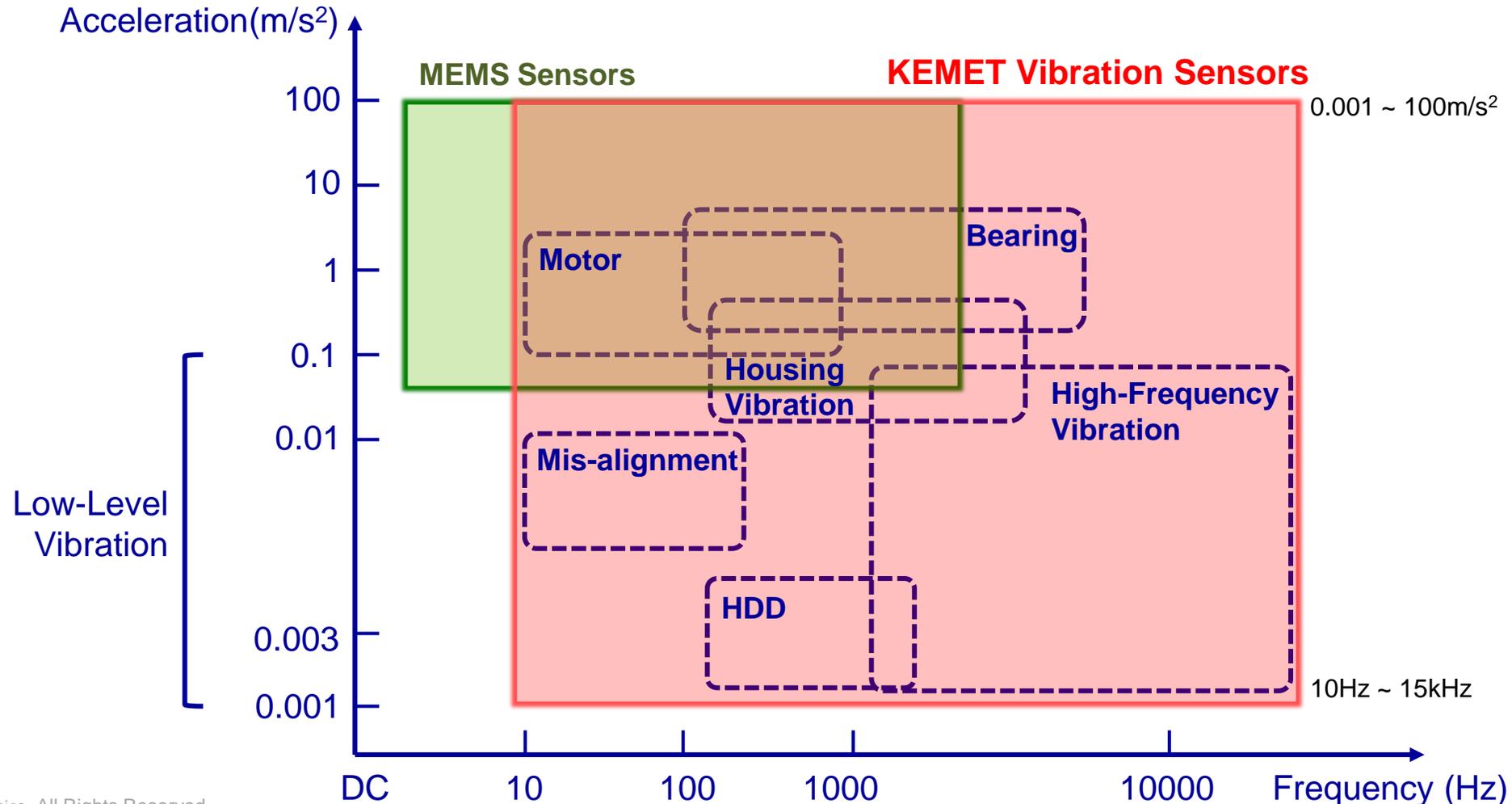
# Piezo Vibration Sensor (Operation)

## Piezoelectric Effect of Ceramic



# Feature of Vibration Sensor

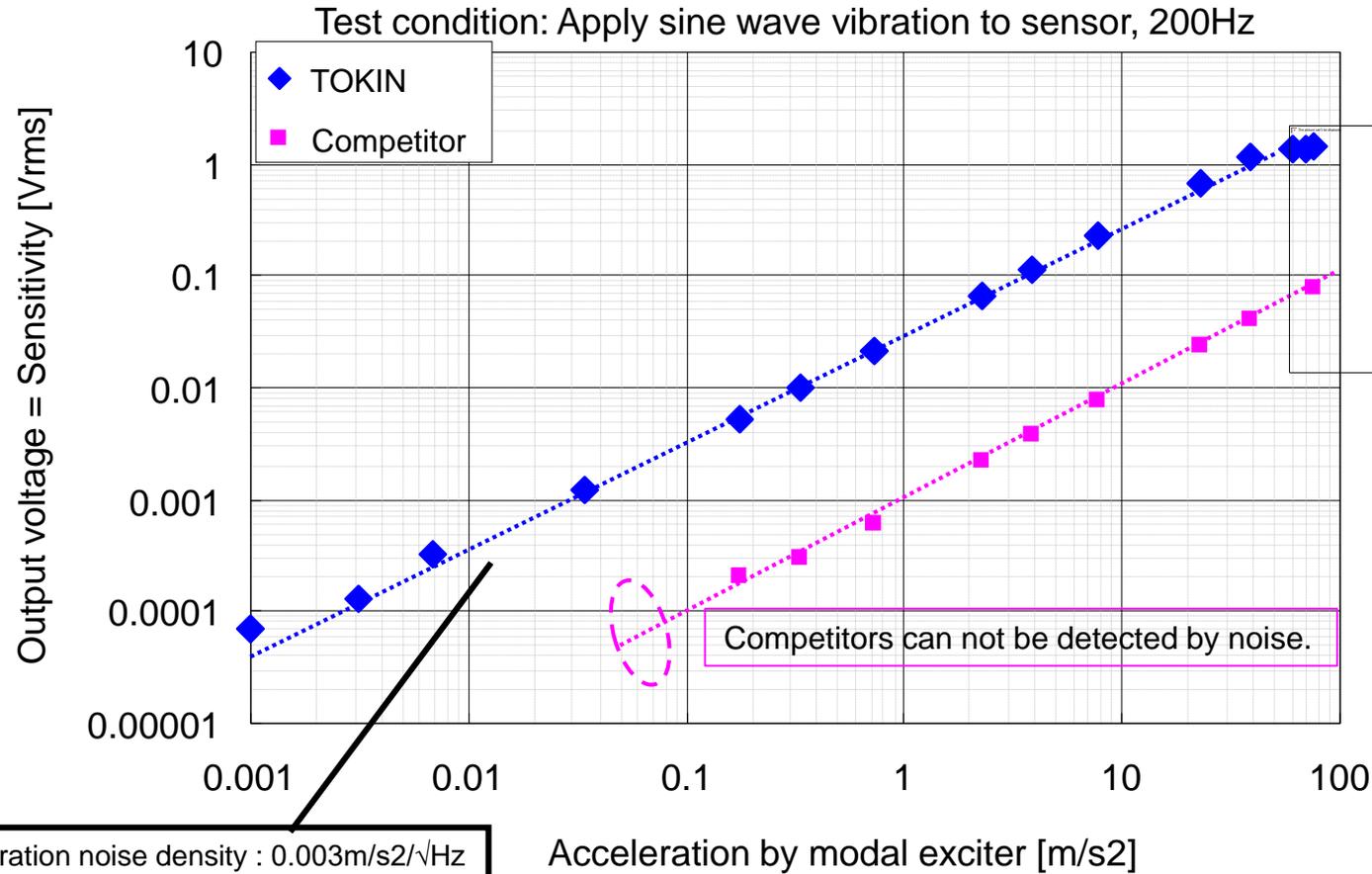
Wide Acceleration Detection with Broad Band Range



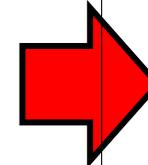
# Feature of Vibration Sensor

## High Sensitivity

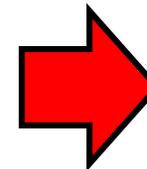
Competitor: Accelerometer for measurement



**KEMET Sensor**



**Competitor Sensor**



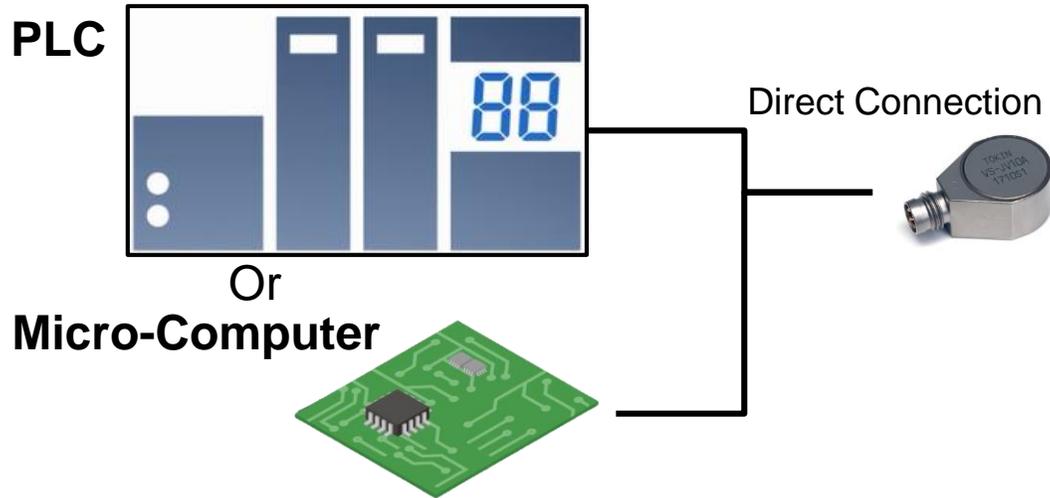
Acceleration noise density : 0.003m/s<sup>2</sup>/√Hz

# Feature of Vibration Sensor

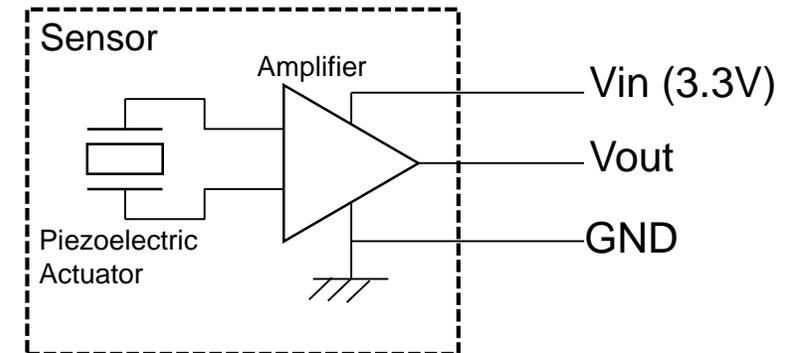
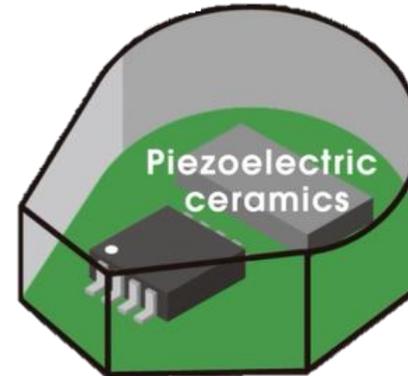
**Fixed Voltage Operation**

Build-in Amplifier: 3 ~ 5V Operation

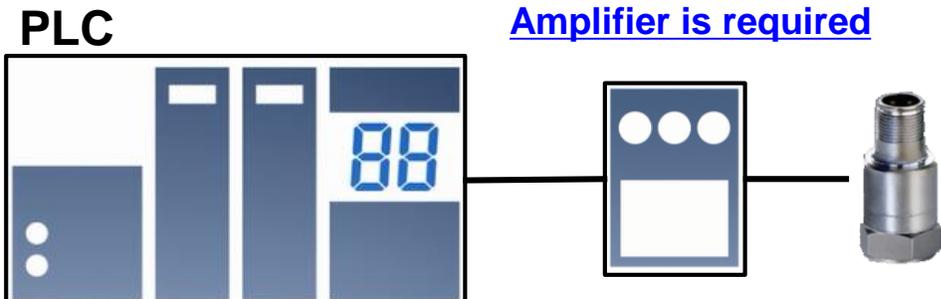
## KEMET Sensor



## Circuit Structure



## Competitors



# Product Specifications

Model	VS-BV203 	VS-JA10A 
Sensitivity	20mV /m/s <sup>2</sup>	10mV /m/s <sup>2</sup>
Measuring range	±50 m/s <sup>2</sup>	±100 m/s <sup>2</sup>
Frequency range	10 to 15000 Hz	10 to 15000 Hz
Resonant frequency	>30 kHz	>30KHz
Power supply voltage	3 to 5.5 V	3.2 to 5.5 V
Offset voltage (center voltage value)	½ power supply voltage	1.5 V
Acceleration noise density	0.003 m/s <sup>2</sup>	0.003 m/s <sup>2</sup>
Grounding	Case-grounded	Case-insulated
Operating temperature	-25 to +75 °C	-25 to +85 °C
Impact resistance (shock)	1000 G	1000 G
Protection	-	IP67 (equivalent)
Dimensions	11.4 × 8.4 × 2.9(H) mm	Φ18 × 11 mm
Weight	1 g	19 g
Connector	SHR-03V-S-B (made by JST)	M8 (male)
Mounting	Adhesive	M4 × 0.7 mm
Cable length	3 m	3m / 10m

## Feature

### VS-BV203



- Small and Thin
- Built-in Amplifier
- With Cable

### VS-JA10A



- Waterproof and Oil-resistant
- Metal Encapsulated
- Built-in Amplifier
- Detachable Cable Design

# Vibration Sensor of Industrial IoT

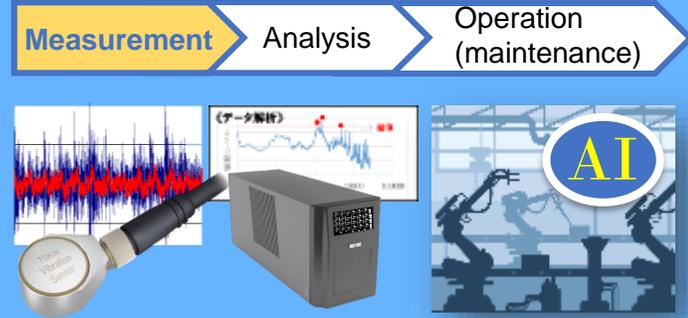


**Monitor for  
 Production Line  
 or Infrastructure**



## Vibration Sensor Solution / Target Market・Person

- ✓ **Production Line Monitoring / Predictive Maintenance: Car, Equipment, Food, etc.**  
 ⇒ Production Line Designer, Production Support Engineer
- ✓ **Equipment or Machine Design / Built-in Sensor**  
 ⇒ R&D, Machine, Robot, Motor Design engineer
- ✓ **Infrastructure Monitoring (Bridge, Highway, etc.)**  
 ⇒ Slre (System Integrator)



### Sensor

VS-JV10A



Water proof  
 Oil-resistance

VS-BV203



Compact  
 For built-in  
 With cable

VS-FV100

Under development



Low freq. detection  
 Water proof  
 Oil-resistance

### Evaluation Kit

Preparing Now

VS-JV10A-K01

Includes;



VS-JV10A



Water proof  
 Oil-resistance

VM-03



Magnet Base  
 (Attachment)

VA-01



Baseament  
 (Glued or  
 Screwed)

VSC-100PURS4-M8D-01



Cable with connector  
 (10m)