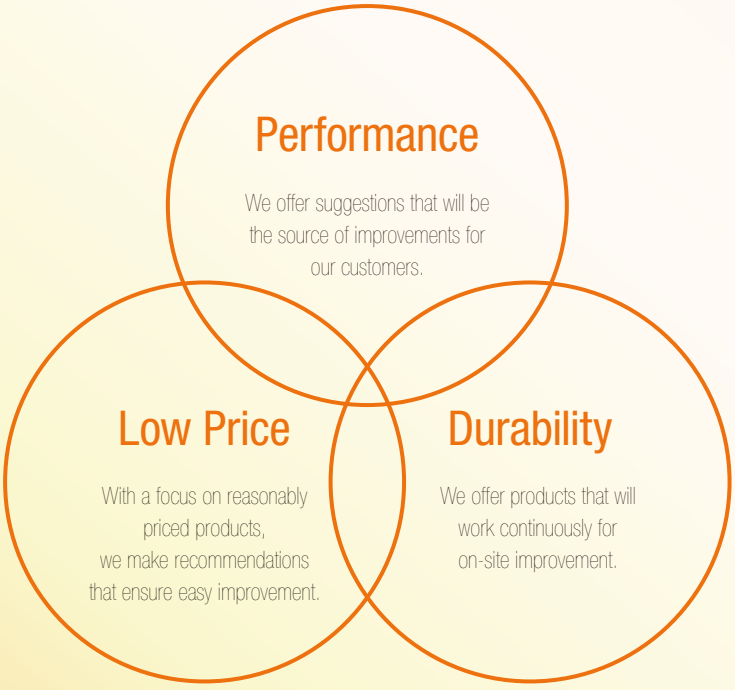
KEYENCE

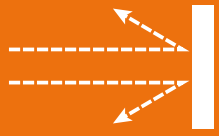
COST ADVANTAGES

Tips for On-site Improvement

Predictive Maintenance and Productivity Improvement



Predictive Maintenance



Suggestions for predictive maintenance of equipment

Predictive maintenance of equipment leads not only to improved product quality but also prevents equipment failure and problems.

Typical applications

- Level detection of tanks
- Detection of abnormal vibration of motors
- Measurement of stretched tie bars
- Stroke monitoring of traversers ... etc.

High-speed, High-precision Digital Inductive Displacement Sensor EX-V Series

Reasons why we recommend the EX-V Series

(1) Best performance in its class

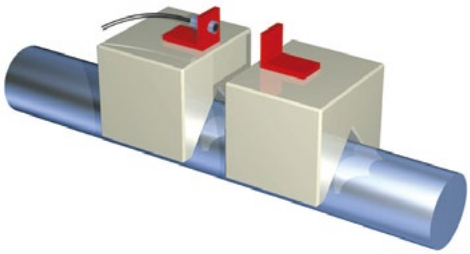
-> The built-in linearity correction circuit (FLL circuit) dramatically improves the performance of the inductive method that uses a high frequency magnetic field. **This achieves high-speed sampling of 40000 samples per second and high resolution of 0.4 µm.**

(2) Extraordinary environmental resistance

-> The enclosure rating is **IP67** and neither oil nor water will cause measurement errors in principle. This means the EX-V Series can be used even in severe environments.

Actual applications for process improvement

■ Measurement of stretched tie bar of die-casting machine



Stretching of the tie bar of a die-casting machine can be detected using a magnetic jig.

■ Parallelism measurement of press mould

Measures distortion or ageing deterioration of a mould due to its own weight or incorrect setup to prevent problems.

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High-precision Shock Sensor GA Series

Reasons why we recommend the GA Series

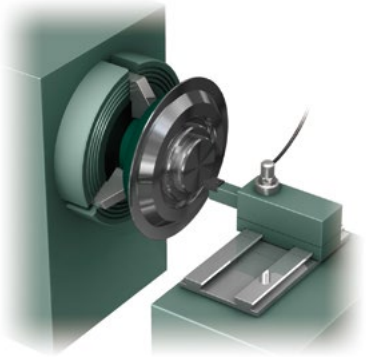
(1) Magnetic type sensor head included in the lineup

-> Can be installed easily on existing equipment without any alterations.

(2) Monitor output ideal for equipment diagnosis

-> The user can observe chronological changes in machine vibration, enabling problem prevention and diagnosis.

Actual applications for process improvement



- **Detection of abnormal vibration of machine tool**
- **Confirmation of worn bearing**

It is possible to continuously monitor operation errors by detecting abnormal vibration of equipment. This prevents defective workpieces from being distributed and equipment from being damaged.

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Productivity Improvement

Suggestions for productivity improvement

Improvement of problems occurring on site leads to reduction of the processing time and cost as well as to improvements of yield and productivity. KEYENCE offers suggestions of various improvement activities at production sites with sensors that use a variety of principles.

Vision Sensor with Built-in Lighting IV Series

Reasons why we recommend the IV Series

(1) Easy operation with one-minute start-up

-> A dedicated touch monitor can set up the sensor through intuitive, single-touch operation. Easy software navigation, which provides immediate judgement simply by capturing an image of the target, can be completed in about one minute.

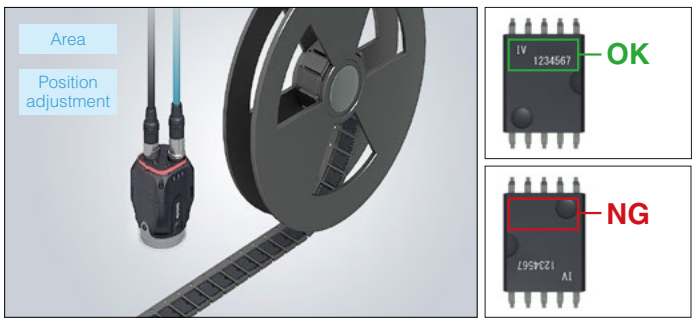
(2) First-in-class, automatic focus and brightness setting

-> The IV Series-dedicated automatic focus mechanism can focus on a workpiece with just the press of a button. Focusing, which used to be a manual process, can now be done automatically. Brightness can also be adjusted automatically through a single touch of a button.
Anyone can set the ideal image settings for their own detection.

■ Confirmation of assembled instrument panel parts

Judges if instrument panel parts have been assembled properly. Assignment of 16 tools and use of the position correction function enable assembly of various parts to be completely checked.

■ Judgement of IC direction in carrier tape



The position adjustment tool allows stable detection even if workpieces are moving in the carrier tape. Also, high-speed adjustment provides detection without increasing the processing time of equipment.

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High-speed, High-precision, Wide-area Static Elimination Blower SJ-F2000 Series

Reasons why we recommend the SJ-F2000 Series

(1) Largest static elimination area in its class

(2× larger than conventional models)

-> The largest static elimination area in its class has been achieved by integrating a high-power fan and a louver structure.

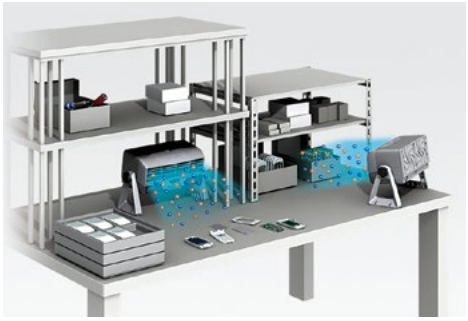
(2) Fastest-in-class, high-precision static elimination

(2× faster than conventional models)

-> By combining the proven pulse AC method and I.C.C. control, the SJ-F Series has achieved **the fastest-in class static elimination speed and an ion balance of ±5 V.**

Actual applications for process improvement

■ **Prevention of electrostatic damage to electronic PC boards**



Static elimination during cell production processes can prevent damage due to static electricity at the product assembly stage.

■ **Prevention of foreign particle adhesion to plastic containers**

Static elimination of plastic containers can prevent adhesion of foreign particles and improve yield.

CMOS Multi-Function Analogue Laser Sensor IA/IL Series

Reasons why we recommend the IA/IL Series

(1) Easy and stable detection without tuning

-> The IL Series features a SCAN function that achieves a 1.5 million times dynamic range through adjustable laser power, shutter time, and light receiving gain (amplification factor). Stable detection is possible without tuning **even if the type or surface condition of workpieces changes.**

(2) A wide variation of sensor heads

-> In order to support every possible application, we offer a wide lineup of sensor heads.

Actual applications for process improvement

■ **Detection of sheet thickness**

■ **Detection of double-feeding of PC boards**

The IL Series allows stable detection without tuning regardless of the colour or material of workpieces flowing on the production line so that the sensor need not be reset even when a different type of workpiece is present.

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Please visit: www.keyence.com

SAFETY INFORMATION
Please read the instruction manual carefully in order to safely operate any KEYENCE product.

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