Azbil

Технические характеристики

Датчики измерения

K1G, HLA

High-Accuracy Position Sensor - Model: K1G

azbil's new High-Performance Laser Sensor, the K1G series, far exceeds conventional norms when it comes to performance and functions, allowing you to make the measurements you want.
A combination of a CMOS linear image sensor and collimated lasers ensures high-accuracy workpiece position measurement.

Description

See what you previously couldn't

The K1G has the highest display resolution (0.1 μm) and fastest measurement cycle (250 μs) in its class. This enables the K1G to reliably detect and visualize tiny variations and high-speed fluctuations that are often overlooked by conventional sensors.
Up until now glass edges and surfaces were checked offline by operators for defects such as chips. The K1G series, however, makes high-speed in-line measurements with a high degree of accuracy. This means that fast, highly accurate glass measurements can now be made regardless of how the edge surface is processed.
Azbil's unique FDN algorithm, which utilizes Fresnel diffraction phenomena and sophisticated high resolution technologies, has achieved detection accuracy to 1μm.
The detection principle also works well for transparent object detection. Azbil developed a special lens to achieve almost perfectly parallel optical light. Afterwards a CMOS linear sensor was added as the light-sensitive element to enable visual perception for workpiece position. These functions enable the K1G to detect small variations that conventional sensors are not able to detect.

Easily mounts anywhere

By listening to our customers' concerns, problems such as "doesn't fit" or "can't measure" due to sensor size are a thing of the past. K1G series designers made ultra-slimness a high priority as a small sensor head allows a small alignment unit, helping to reduce the overall equipment footprint. Meticulous efforts have produced an ultra-thin head in all its dimensions, which makes the K1G very easy to install in narrow spaces. Since one controller can connect up to 4 sets of sensor heads, it solves a great deal of space issues. Two sensor models, having detection ranges of 7 mm and 15 mm, are available and are ideal for a wide diversity of applications.

Exact measurement principles

The K1G series is equipped with a laser emitter and a receiver with a CCD line sensor to measure the position of a workpiece between the sensor heads (emitter and receiver).
Azbil's Fresnel-diffraction based FDN algorithm and super-high resolution technology make measurement at 0.1 μm resolution and 1 μm repeatability possible.
In Fresnel diffraction, light is diffracted at the edge of a thin object, such as a knife or film. The intensity distribution of the diffracted light on the receiver varies depending on the distance between the workpiece and the receiver. The FDN algorithm is Azbil's own sub-pixel processing based on Fresnel diffraction.

Read more about azbil's solution for Film Track Control and Glass Crack Detection in the Electronics and Electrical industry.

Long-Distance Laser Measurement - Model: HLA

High accuracy distance measurement by the direct reflection method.

Features

- Minute spot from a long distance
  Ability to detect a spot 1 to 2 mm in diameter within the measuring range (HLA-D130A)
- High-accuracy distance measurement
  Ability to measure distance from far away, with a long measuring range and high resolution
- Medium distance type (HLA-D130A): measuring range 30 to 130 mm, resolution 0,06 mm
- Long distance type (HLA-D500A): measuring range 100 to 500 mm, resolution 0,5 mm

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