



Examples of Industry-Specific Improvements

Automotive Industry

CMOS Multi-Function Analog Laser Sensor

IL Series



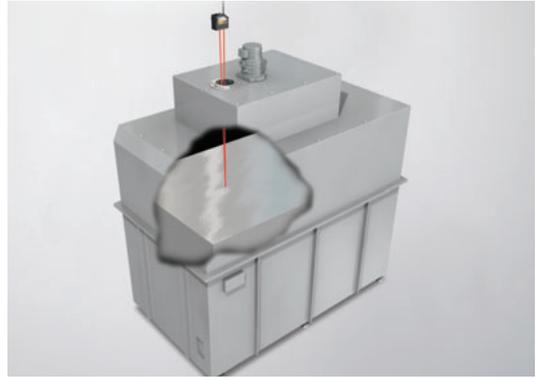
Height

Detects Welding Seams



Conventionally, uneven surfaces from welding seams would alter the amount of reflected light, causing inconsistencies in appearance that would lead to unstable detection. The IL Series provides stable detection through its automatic brightness control function.

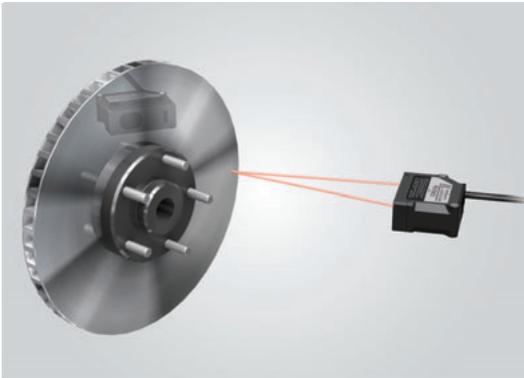
Detects at Molten Levels



High temperatures used to require expensive measurement systems, with sensors unable to withstand the heat up close. The IL Series produces stable detection even at distances of 1000 mm [39.37"](#). What's more, detection remains stable even with surfaces discolored by oxidation.

Swing

Measures Disk Brake Run-Out



Conventionally, small bumps on a workpiece surface could affect the amount of reflected light, impacting measured values. The IL Series overcomes this, offering stable detection through its automatic brightness control function.

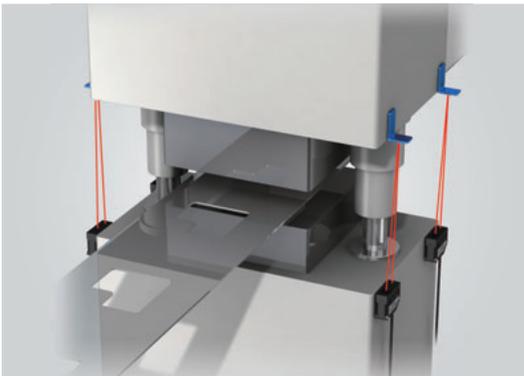
Detects Tire Run-Out



Dark surfaces absorb light, which used to make measurement difficult. But automatic brightness control now makes stable detection possible. The IL Series produces reliable run-out readings by observing run-out in multiple areas.

Position

Press Stroke Management



Conventionally, only the bottom dead center could be inspected using close-range sensors, etc. But with a maximum measurement range of 800 mm [31.50"](#), the IL-600 monitors the amount of press strokes to prevent defects before they occur.

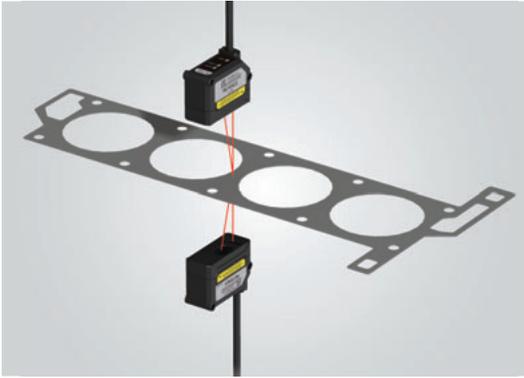
Robot Arm



Using multiple measurement systems at once used to require a large budget, but the IL Series brings inspection costs down. Workpiece chucking accuracy is checked using X-Y-Z coordinates, helping improve position accuracy.

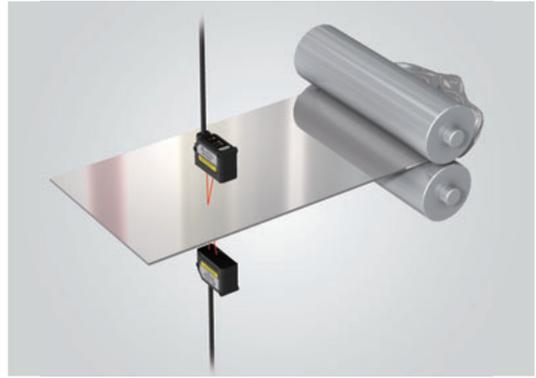
Thickness

Measures Gasket Thickness



Conventional laser sensors can be affected by the color and gloss of a surface, but the automatic brightness control function makes stable inspection possible. The IL Series prevents against double-feeding before being put into the press.

Measures Thickness After Rolling



Rattling of surfaces used to cause unstable brightness, but the automatic brightness control function cancels out the effects of rattling. Thickness control after rolling helps improve the quality of products and reduce the cost of materials.

Flatness

Liner Insertion Check



Conventional systems are easily influenced by the likes of stains and bumps on metal workpiece surfaces, but automatic brightness control enables stable detection. Measurement data can be processed for multiple points at once, making parallelism checks possible.

Door Type Differentiation



Door orientation, curvature and color used to easily affect detection stability, but the IL Series overcomes this thanks to automatic brightness control. Each measurement point can be calculated with the IL amplifier alone.

R&D

Vehicle Height While Moving



Measurement systems are conventionally used to counteract the influence of bumpy road surfaces. With its automatic brightness control function, the IL series helps keep costs down, even when using multiple units. Meanwhile, the ambient light elimination function cancels out ambient light.

Engine Valve Stroke Test



Compact measurement systems are conventionally used, but with its add-on compact sensor head, the IL Series is a cost-effective choice that can be adapted for inspecting different vehicle types. Installation is easy thanks to the compact head.

IL Series Specifications



■ Sensor Head (IL-S)

Model	IL-S025	IL-S065
Appearance		
Reference distance	25 mm 0.98"	65 mm 2.56"
Measuring distance	20 to 30 mm 0.79" to 1.18"	55 to 75 mm 2.17" to 2.95"



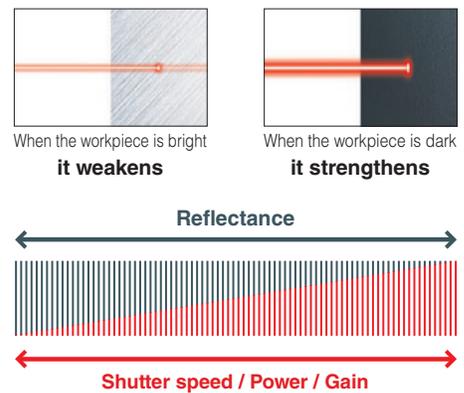
■ Sensor Head (IL)

Model	IL-030	IL-065	IL-100	IL-300	IL-600	IL-2000
Appearance						
Reference distance	30 mm 1.18"	65 mm 2.56"	100 mm 3.94"	300 mm 11.81"	600 mm 23.62"	2000 mm 78.74"
Measuring distance	20 to 45 mm 0.79" to 1.77"	55 to 105 mm 2.17" to 4.13"	75 to 130 mm 2.95" to 5.12"	160 to 450 mm 6.30" to 17.72"	200 to 1000 mm 7.87" to 39.37"	1000 to 3500 mm 39.37" to 137.80"

Equipped with a Wide Dynamic Range SCAN Function

SCAN (= Sensitive-laser Control Analyser)

Laser power, shutter speed and receiver gain (amplification factor) can be adjusted for stable detection of each target. In addition, newly developed digital circuits help realize a 1.5-million-times dynamic range (2.5 times that of conventional systems). And thanks to real-time adjustment according to the detection target and surface conditions, stable detection is made possible.



Related Products

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