IN Your Innovation

Compact & long range

Laser distance sensor HG-F1

The laser distance sensor HG-F1 series features a lightweight and high-strength aluminum diecast case with a built-in TOF sensor module. The sensor unit boasts a compact and robust body and offers a long-range sensing capability.

Key features

Pinpoint detection from 3m away

- The laser distance sensor HG-F1 series offers a long-range sensing capability from 250 to 3000mm.

Analog output capability

- Measured values can be output to an external device via an analog output (voltage / current). The analog scaling setting enables the acquisition of data from a desired measurement range.

Sensing distance can be numerically set

- The digital display enables pinpoint setting of the sensing distance in mm.

Beam axis can be adjusted easily

- The beam axis can be adjusted easily by watching the beam spot in the beam spot check mode.

Compact design

- The compact laser distance sensor measures only 20 x 44 x 25mm (W x H x D).

Robust aluminum diecast body

- The unit body is made of aluminum diecast, so it is lightweight and robust.

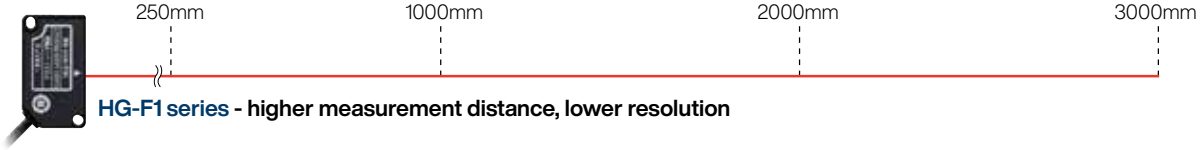
Easy confirmation of sensing position

Beam spot check mode

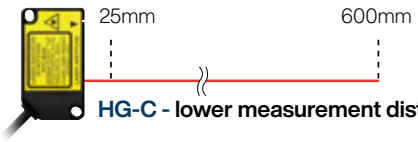
- In this mode, the beam emitting power is increased and the beam flashes for a better visibility at the installation.

Narrow field sensing

- The beam spot is smaller than that of a conventional adjustable-range distance sensor. This means the sensor can be installed and positioned for detection through a narrow gap.



HG-F1 series - higher measurement distance, lower resolution



HG-C - lower measurement distance, higher resolution

Useful functions

Teaching function

1, 2 and 3-point teaching and limit teaching

Zero set function

This function compulsorily sets the measured value to zero, which is useful when measuring steps or tolerance with reference to the height of the object to be detected.

Configurable external input

The external input can be configured to perform one of three functions: “zero set”, “teaching”, and “emission stop”.

Timer setting function

There are four timer settings available: ON-delay, OFF-delay, one-shot time, no timer. The timer period can be set in the range from 5ms to 5000ms.

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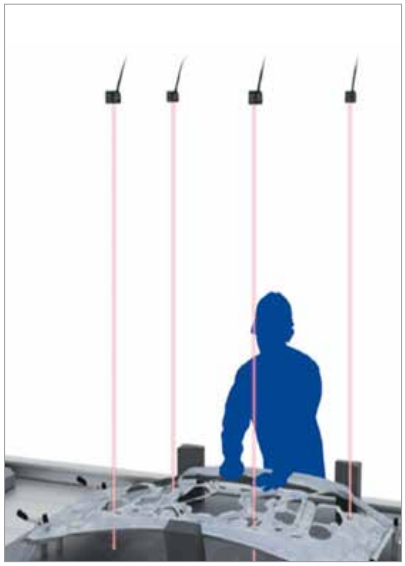
Specification - Comparison of product series

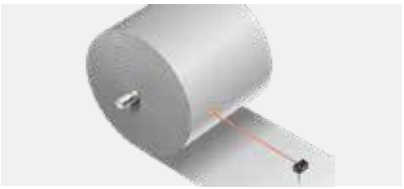
Series name	Model No.	Measurement / sensing range	Beam diameter	Repeatability
HG-F1 series	HG-F1☐	250 to 3000mm	Approx. ø10mm (at the measuring distance of 1000mm)	max. ±10mm
HG-C series	HG-C1030☐	30±5mm	Approx. ø50µm	10µm
	HG-C1050☐	50±15mm	Approx. ø70µm	30µm
	HG-C1100☐	100±35mm	Approx. ø120µm	70µm
	HG-C1200☐	200±80mm	Approx. ø300µm	200µm
	HG-C1400☐	400±200mm	Approx. ø500µm	300µm (200 to 400mm) 800µm (400 to 600mm)
Digital output	Either Light-ON or Dark-ON			
Analog output	0-5V / 4-20mA			
Response time	Switchable from 35ms to 2000ms			
External input functions	Teaching, zero set, emission stop,			
Others	Timer function with adjustable timer period			
Supply voltage	24V DC / max. 40mA			
Beam source	Red semiconductor laser: Class 1			



Long-distance object detection

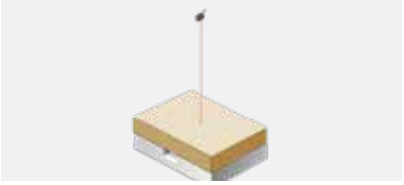
Application examples

Checking the installation of door parts



Detection of remaining amount of sheet

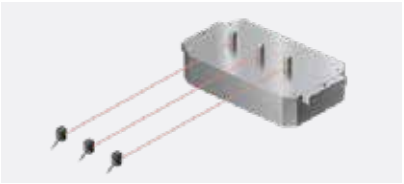
Detection of car seats



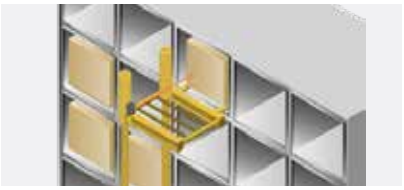
Detection of vertically stacked objects

Detection of remaining amount in hopper

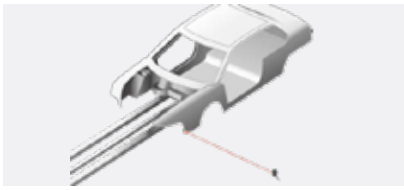
Detection of parts through viewing port



Discrimination of types of molds / parts



Load presence check



Detection of vehicle body position

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