

Gocator 2340

This document gives a brief overview of the Gocator 2340. It is based on evaluation of the sensor performed by Stiftelsen Adopticum in a project financed by Kempestiftelsen. For more information about the sensor, please feel free to contact Adopticum.

Quick facts

- Laser triangulation
- Megapixel imager. 1280 points per profile resolution
- Field-of-view up to 1260 mm
- Measurement range up to 800 mm

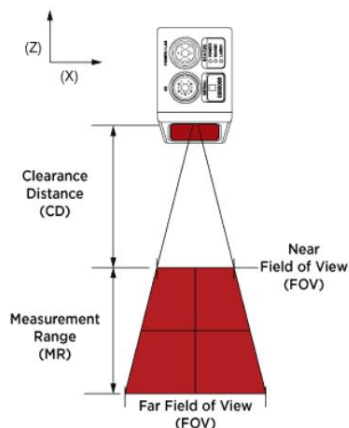


Gocator 2340

The **Gocator** laser triangulation 2300-series consists of 3D measurement devices for fast and accurate scanning of objects, line by line. The objects, usually transported on a conveyor with an encoder connected to the camera, are passing through a laser line allowing the camera to measure the objects, creating accurate 3D-models with X-, Y- and Z-coordinates for every 3D-point and including the light intensity at the surface of the objects (see figure 1 below). This model can measure objects down to sub-mm accuracy, but here are also other Gocator series with different specifications (accuracy, resolution, field-of-view, etc), that are similar to the 2300-series.

The measurement area and camera need to be covered from other light sources, like sunlight, with overlapping wavelengths with the laser light so that the measurements aren't affected. A housing for the camera might also be needed if it is to be used in outdoor applications.

QUICK SPECS



Model	2320	2330	2340	2350	2370	2375	2380
Resolution X (mm)	0.014	0.044	0.095	0.150	0.275	0.255	0.375
Resolution Z (mm)	0.0018	0.006	0.013	0.019	0.055	0.175	0.092
Field of View(mm)	18 - 26	47 - 85	96 - 194	158 - 365	308 - 687	324 - 1010	390 - 1260
Clearance Distance (mm)	40	90	190	300	400	650	350
Measurement Range (mm)	25	80	210	400	500	1350	800

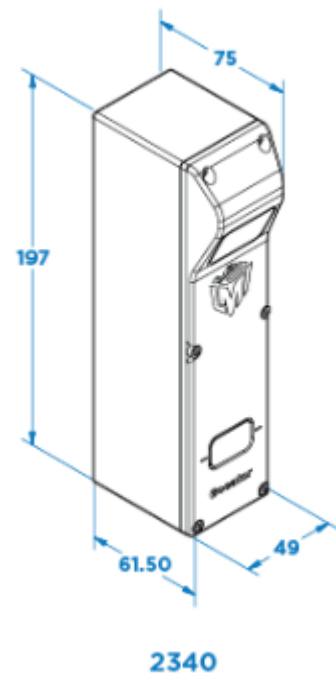
Specification – the model tested is the 2340

The pre-calibrated camera and laser system that the Gocators provide simplifies calibration effort and time considerably and it is easy to replace a sensor if needed. They are easy to set up, including aligning one or more sensors together, thanks to the relatively user-friendly web user interface. Through this interface the user has access to several built-in tools, both for analysing single profiles and complete objects (many profiles), that can make the sensor a measurement system on its own without an external PC. The functionality available is well suited for when you know what kind of predefined common shapes or defects you are looking for. For instance, it is a good fit for quality measurements for manufacturing of parts that should be identical to each other. The graphical interface can be used by someone without extensive programming experience.

Limited range can be a problem, but several sensors aligned together can be used for measuring bigger objects, even if it means a higher hardware cost. The sensors' prices are above 50 000 SEK for one sensor.

When the objects to measure can differ wildly in size or shape, the built-in tools aren't always enough, and the raw profiles or surfaces need to be analysed using other software, with numerous image and 3D-data processing techniques. For example, Gocator and HALCON can be used together for very flexible solutions that Gocator itself can't easily handle. Depending on the software, more extensive programming knowledge can be needed for this.

For an application that needs a robust measurement system with high the accuracy and speed the Gocator 2340-sensor can be a suitable and time-saving solution when the application suits the built-in functionality that the sensor provides with the easy-to-use graphical interface.



Measurements - Gocator 2340



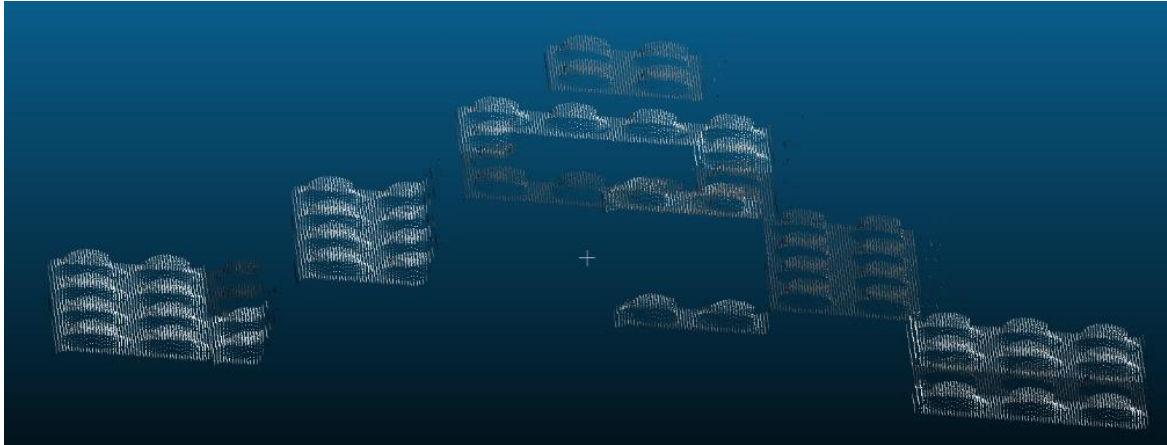


Figure 1: Above: A lego test object, for well-known measurements on mm level. Below: A scanning from a Gocator 2340 of the same lego test object.