

3D TELEMETER

Description:

Obtaining three-dimensional (3D) measurements is of great interest in various industrial fields, such as robotics or production systems. For this, one possibility is the use of 3D laser rangefinders such as those commonly used in surveying. However, these systems have a high cost, weight and slow data acquisition. An alternative is to use servo-controlled commercial 2D laser rangefinders to obtain 3D data, but until now they had drawbacks. Thus, the present invention consists of a 3D laser rangefinder obtained by pitching a 2D laser rangefinder. Movement is around the optical center of the 2D laser rangefinder, maintaining its maximum field of view.

Keywords:

[Robotic](#), [Telemeter](#), [3d](#), [Three-Dimensional Maps](#)

Sectors:

[Engineering](#)

Areas:

[Mechanics](#)



Advantages:

Among the advantages of this 3D rangefinder, the following stand out: • Its low cost. • It is light and compact, which allows its portability easily. • It has a low energy consumption. • It connects to the PC via standard ISB port. • Measurement taking time is reduced and they are reliable.

Uses and Applications:

Within the field of robotics, this technology is useful for autonomous navigation, as well as for the construction of three-dimensional maps. On the other hand, in the field of production systems, its main applications would consist of detecting parts, volumes, as well as avoiding possible collisions. In addition, this technology is very useful for the construction of 3D models of buildings, as well as for the monitoring of security zones.

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