

# **Structured Light 3D Module**





## Overview

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A structured-light 3D scanner is a device used to capture the three-dimensional shape of an object by, such as grids or stripes, onto its surface. The deformation of these patterns is recorded by cameras and processed using specialized to generate a detailed. Compared to High-Precision Laser Modules for Accurate 3D Imaging, Measurement, and Sensing Applications Explore our range of Structured Light Laser Modules, designed for high-precision 3D scanning, depth sensing, and other measurement applications. With advanced features such as random dot projection and various wavelengths (830nm, 850nm), these laser modules are ideal for industrial, research, and.



## Structured Light 3D Module

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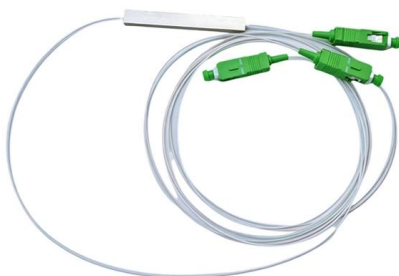


### Low-cost, High-precision Structured-light 3D imaging

Low-cost, High-precision 3D imaging system for industrial usage like AOI for PCBs or 3D checking in product lines. By Jiangtao Li.

### Structured-light 3D scanner

A structured-light 3D scanner is a device used to capture the three-dimensional shape of an object by projecting light patterns, such as grids or stripes, onto its surface. The deformation of these patterns is recorded by cameras and processed using specialized algorithms to generate a detailed 3D model. Structured-light 3D scanning is widely employed in fields such as industrial design, quality control, cultural heritage preservation, augmented reality gaming, and medical imaging. Compared to laser-based 3D scanning



### What is structured light 3D scanning?

The functionality of structured light 3D scanning is rooted in utilizing optical techniques to project a series of uniformly intense beams, sequentially

### What Is A Structured Light 3D Scanner

Discover the power of structured light 3D



scanners and how they revolutionize the world of 3D scanning with their high precision and efficiency.



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### **Structured Light API**

Structured light is considered one of the most effective techniques to acquire 3D models. This technique is based on projecting a light pattern and capturing the illuminated scene from one or more points of



### **3D structured light vision**

Ready to start a 3D vision project? We provide a bundle to get started, with 3D camera, accessories and mounts.





## Structured light

Structured light scanning relies on various coding techniques for 3D shape measurement. The most widely used ones are binary, Gray, and phase-shifting.



## Overview of modulation techniques for spatially structured-light 3D

The modulation and projection of patterns are the cornerstones of spatially structured-light three-dimensional (3D) imaging. However, an overview of this field is lacking. This paper

## Compact 3D Structured Light Camera , LIPS 3D depth Camera

LIPSedge L210u/L215u compact 3D Structured-Light camera is optimized for short-range, high-accuracy 3D applications. Suitable for 3D scan, 3D facial recognition, and 3D



## A Toolbox for Simulation and Analysis of Structured Light 3D

Structured light 3D measurement technology (SL-3D) has achieved extensive industrial applications, owing to its non-contact, high-precision, and rapid measurement capabilities. Recently,



## Structured Light 3D Sensing « Himax Technologies, Inc

Structured Light 3D Sensing 3D facial recognition is an emerging market with the most secured way for access control. Himax Structured Light 3D Sensing is the



### 3D structured light vision

Pros/cons of structured light. Fast processing. Region-based correspondence. Pattern and distortion provides 3D point clouds.

### Overview of modulation techniques for spatially structured-light 3D

The modulation and projection of spatially structured-light patterns is a crucial problem in structured-light 3D imaging. Previously, researchers have used laser interference to produce fringe



### What is a Structured Light Scanner?

In the field of healthcare, structured light scanners aid in the creation of detailed 3D models of anatomical structures, such as bones or organs. These models are



## Structured Light Technology: A High-Precision Method

A structured light camera is one of the most powerful tools in modern 3D vision and 3D scanning. By projecting light patterns and analyzing their



## Structured Light Laser Modules for 3D Scanning & Depth Sensing

High-Precision Laser Modules for Accurate 3D Imaging, Measurement, and Sensing Applications  
Explore our range of Structured Light Laser Modules, designed for high-precision 3D scanning, depth

## 3D Scanning with Structured Light

The structured light scanner produces a colored 3D point cloud. Only points that are both imaged by a camera and illuminated by the projector can be reconstructed.



## structured-light · GitHub Topics · GitHub

SLMaster is a relatively complete open-source Structured Light 3D camera software. You can use it to complete a series of operations including calibration, stripe encoding, 3D reconstruction,



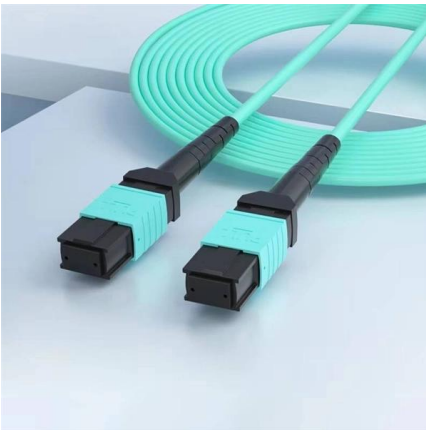
## SLStudio -

SLStudio -- Real Time Structured Light This software is designed to enable anyone to implement a custom 3D structured light scanner using a single camera and



## High Performance Structured Light Lasers

ProPhotonix has designed the 3D PRO Lasers range as a structured light laser platform specifically for the exacting requirements of machine vision applications.



## OpenCV: Structured Light API

Detailed Description Structured light is considered one of the most effective techniques to acquire 3D models. This technique is based on projecting a light pattern and capturing the illuminated scene



## Camera systems for 3D sensing

We offer image sensors, micro cameras, flood & dot illuminator modules to enable passive stereovision, structured light & active stereovision 3D sensing systems.



### 3D Scanning 101: Basics of Structured Light 3D

Learn more in our next 3D Scanning 101: Applications for Structured Light Scanning. Polyga's Structured Light 3D Scanners Polyga offers a range of cost-effective

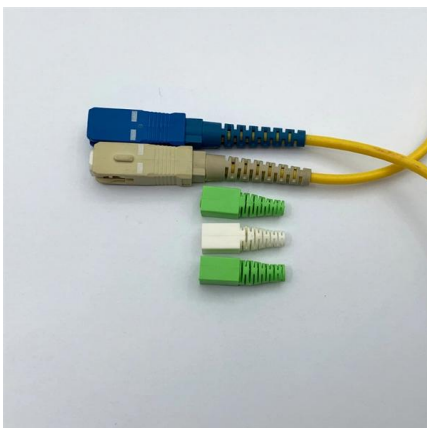


### 3D Scanning 101: Basics of Structured Light 3D

Whether you're new to structured light 3D scanning or a seasoned pro looking for a refresher, this multi-part series dives into a comprehensive look into what makes

### High Performance Structured Light Lasers

Structured light lasers designed for machine vision & 3D imaging applications. Excellent uniformity in a compact form factor.



### 3D Machine Vision Based on AM572x with DLP Structured Light

TI Designs This three dimensional (3D) machine vision design describes an embedded scanner which generates a 3D digital representation of a physical object based on structured light principles. A



## Structured Light Technology: A High-Precision Method

Discover the principles of structured light 3D scanning, from pattern projection to reconstruction, and explore its advantages and challenges in



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