

Optical Module Barcode



Overview

Barcode scanner modules are electronic components designed to read and decode barcodes, which are optical representations of data. USB or serial), a housing and an exit window, fastening their integration into your design. Automatic identification and data capture (AIDC) precisely identifies objects and. Laser engines are linear (1D) scan modules. They consist of a small semiconductor laser, an optical system with a moving mirror to make the laser line, a photodiode to process the reflected laser light, electronics to amplify the signal from the photodiode and a processor that decodes the signal. Optical module for fast and accurate scanning of 2D codes, barcodes and QR codes, ideal for Arduino projects and automation. Reads omnidirectionally, including codes on curved surfaces, works continuously or at the press of a button. This system is crucial for converting physical, encoded patterns (like a barcode) into digital. Reliably Identified Mobile and stationary sensors—from barcode scanners to 2-D code readers and handhelds to special solutions.



Article Content

Apr 02, 2026

Barcode Scan Engines & Modules | Honeywell

Barcode scan engines and modules are integral components for capturing and decoding barcodes, essential for various applications such as retail, logistics,

May 20, 2026

Barcode and QR scanner module, GM65, optical

GM65 barcode and QR code scanner module, CMOS optical, 5V. Omnidirectional scanning, continuous or button mode, Arduino, USB and UART compatible.

Jul 28, 2025

Barcode Reader/Scanner Module

Decode nearly any kind of 1D (striped) barcode in your project using this adorable compact barcode scanner. We've looked all over for a small, light, low-power

Oct 21, 2025

How do barcodes and barcode scanners work?

An easy-to-understand explanation of how grocery store barcodes and barcode scanners/readers work. Includes how to read a barcode.

Oct 22, 2025

Barcode + QR Code Reader using Arduino & QR Scanner Module

For making Arduino Barcode + QR Code Reader, we will use Maikrt Embedded QR Code Scanning Module. The module supports both USB and UART Serial communication.

Jun 16, 2026

Barcode Scanner Module, 1D/2D Codes Reader

Barcode Scanner Module, 1D/2D Codes Reader Overview This is a small 1D/2D codes reader, by using the intelligent image recognition algorithm, it will decode

Oct 26, 2025

Pixels per Module in Barcode Reading

This Tech Biref explains Pixels per module in barcode reading for manufacturing companies in Northern Illinois, Iowa and Southern Wisconsin.

Mar 26, 2026

CM Series 2D Imager Modules | Honeywell

The CM Series Compact 2D Imager Module provides a self-contained 1D and 2D barcode scanning solution, whether decoding mobile phone screens or paper.

Jul 15, 2025

What Are Barcode Scanner Modules and How Do They Work?

Barcode scanner modules are electronic components designed to read and decode barcodes, which are optical representations of data. These modules can be integrated into various

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SoftSense Data

Barcode technology can be used to track inventory items and, optionally to track purchase orders, lab orders and other business activities. Print barcode labels for frame items, scan labels to create sales

Aug 28, 2025

Barcode reader | ams OSRAM

Advanced optical components for barcode readers ams OSRAM delivers innovative illumination and sensing solutions that optimize the accuracy, efficiency, and

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OEM Barcode Modules | Data Collection | Diamond

Our OEM barcode scan modules are also available as enclosed models. Alongside our line of board level OEM scan modules, we offer splash protected hard plastic

Mar 20, 2026

Opticon USA | MDI-1000 | OEM Barcode Scan Engine

MDI-1000 OEM Barcode Scan Module - 2D CMOS Imager The Opticon MDI-1000 is a cost-effective 2D CMOS imager scan module ideal for mobile, medical or kiosk devices. It features a 1.3 megapixel

Jun 07, 2026

Configurable Off-the-Shelf Barcode Readers | DigiKey

Factory automation and goods tracking system designers need optical barcode readers that can read code label types such as thermal print, laser

Feb 10, 2026

CCD Based Modules

CCD modules are linear (1D) scan modules. They consist of a CCD sensor, which is basically a camera with one row of pixels, electronics to amplify the signal coming from the camera and a processor that

Nov 06, 2025

2D Imager Modules

2D CMOS imager-based modules How does it work A 2D barcode module also referred to as 2D imager, uses a CMOS camera similar to the cameras that are common in modern smartphones.

Jan 06, 2026

The Optical Barcode Detection and Recognition Method

5. Conclusions In this paper, an optical bar code (OBC) detection and recognition method based on visible light communication using machine learning

Aug 19, 2025

2D Barcodes Explained: From QR Codes to Data Matrix and More

2D matrix codes store data both horizontally and vertically, packing more information into a small space. Highly readable and resistant to damage, they're used across industries for product

Apr 19, 2026

Barcode Scan Modules | Honeywell

Barcode Scan Modules Our OEM barcode modules are ready-to-integrate solutions for fixed mount designs. Modules are offered with standard interface (e.g. USB or serial), a housing and an exit

Dec 04, 2025

Four Types of Barcode Scanners

There are four types of barcode scanners available on the market today. Each uses a slightly different technology for decoding and reading the barcode.

Jun 16, 2026

BarCode scanner,Wireless barcode scanner,Data collector,ODM CCD

The company was founded by an experienced engineer team with significant experience in electronics, optics, mechanical engineering and software. This is why we are better positioned to understand our

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Barcode scanner electronic circuit principle

A barcode scanner is an essential electronic device that reads and interprets barcode symbols. It is used widely in retail, manufacturing, healthcare, and

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Barcode Scanner: Optical System and Light Source

Barcode scanner optical system failures are often caused by component degradation, environmental factors, or improper handling. By implementing

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Optical Identification

Pepperl+Fuchs' optical identification systems offer the ideal solution for distances of up to 1 meter. Not only do they read very small codes with module sizes as small as 0.1 mm, they also cover

Sep 02, 2025

Laser Based Engines

The construction of a laser module is shown below where one of our modules is shown without the electronics. This makes it easy to understand the optics involved.

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Configurable Off-the-Shelf Barcode Readers | DigiKey

This article briefly discusses barcode standards and reader requirements before introducing suitable image-based barcode readers from

Oct 07, 2025

Optical System of a barcode scanner

The optical system of a barcode scanner is a highly sophisticated mechanism that combines precision light sources, advanced sensors,

Contact Us

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