

What is a 1 16 beam splitter



Article Overview

A 1:16 beam splitter is an optical device that divides an incoming light beam into 16 separate output beams, each receiving a fraction of the original light's power.

Function and Principle

A beam splitter is an optical component designed to split an incident light beam into two or more beams with a specific power ratio. In the case of a 1:16 beam splitter, the device distributes the input light into 16 output channels, typically with equal or controlled intensity per channel. This is an extension of the standard 1:1 (50:50) or 1:2 splitters, where the splitting ratio defines how much light is transmitted versus reflected. The splitting can be achieved using cube or plate designs. Cube beam splitters are made from two triangular prisms glued together, often with a partially reflective coating on the hypotenuse surface, while plate beam splitters are thin coated glass plates designed for specific angles of incidence. For high-ratio splitters like 1:16, the device may use cascaded splitting stages or a diffractive optical element to divide the beam into multiple outputs efficiently.

Applications

1:16 beam splitters are commonly used in fiber optic communications, laser distribution systems, and optical testing setups, where a single light source must be delivered to multiple detectors or instruments simultaneously. They are also used in interferometry and multi-channel sensing systems, where precise control of light intensity across multiple paths is required....

Article Content

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What are Beamsplitters?

Beamsplitters are optical components used to split incident light at a designated ratio into two separate beams. Additionally,

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How does a beam splitter work? Common types and use cases

Understanding Beam Splitters Beam splitters are essential optical components used to divide a beam of light into two

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Beam Splitters

Beam splitter cubes can be used for simple light beams, and also for beams carrying images, e.g. in various types of cameras and

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Beam Splitters — Abridged Guide

Quick-reference guide for beam splitters — key equations, type comparison tables, Fresnel reflectance, polarizing designs, and a

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Optical Beamsplitter

A beamsplitter is an optical component used to split a beam of incident light into two parts in a laser or illumination system. Cube

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Beamsplitters Selection Guide

Beamsplitters Selection Guide: Types, Applications, and Key Criteria Beamsplitters are vital optical components in countless

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Beamsplitter

Beam Splitter Gratings Multiple beamsplitters, also known as array illuminators, are gratings with sophisticated periodic structure that

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Beam Splitters – optical power splitter, beamsplitter, thin-film ...

A beam splitter (or beamsplitter, power splitter) is an optical device which can split an incident light beam (e.g. a laser beam) into two

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Exploring Beam Splitters: Types and Applications

What Is a Beam Splitter? Working Principles, Types, and Applications Beam splitters play a critical role in modern optical technology,

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Beamsplitters: A Guide for Designers | Optics

Nonpolarizing plate beamsplitters Nonpolarizing plate beamsplitters have been designed for use in situations in which the

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Thorlabs · Optical Beamsplitters

Thorlabs offers a wide range of optical beamsplitters. Our plate beamsplitters have a coated front surface that determines the beam

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Beam Splitter Selection Guide

Our beam splitters are made from high grade glass material with laser grade surface flatness & surface quality for tighter tolerance

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Beamsplitters

Precision Optical offers a wide selection of both standard and custom beam splitters of the following varieties: Cube,

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Beam splitter

A beam splitter or beamsplitter is an optical device that splits a beam of light into a transmitted and a

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Beam Splitters – Buyer's Guide & Supplier List | RP Photonics

This buyer's guide for beam splitters provides technical background, comparison of major types, selection criteria, and an overview of

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Beam Splitter

8.11.1 The Beam Splitter The beam splitter is an optical device of great importance, effecting a linear transformation of fields

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Beam Splitters

When working with lasers, it is often necessary to split a laser beam into two or more defined partial beams. There are a variety of

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How Does a Beam Splitter Work? Types, Principles & Applications

Learn how beam splitters work, compare cube and plate designs, and explore applications in lasers, microscopy, and interferometry.

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Beam Splitters: Explained

Beam splitters are a fundamental element in optical systems. Beam splitters are, in essence, optical components used

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OptoSigma

A beam splitter or beamsplitter is an optical component that is used for splitting an incident light beam in two directions.

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What is a Beam Splitter?

A beam splitter or power splitter is an optical device that can split an incident light beam e.g. a laser beam into two or

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Beam Splitter

The beam-splitter directs a second beam of light to the sample where it is reflected. The two beams of light return to the beam-splitter

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beamsplitters selection guide

Beamsplitters Selection Guide Beamsplitters selection Guide A beamsplitter is an optic that splits light into 2 directions. The split ratio

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Photonics 101

As the name suggests, a beam splitter refers to an optical device which is used to split or divide a beam of light into

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Optical Beamsplitters | Beamsplitter Selection | Edmund Optics

Beamsplitters are optical components used to split input light into two separate parts. Beamsplitters are common components in

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