

# Comparison of parameters for fiber optic end-face inspection instruments



## Article Overview

Fiber optic end-face inspection instruments vary in magnification, automation, multi-fiber handling, and reporting capabilities, with advanced systems offering fully automated, high-throughput inspection for production environments.

### Key Parameters for Comparison

#### 1. Magnification and Resolution

- Basic fiber inspection scopes typically provide 200x-400x magnification, sufficient for visual inspection of single fibers or connectors .
  - Advanced systems, such as scanning white-light interferometers (SWLI), offer high-resolution imaging capable of detecting sub-micron scratches, pits, and contamination on connector end-faces .
  - Large-field imaging instruments, like the FastCheck MT, capture all fiber cores in multi-fiber connectors simultaneously, maintaining high resolution across the field .
- #### 2. Automation and Throughput

- Manual microscopes require operator alignment and focus, which can be time-consuming and prone to variability .
  - Semi-automated systems provide auto-focus and centering, reducing operator dependency.
  - Fully automated instruments, such as the FastCheck MT, integrate automatic focusing, centering, exposure, and Pass/Fail analysis, enabling rapid inspection of multi-core connectors and high-density modules .
- #### 3. Multi-Fiber and Connector Com...

## Article Content

Nov 14, 2025

Automated Inspection of Defects in Optical Fiber Connector End Face ...

Surface defects on optical fiber end face such as scratches cause heavy loss and low data-transfer rate. Therefore, the

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AUTOCHECK Intelligent Integrated Fiber End-face Visual Inspector

AutoCheck is the first intelligent integrated fiber end-face inspector developed by Dimension Technology. With the advantages of

Aug 26, 2025

Best Practices for Standards-Compliant Fiber End Face Inspection

Download PDF Overview Inspection and cleaning of fiber optic end faces have been best practices for some time, yet contaminated

Jan 23, 2026

Fiber Connector End-Face Inspection Requirements

Fiber Connector End-Face Inspection Requirements This project is being organized to develop requirements for an industry-wide

Oct 03, 2025

Endface Inspection-DIMENSION

Endface Inspection- Dimension is committed to creating a series of optical fiber end-face defect inspection

Nov 21, 2025

Fiber End Face Interferometer

Figure 1.1 Interferometric scans are used to measure the fiber and connector geometry and compare the results against a database

May 04, 2026

White Paper: Fiber Contamination, Cleaning and Inspection. Introduction ...

Fiber Contamination, Cleaning, and Inspection: An Introduction Contaminated Connections Cause Problems Despite industry best

Mar 04, 2026

## Automated Inspection of Defects in Optical Fiber Connector End Face ...

Aiming at the characteristics of typical defects in the inspection process for optical fiber end faces, we propose a novel method,

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## Fiber End Face Inspection

We also offer two scanning white-light interferometers (SWLI) that enable detailed measurements of the connector end face for

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## EASYCHECK Integrated Fiber End-face Visual Inspector

EASYCHECK Integrated Fiber End-face Visual Inspector Easycheck is an integrated fiber endface inspector developed by

Nov 27, 2025

## Automated End Face Inspection Microscopes and Where They Come In

Performance of fiber optic cables can be determined by if the connector end faces are damaged or dirty. Just how

Apr 25, 2026

## Easier Fiber End Face Inspections: Key Changes to IEC 61300-3-35

The latest IEC 61300-3-35 update includes simplified criteria for fiber end face inspection that can save time and

Aug 02, 2025

comparison of different end face detection methods and devices

In the world of fiber optic cables, having proper end face termination is essential to ensure the highest quality signal transmission.

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## Achieving IEC Standard Compliance for Fiber Optic Connector Quality ...

In the effort to guarantee a common level of performance from the connector, the International Electrotechnical Commission (IEC)

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Fiber Endface Inspection – connectors, bare fiber ends,

Different types of inspection instruments are described, from basic optical microscopes to advanced video

Nov 10, 2025

Optical inspection methods for assessing fiber endface workmanship

With faulty optical connections a primary cause of network failures, fiber endface inspection is critical. Three methods of endface

Mar 07, 2026

Fast Check MT Fully Fiber Endface Inspector

Facing the fast-growing 800G, 1.6T optical module, MPO connector and high-density connector markets, the efficiency and accuracy

Apr 26, 2026

Fiber optic connector end-face defect detection based on machine

Currently, most manufacturers still use manual visual observation under a traditional microscope for fiber end-face

Aug 12, 2025

Fiber Optic Terminus End Face Quality Standards

The inspection software can be configured to apply the acceptance criteria to the defined regions and yield an objective decision

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Fiber Inspection Guide: How to Choose a Microscope

Learn how to choose the right microscope for fiber inspection, including end-face defect

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types of fiber optic inspection tools and their applications

Cleaning tools are used to remove any dirt, dust, or oil from the end-faces of fiber optic connectors. the most common cleaning tools

Jan 15, 2026

What is Fiber Optic Endface Geometry? Part 2 | Promet Optics

This is the 2nd of a 3 part post from the white paper entitled "Fiber Optic 3D Metrology". We will define and lay out the

Sep 02, 2025

The FOA Reference For Fiber Optics

Testing fiber optic components and cable plants requires making several measurements with the most common measurement

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Best Practices for Standards-Compliant Fiber End Face Inspection

This standard defines criteria for minimum microscope compliance, inspection procedures, and specific cleanliness grading criteria to

## Contact Us

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