

FVAM-2000 Benchtop Fiber-Connector Microscope

Automated fiber end-face inspection and analysis for pluggable devices

Driving the AI/ML Ramp with Fast, Versatile and Automated Transceiver and Patchcord Inspection

The FVAM-2000 is the latest addition to the VIAVI Benchtop Fiber-Connector Microscope line. It is designed specifically for optical lab and production environments, delivering fast, versatile and automated end face inspection with full software analysis. The FVAM-2000 leverages a unique optical adapter system with lighting optimized to manage the complex mounting of pluggable optical transceivers with and without long pull tabs

Transceiver Inspection with Benchtop Excellence

As data rates climb and complex optical connectors become standardized in computing and datacenter applications, volumes will grow, and performance challenged. The criticality of ensuring a defect free reliable optical interface has never been more important.

The FVAM-2000 incorporates 25 years of optical inspection innovation across lab, production, and field environments. Optical transceiver and connectivity manufacturers have traditionally used handheld probes for bulkhead inspection. This is no longer sufficient. Next generation dual MPO and VSFF connector designs for 800G / 1.6T are experiencing massive growth. New fast, ergonomic and reliable connector manufacturing inspection solutions are required. As manufacturers scale up, ensuring clean end-faces continues to be essential at every stage of production.



Key Benefits

- Fast, reliable, automated fiber end-face inspection
- Compact bulkhead inspection solution with benchtop performance
- Single, duplex and multifiber ready
- The flexibility to manage the complex optical interfaces aligned to high-volume transceiver manufacturing
- Unique angled and rotatable adapters designed to clear pull-tabs and other obstructions
- Adapter auto-ID removes need to update microscope configuration or settings
- Powerful new FiberChekULTRA software with an open API to integrate into customer workflows

Inspection Applications

- OSFP and QSFPs
- Breakout cassettes
- Dual port MPO 12 and MPO 16
- Very-Small-Form Factor connectors
- Duplex LC transceivers

FVAM-2000 expands on the existing FVAM microscope capabilities, including automated focus, panning, pass/fail analysis and report generation while adding new ground-breaking features such as Port Inspection tips with autoID, panoptic imaging, and an open automation framework.

Reimagined Adapters for Complex Inspection

The FVAM-2000 utilizes new and dedicated adapters to facilitate simple and ergonomic connection to complex transceivers making it ideal for manufacturing inspection. Key features include:

AutoID

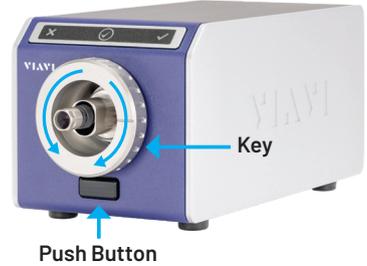
Each adapter has a unique autoID chip to enable the recognition by the microscope. The microscope uses this information to automatically configure its connector and microscope settings. This eliminates the operator training and streamlines the changing of adapters.

- Easily switch between any connector type
- Automatically configures the optical setting parameters
- Automatically recalls the last analysis profile for the attached adapter
- No additional optical attachments required



Rotating Adapter Head

To support the intricate mechanical challenges of transceivers with dual MPO or VSFF formats, the FVAM-2000 features a patented rotating adapter head, making device insertion more ergonomic. Operators can orient the direction that most efficiently avoids pull tabs or adapts to connector orientation differences.



Angled, Duplex, Long Reach and More Options

The FVAM-2000 is equipped with unique angled adapters that enable efficiently clearing the pull-tabs and other obstructions. A range of options to support either in-line, 60° or 90° turns are available.



Inspect Both Connectors in Pairs

The FVAM-2000 delivers exceptional performance for both bulkhead and patchcord inspections with its advanced technology and adapter options, easily detecting contaminants and defects on connector end faces. It ensures all components meet industry cleanliness standards, making it a versatile tool for routine maintenance and troubleshooting to maintain optimal signal quality in optical networks.

Streamline and Accelerate Inspection Across the Production Floor

The FVAM-2000 simplifies production workflows with automated inspection capabilities, delivering comprehensive end face inspection results fast and efficiently.

- 8 s for multifiber connectors,
- 6 s for duplex connectors,
- 5 s for simplex connectors.

The PanOptic Imaging Engine revolutionizes multi-fiber connector inspection by providing both wide Field-of-View images with full visibility of the alignment pins and guide holes at the edge and thorough details of each individual fiber in the array; all in under 8 seconds.



Technicians can leverage the FVAM-2000's built-in intelligence to streamline the fiber inspection process. By automating setup, tip configuration, testing, and data storage, it replaces the need for outdated manual devices. Simply attach the desired adapter and let the microscope handle the rest:

- Automatically configure optimized tip settings
- Precisely focus on the connector end face
- Seamlessly pan for both duplex and multifiber connectors
- Perform standards-based pass/fail image analysis
- Save inspection test results locally or in a cloud database

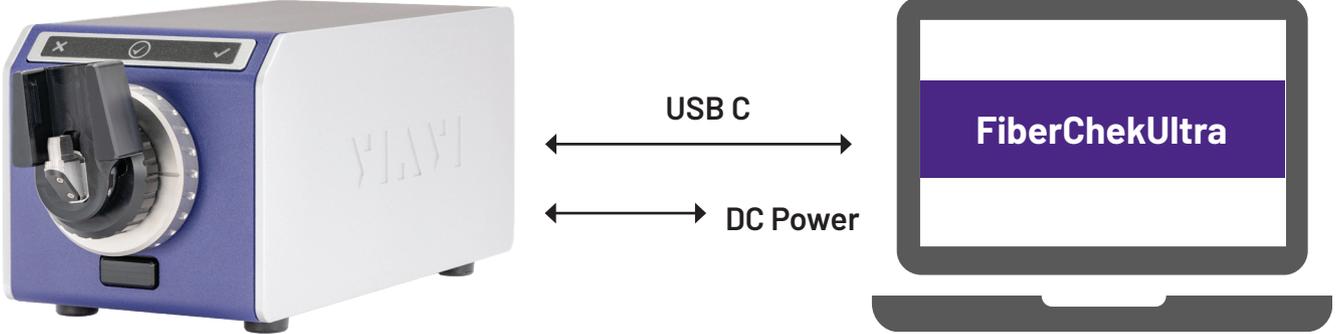
Offering Remarkable Performance in an Ultra-compact Form

The FVAM-2000 combines high-resolution imaging and advanced features, all within a space-saving form. This innovative approach redefines benchtop microscopy, delivering all the functionality in a small footprint.



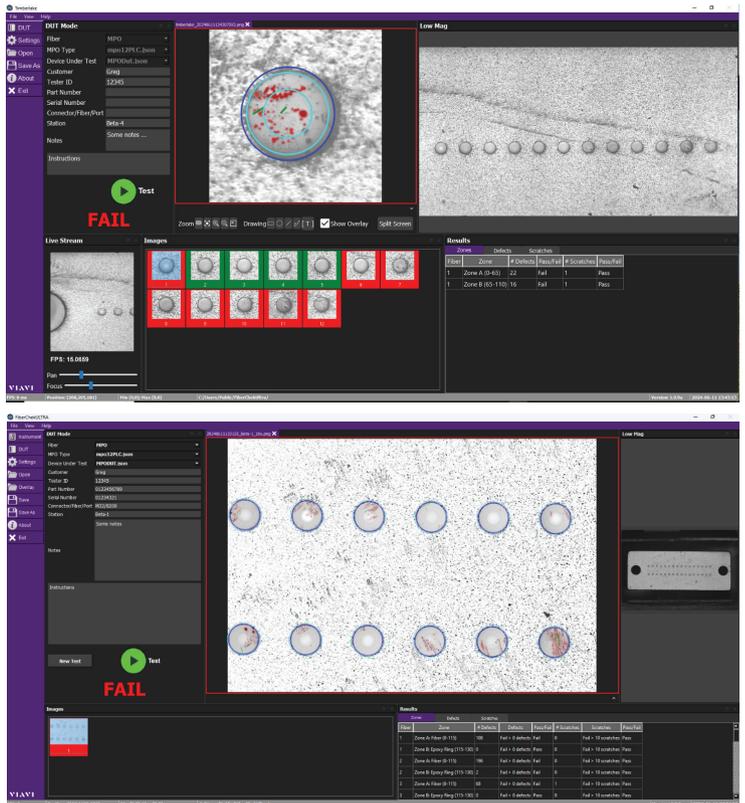
FiberChekULTRA PC Application Supported

FVAM-2000



Unlock the full potential of the new FVAM-2000, now powered by the next-generation **FiberChekULTRA PC** application. As the successor to the renowned VIAVI FiberChekPRO, this new model includes a streamlined manufacturing mode that simplifies serial number and operator data entry, enhancing productivity and minimizing errors. Comprehensive reporting capabilities provide you with detailed insights and documentation. The application features a live view with manual panning along with automated capture of a full ferrule view and high magnification of each fiber. Additionally, you can draw and save annotations and markups directly on the images, making it easier to communicate findings and collaborate with your team.

For those looking to integrate testing processes, the open REST API offers robust support for test integration, allowing you to customize and automate your workflow. With VIAVI benchtop microscopes and FiberChekULTRA, you are equipped with the tools needed to achieve the highest standards of quality and efficiency in your inspections.



Specifications

| Parameters | | Specification |
|-------------------------|--------------------|--|
| Field of view | High Magnification | Horizontal: 600 μm |
| | | Vertical: 830 μm |
| | Low Magnification | Horizontal: 1200 μm |
| | | Vertical: 1675 μm |
| Live Image | | Yes |
| Particle Size Detection | | 1.5 μm |
| Camera sensor | | 1/2.5 CMOS 2560 x 1920 pixel |
| Working Distance | | 27.5 mm (1.08 in) |
| Auto-Focus | | Yes |
| Auto-Panning | | Yes |
| Light Source | | LED 470 nm |
| Lighting Technique | | Coaxial / Koehler |
| Output | | USB-C |
| Power Source | | External power supply + USB |
| Power Supply | | 12 V, 2 A external brick + USB |
| Management Software | | FiberChekULTRA |
| USB Host interface | | REST API |
| PC control Interface | | REST API through Ethernet over USB |
| Certification | | IEC Edition 3 Certified |
| Dimensions (H x W x D) | | 107 mm x 113 mm x 219 mm (4.2 in x 4.4 in x 8.6 in) Weight |
| Weight | | 6.5 lbs |
| Operating Temperature | | 0 to 40°C (32 to 104°F) |
| Operating Humidity | | 0 to 90% non-condensing |
| Storage Temperature | | -30 to 70°C (-22 to 158°F) |

Ordering Information

Packages

| Part Number | Specification |
|-------------|--|
| FVAM-2000 | Long-Working Distance Benchtop Autofocus Microscope - Without Display Comes with FMBT-MPO-A-A6-U |

Adapters

Packages

| Part Number | Specification |
|-----------------|---|
| FMBT-LC-D | LC/PC Duplex Bulkhead Advanced Fiber Microscope Adapter |
| FMBT-LC-A6-D | LC/PC Duplex Bulkhead Advanced Fiber Microscope Adapter angled 60 degrees |
| FMBT-MPO | MPO/PC Bulkhead Advanced Fiber Microscope Adapter |
| FMBT-MPO-A | MPO/APC bulkhead Advanced Fiber Microscope Adapter |
| FMBT-MPO-A-A6-D | MPO/APC Bulkhead Advanced Fiber Microscope Adapter angled 60 degrees key down |
| FMBT-MPO-A-A6-U | MPO/APC bulkhead Advanced Fiber Microscope Adapter angled 60 degrees key up |
| FMBT-MPO-A-R9 | MPO/APC Bulkhead Advanced Fiber Microscope Adapter rotated 90 degrees |
| FMBT-MPO-A6 | MPO/PC bulkhead Advanced Fiber Microscope Adapter angled 60 degrees |
| FMBT-MPO-R9 | MPO/PC Bulkhead Advanced Fiber Microscope Adapter rotated 90 degrees |

For more information on this or other products and their availability, please contact your local VIAVI account manager or VIAVI directly at 1-844-GO-VIAVI (1-844-468-4284) or to reach the VIAVI office nearest you, visit viavisolutions.com/contacts.

VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

Plan availability depends on product and region. Not all plans are available for each product or in every region. To find out which VIAVI Care Support Plan options are available for this product in your region, contact your local representative or visit: viavisolutions.com/viavicareplan

Features

*5-year plans only

| Plan | Objective | Technical Assistance | Factory Repair | Priority Service | Self-paced Training | 5 Year Battery and Bag Coverage | Factory Calibration | Accessory Coverage | Express Loaner |
|---|------------------------------------|----------------------|----------------|------------------|---------------------|---------------------------------|---------------------|--------------------|----------------|
|  BronzeCare | Technician Efficiency | Premium | ✓ | ✓ | ✓ | | | | |
|  SilverCare | Maintenance & Measurement Accuracy | Premium | ✓ | ✓ | ✓ | ✓* | ✓ | | |
|  MaxCare | High Availability | Premium | ✓ | ✓ | ✓ | ✓* | ✓ | ✓ | ✓ |



viavisolutions.com

Contact Us +1 844 GO VIAVI | (+1 844 468 4284)

To reach the VIAVI office nearest you, visit viavisolutions.com/contact

© 2024 VIAVI Solutions Inc.

Product specifications and descriptions in this document are subject to change without notice. Patented as described at viavisolutions.com/patents

fvam2000-ds-fop-nse-ae
30194242 9010125