KI 6610 Series

Handheld Fiber Inspection Microscope

Optical Communications Test Applications

- Optical connector end face inspection in field or factory
- Multimode, single mode, MPO, POF fiber
- Inspects both simplex and duplex connectors



Revision 37

The KI 6610 Handheld FiberSafe Inspection Microscope is the microscope of choice to check fiber optic connector end face quality. It provides the state of the art in eye safety.

A combination of versatile and rugged design, easy operation, quality optics and durable construction ensures that this equipment will enhance the performance of installation and maintenance staff.

Options are suitable for all fiber types including SM / MM / MPO / POF, and many connector styles.

Features

- Compact, lightweight, reliable
- Excellent image quality & depth of focus
- Easy focus and image centring
- Stable LED illumination with timer
- Triple-mode illumination: coaxial, oblique & core
- Enhanced eye safety for red and infra-red light
- Long operation from AAA battery
- Micro-USB power input & low battery indication
- Tripod & lanyard mount
- View & store images on PC with optional camera
- Universal connector adaptors for most simplex and duplex connectors
- MPO connectors, multimode & single mode
- x200, x400, x40 magnification versions
- Supplied with soft carry pouch
- 3 years standard warranty
- Made in Australia

KI 6610 Series – Handheld Fiber Inspection Microscope

The FiberSafe Microscope is used to inspect fiber optic connectors for quality and dirt and offers improved overall performance and features.

x200 magnification is ideal for general installation & maintenance checking by entry level staff, on single mode, multimode or HCS fiber. Faults that cannot be seen are unlikely to affect connector performance, focusing is easier, and battery life is longer.

The microscope model with x200 magnification is also used with the range of MPO adaptors for checking any style of MPO tip. The adaptor includes a traversing mechanism, and multiple fiber rows are easily viewed using the X-Y adjustment.

The microscope model with x400 magnification is ideal for high-end field use, in-house QA, factory, laboratory etc.

The microscope model with x40 magnification is optimized for 1 mm POF end face inspection. It also optimized to work with KI28800 series source for MPO cable verifications.

To meet users' specific needs, the optional x10 & x20 eyepieces can be used to adjust magnifications of the standard microscope models.

Ease of use and superb image quality make for simple and efficient operation. The X-Y image position is easy to optimize and focusing is improved. Light weight, ergonomic controls and timed illumination make for easy one-hand operation, so the other hand is free to move the connector as needed. Triple-mode illumination gives maximum flexibility. Coaxial illumination gives the highest level of image detail. Oblique illumination shows only major defects and contaminants; Core illumination shows continuity and sub-surface cracks.

Screw-on universal adaptors suit most modern optical connectors, including duplex assemblies. Connector-specific APC adaptors provide optimized performance by correctly aligning the ferrule tip.

Power is either by 1 x AAA alkaline battery, with low battery indicator, or from external micro-USB. Illumination level is unaffected by battery voltage. When powered via micro-USB, illumination is on permanently, making the microscope ideal for bench & production applications.

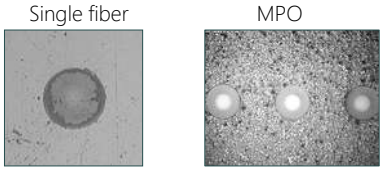
The unique in-built eye safety filter blocks both red and infra-red light. This makes the microscope eye-safe with visual fault locators up to +20 dBm / 100 mW and at operational wavelengths up to +30 dBm / 1 Watt, power levels that are unlikely to be exceeded even under fault conditions.

Viewing and storage of images on a computer is achieved by replacing the standard eyepiece with an optional 1.3M or 5.1M pixel digital camera.

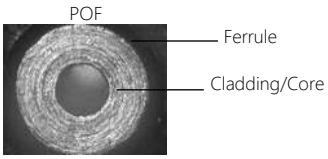
TRIPLE-MODE ILLUMINATION:

1) Coaxial illumination

Coaxial illumination maximizes the detail seen by the user. Because the light travels along the same axis as the sample inserted into the microscope, fine scratches and contamination are easily visible.



i) The x200 Images with Coaxial illumination



ii) The x40 Image with Coaxial illumination

2) Oblique illumination

In oblique illumination, the light from the LED hits the end-face at an angle, making the core clearly visible and allowing the user to readily see any surface debris or contamination. The number of scratches seen on the ferrule is limited,



The x200 Image with Oblique illumination

3) Core illumination

Core illumination shows the fiber core, or for continuity testing. The user plugs the far end of a patch lead into a built-in white LED. This easily demonstrates fiber continuity and can also find sub-surface cracks.



The x200 Image with Core illumination

OPTICAL SAFETY:

Operators should comply with relevant company policy, standards, or good practice on optical safety. This equipment greatly enhances practical eye safety in accordance with IEC60825-2 Ed 3.1 as follows:



OPTIONAL 1.3MP OR 5.1MP DIGITAL EYEPIECE (VIDEO CAMERA) TO CAPTURE & STORE IMAGES ON A PC:



SPECIFICATIONS

Parameters	Value
Optical magnification	x40 or x200 or x400 versions
Resolving power	3.10 µm (for x40 version), 0.615 µm (for x200 version), 0.388 µm (for x400 version)
Max viewable area diameter	5mm (for x40 version), 1 mm (for x200 version), 0.5 mm (for x400 version)
Eye Safety Filter	Built-in, see Optical Safety specifications on page 2 of this brochure
Triple-mode illumination	1) Coaxial; 2) Oblique; 3) Core illumination
LED life	100,000 hours
Microscope damage power level	+30 dBm
Power	1x AAA battery (not included) 300 hours for coaxial illumination for KI6608 & KI6610 75 hours for coaxial illumination for KI6611 Low battery indicator Auto-time off under battery power External power via micro-USB, no auto power-off
Dimensions Weight	184.4 mm (L) x 49.3 mm (W) / 7.3" x 1.9" 0.21 kg / 0.47 lb.
Operating temperature Storage temperature Relative humidity	-15 to 55°C -25 to 70°C 95%
Warranty	3 years

Technical data is subject to change without notice as part of our program of continuous improvements. Patents Pending.

ORDERING INFORMATION

Description	Part number
Instrument, Microscope Optical 40x[1], 2.5 mm Univ	KI 6608
Instrument, Microscope Optical 200x[1], 2.5 mm Univ	KI 6610
Instrument, Microscope Optical 400x[1], 2.5 mm Univ	KI 6611

Note 1: The x20 eyepiece can be easily removed and changed by the user if required.

STANDARD ACCESSORIES

Description	Quantity
Option, Scope Adaptor 2.5 mm Universal (OPT681)	1
Type-A to Type-B micro-USB cable	1
Wrist strap	1
Soft carry pouch	1
Operation manual	1
QA certificate	1

OPTIONAL ACCESSORIES

Description	Part number
Option, Scope Digital Eyepiece (video camera), 5.1 MP	OPT684A
Option, Microscope Eyepiece, x10[2]	OPT690
Option, Microscope Eyepiece, x20[2]	OPT691

Note 2: These optional eyepieces can be used to adjust magnifications of the standard models as follow,

Microscope model (std mag)	Optional Eyepiece	Adjusted magnification
KI6608 (x40)	x20 (OPT691)	x80
KI6610 (x200)	x10 (OPT690)	x100
KI6611 (x400)	x10 (OPT690)	x200

Note that when optional eyepiece is used, Image quality of the microscopes are slightly compromised. It is recommended to use models with standard magnifications.

OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number	Description	Part number
Option, Scope Adaptor LC APC	OPT661A[3]	Option, Scope Adaptor MPO/MTP 16xn, APC (for x200 scope only)	OPT674A
Option, Scope Adaptor SC APC	OPT662A[3]	Option, Scope adaptor MPO/MTP 12xn (for x200 scope only)	OPT677
Option, Scope Adaptor FC APC	OPT663A[3]	Option, scope adaptor MPO/MTP 12xn, APC (for x200 scope only)	OPT678
Option, Scope Adaptor, HFBR	OPT667	Option, Scope Adaptor SMA	OPT679
Option, Scope Adaptor E2000 APC	OPT668A	Option, Scope adaptor 2.5 mm Universal	OPT681
Option, Scope Adaptor E2000 PC	OPT670	Option, Scope adaptor 2.5 mm Universal, APC	OPT681A[4]
Option, Scope Adaptor, 1.6 mm terminus	OPT672	Option, Scope adaptor 1.25mm Universal	OPT682
Option, Scope Adaptor, 1.6 mm terminus APC	OPT672A	Option, Scope adaptor 1.25 mm Universal, APC	OPT682A[4]
Option, Scope Adaptor, MT ferrule	OPT673	Option, Scope adaptor converter to 7/8 UN-28 TPI, female	OPT683[5]
Option, Scope Adaptor, MMC / MT ferrule, APC	OPT687A	Option, Scope Adaptor, 2.0 mm terminus	OPT685
Option, Scope Adaptor MPO/MTP 16xn (for x200 scope only)	OPT674	Option, Scope Adaptor, 2.0 mm terminus APC	OPT685A

Note 3: APC adapter with specific connector type.
Note 4: Suitable for all 1.25 mm or 2.5 mm APC fibers. However, use APC adapter with specific connector type as a better solution where possible.
Note 5: OPT683 fits various common male scope adaptors with a 7/8 UN-28 TPI thread, e.g., JDSU/ Westover FMA Series, Lumen etc.

Please enquire for other adaptor styles



AUTHORIZED DEALER

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