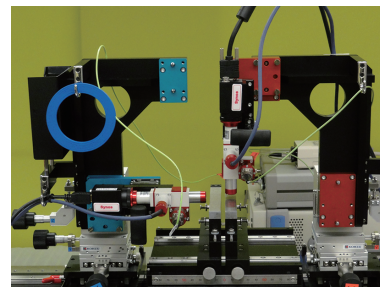


OPTICAL METHOD INSERTION LOSS MEASUREMENT SYSTEM (MANUAL ALIGNMENT TYPE)

Optical method insertion loss manual measurement system for optical waveguide modules, using optical measurement optics M-Scope type M

Optical method insertion loss measurement system is the optical method insertion loss measurement system using Synos' optical measurement optics **M-Scope type M**. By using a coaxial observation camera system of **M-Scope type M**, it becomes possible to perform direct image observation of input and output end faces of the measured optical waveguide. While checking the observed core image of the optical waveguide, it is possible to directly introduce the measurement beam into the core and receive the beam emitted from the waveguide for measurement. In this way, insertion loss measurement similar to optical fiber alignment can be performed easily and quickly even when combined with a manual precision positioning stage. Best for manual insertion loss measurement of polymer waveguide module for OPCB substrate.

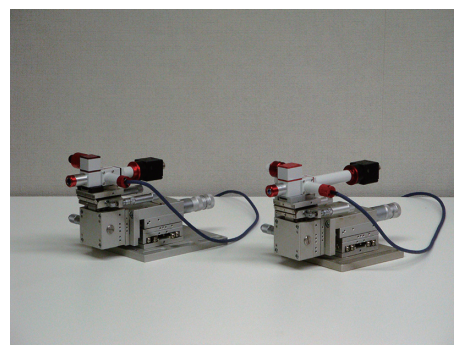


[Features]

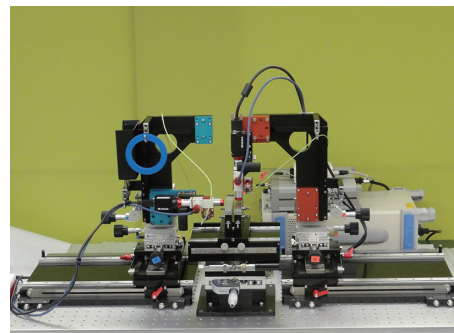
- **M-Scope type M**, compact-type optical measurement optics
 - It is possible to easily adjust the incident position of measuring beam and the detecting position of emitted beam while observing the image of the object directly by equipped coaxial observation camera system.
 - Observation magnification can be selected from 6× and 20×.
- Possible to measure insertion loss similar to conventional optical fiber alignment method
 - Input side: Irradiate the sample surface with a 1: 1 core diameter of the optical fiber connected to the optical fiber port.
 - Output side: Light flux, with the diameter equivalent to the core diameter of the optical fiber connected to the optical fiber port, is relayed 1: 1 from the sample surface to the optical fiber.
 - Optical fibers of various types and core diameters can be used..
- In addition to loss measurement using optical power meter, spectral measurement by combining with optical spectrum analyzer, spectrometer is also available.
- Low cost system can be constructed in combination with a manual stage.

[Standard component]

- Optics (input side/output side)
 - Compact type optical measurement optics **M-Scope type M**
 - Measurement wavelength
 - Please specify the measurement wavelength.
 - Available detectors selection
 - 400-1100nm : Hi-resolution CMOS detector **ISA071/ISA071GL**
 - 950-1700nm : InGaAs NIR detector **ISA041M, ISA041H2**
 - 400~1700nm : InGaAs high resolution NIR detector **ISA041HRA/HRVA**
 - Stages (input side, output side, sample position adjustment)
 - Various manual stage system
 - *Please contact us for stage configuration and selection
 - Support structure
 - Equipment support structures, bread board, brackets, etc.
 - Accessories
 - Measurement instrument
 - Optical powermeter, etc.
 - Control & data analysis system
 - PC, Image observation, data analysis software, etc.
 - Measurement light source
 - LED, SLD, LD light source, etc.
 - Peripherals
 - Vibration isolating table, breadboard, etc.
- *We will propose system with various configurations and specifications depending on the measurement sample, specifications, operating method, and budget.

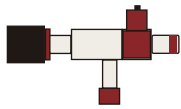
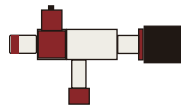
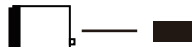






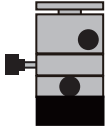
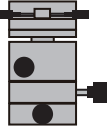
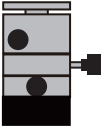


○ Compact type optical measurement optics **M-Scope type M**



○ Optical method insertion loss measurement system for polymer waveguide

[Component selection of optical method insertion loss measurement system manual alignment type]

<p>○ Optics for input side</p>  <p>● M-Scope type M6/M20</p>	<p>○ Optics for output side</p>  <p>● M-Scope type M6/M20</p>	<p>○ Detector selection</p> <ul style="list-style-type: none"> ● for visible~1100nm  High resolution CMOS detector ISA071 ● for 950~1700nm  InGaAs high sensitivity NIR detector ISA041H2 ● for 400~1700nm  InGaAs high resolution NIR detector ISA041HRA/HRVA 	<p>○ measurement instruments & data analysis</p> <ul style="list-style-type: none"> ● Optical powermeter, etc. (Optical measurement instruments)  ● Measurement light source (LED, SLD, LD, etc.)  ● PC for data analysis & image observation  ● Insertion loss measurement software 
<p>○ Manual stage system and equipment support structure</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>(input side)</p>  </div> <div style="text-align: center;"> <p>(sample adjustment)</p>  </div> <div style="text-align: center;"> <p>(output side)</p>  </div> </div> <p>● High precision manual positioning stage system</p> <p>● Vibration isolation table, bread board, support structure, brackets, etc.</p>			