

**M-Scope type S SOPHISTICATED OPTICAL BEAM NFP MEASUREMENT OPTICS**

Best suit for optical beam pattern observation and analysis. Widely applied general purpose microscope-type NFP optics.

**[Product overview]**

**M-Scope type S** is sophisticated optics for NFP and beam pattern observation and measurement for Laser diode (LD), optical fiber, optical waveguide, optical printed circuit board (OPCB) and various optical modules.

With these sophisticated functionalities of **M-Scope type S**, it will be applicable from optical beam observation and measurement to assembling adjustment of various optical modules in combination with various image sensors, Synos' Optical Beam Analysis Module **AP013**. In addition, it will be also applicable to the encircled flux measurement and analysis. This function will be indispensable to understand optical characteristic of G.I. multimode fiber.

**[Feature]**

- \* General purpose and high functional NFP optics for optical beam profile observation and analysis
- \* Equipping manual revolver to switch multiple objective lens
- \* Maximum 200 optical magnifications for evaluating minute spot.
  - Using optional 2x intermediate magnification lens and objective lens with 100 magnifications
- \* In combination with optional coaxial epi-illumination instrument, it will be possible to observe real microscopic image observation and positioning.
- \* By selecting detector, it will be applicable for optical beam profile observation and analysis from visible to NIR wavelength range
- \* In combination with SYNOS' Optical beam analysis module **AP013**, it will be applicable to various optical beam profile analysis application including EF (encircled flux) analysis.

**[Standard component of M-Scope type L]**

- \* Main optics: 1unit
- \* Optics base: 1

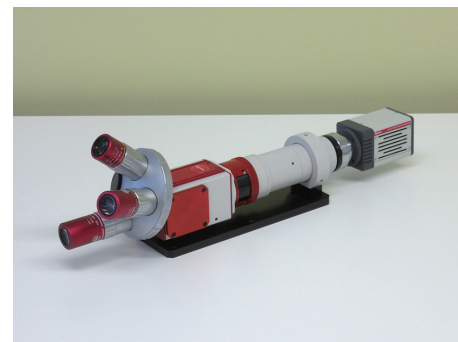


Photo:M-Scope type S, including optional InGaAs high sensitivity NIR detector ISA041H2 and objective lens

**[Summary of specification]**

- \* Objective lens switching: Manual revolver (Mounting maximum 4 objective lenses)
- \* Objective lens: Mitsutoyo M-Plan Apo series
- \* Intermediate lens: 1x (standard), 2x (option)
- \* Total magnification: 100x (standard)  
200x (option, using 100x objective lens and 2x intermediate magnification lens)
- \* Extinction method: Neutral Density Filter
- \* Camera mount: C mount
- \* Epi-illumination: Port :  $\phi 8\text{mm}$ (external diameter) port for coaxial epi-illumination light unit  
Option : Coaxial epi-illumination unit

**[Option, dedicated to M-Scope type S]**

- \* 2x intermediate magnification lens **MS-OP011-RL2**  
-Intermediate lens to double the total magnification of optics

**M-Scope type L SIMPLIFIED OPTICAL BEAM NFP MEASUREMENT OPTICS**

Cost-effective model of NFP optics with simplified functionality.

**[Product overview]**

**M-Scope type L** is a simple functionality, less expensive model, without manual revolver and LED coaxial epi-illumination port.

**[Feature]**

- \* Simple functionality, less expensive model, without manual revolver and LED coaxial epi-illumination port.
- \* It is suited for built-in use for various equipment because of small size body.
- \* By selecting detector, it will be applicable for optical beam profile observation and analysis from visible to NIR wavelength range.
- \* In combination with SYNOS' Optical beam analysis module **AP013**, it will be applicable to various optical beam profile analysis application including EF (encircled flux) analysis.

**[Summary of specification]**

- \* Objective lens switching: Re-mounting objective lens (without manual revolver)
- \* Objective lens: Mitsutoyo M-Plan Apo series (standard)
- \* Intermediate lens: 1x
- \* Total magnification: 100x (with 100x objective lens)
- \* Coaxial epi-illumination port: Not available
- \* Extinction method: by Neutral Density Filter
- \* Camera mount: C mount

☞ About measurement view and pixel resolution, please refer to P31 (objective lens).



Photo:M-Scope type L, including optional InGaAs high sensitivity NIR detector ISA041, objective lens, optics bench for fiber measurement

**[Standard component of M-Scope type L]**

- \* Main optics: 1unit
- \* Optics base: 1

**[Application of NFP optics / M-Scope type S, M-Scope type L]**

- \* Optical beam NFP/beam profile observation and analysis
  - Laser diode, laser device, optical fiber, optical waveguide, and various optical device and module
- \* NFP measurement, optical beam pattern analysis, edge face observation of waveguide modules such as polymer waveguide module, Si photonics device and so on.
- \* R&D, evaluation of polymer waveguide for OPCB application, Si photonics device
- \* Encircled flux analysis of various MMF device
- \* General purpose beam monitor and beam profile application.

**[Option]**

- \* Imaging detector selection
  - For visible-1100nm:High resolution digital CCD detector **ISA011**
  - For 950nm-1700nm:InGaAs high sensitivity NIR detector **ISA041 H2**
- ☞About imaging detector in details, please refer to P25-28.
- ☞About measurement view and pixel resolution, please refer to P31 (objective lens).
- \* Accessory
  - ☞About accessory in details, please refer to P31-32.