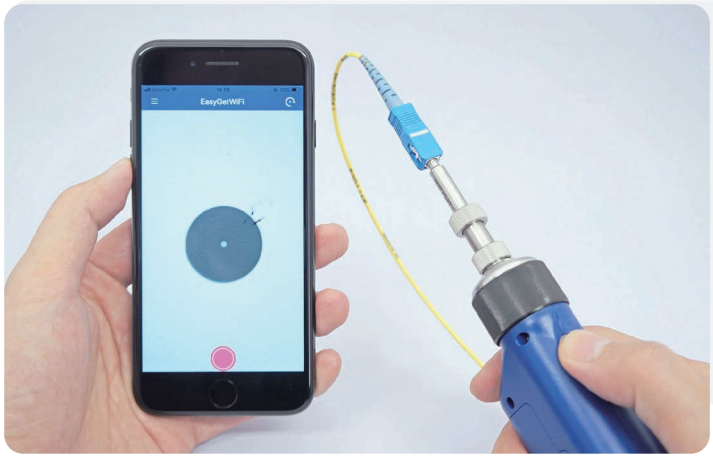
NTT AT

Fiber Optic Inspection Scopes

# Optical Connector End Face Inspection tools

## Supports high-quality optical connector manufacturing and maintenance with high-resolution and speedy end face inspection.







An increasing number of communication problems that occur in optical networks are caused by dirt adhering to the end faces of optical connectors. This is because the communication light is reflected and attenuated by microscopic dust and hand oil that cannot be seen with the naked eye on the end face of the optical connector, and normal communication cannot be performed. These optical connector end face inspection tools are designed specifically for optical connector inspection and is the best solution to prevent such the troubles and improve communication quality and reliability.

### POINT 1

Lightweight, compact and highly portable.

### POINT 2

Achieves auto Pass / Fail analysis in accordance with international standards.

### POINT 3

Various lineup including autofocus model.

## Specification

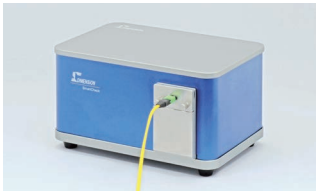
There are 2 main types of optical connector end face inspection tools, depending on the purpose and use. One is a portable type which is lightweight, compact, and easy to handle. It is mainly used at connection /maintenance work sites. The other is a bench top type with higher resolution and excellent repetitive workability for the optical connector production sites.

### •Portable Type

| Product | EasyGetWiFi | AutoGet | AutoGetWiFi | SMX-MANTA-W+ |
|---|---|---|---|---|
| Main Use | 211×44×33mm | 182×48×25mm | 282×201×57mm | 246×70×38mm |
| Dimension | Single Fiber, Multi Fiber* | Single Fiber, Multi Fiber* | Single Fiber, Multi Fiber* | Multi Fiber* |
| Weight | 188g | 152g | 565g | 435g |
| Power Supply | Rechargeble Battery | USB bus power | Rechargeble Battery | USB bus power |
| Monitor/Device | SmartPhone/PC | PC | 3.2inch LCD monitor | PC |
| Focus | Manual | Auto | Auto | Auto |
| Connection | USB/WiFi | USB | USB/WiFi (Only data export) | USB |
| FOV | 512um×384um | 450um×360um | 620um×620um | 4,100um×3,000um |
| Pass/Fail Function | OK | OK | OK | OK |
| Image |  |  |  |  |

*A proper adaptor is necessary when inspecting multi fiber.

### •Bench Top Type

| Product | EasyCheck | AutoCheck | SmartCheck | FastCheck |
|---|---|---|---|---|
| Main Use | 270×245×155mm | 265×188×147mm | 265×188×147mm | 286×101×86mm |
| Dimension | Single Fiber, Multi Fiber* | Single Fiber, Multi Fiber* | Multi Fiber* | Single Fiber, Transceiver |
| Weight | 1.6kg | 6.9kg | 6.9kg | 3.3kg |
| Power Supply | AC Adapter | AC Adapter | AC Adapter | AC Adapter |
| Monitor/Device | 8inch LCD monitor | 8inch LCD monitor | PC | PC |
| Focus | Manual | Auto | Auto | Auto |
| Connection | Stand Alone | Stand Alone | USB | USB |
| FOV | EC80KC：1250um×937um<br>EC200KC：500um×375um<br>EC400KC：250um×180um | 250um×180um | 250um×250um<br>Scan Range<br>5,000um×6,000um | 410um×410um |
| Pass/Fail Function | — | OK | OK | OK |
| Image |  |  |  |  |

*A proper adaptor is necessary when inspecting multi fiber.

※Specifications are subject to change without notice.

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**For more information, please contact** https://www.ntt-at.com/product/opt-inspect/

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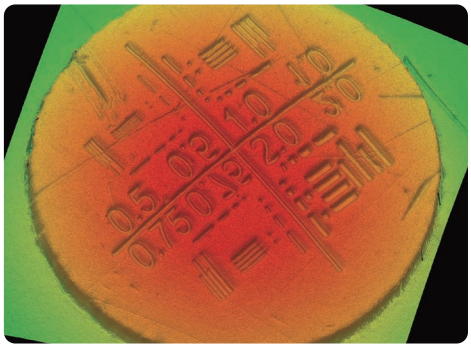
NTT AT

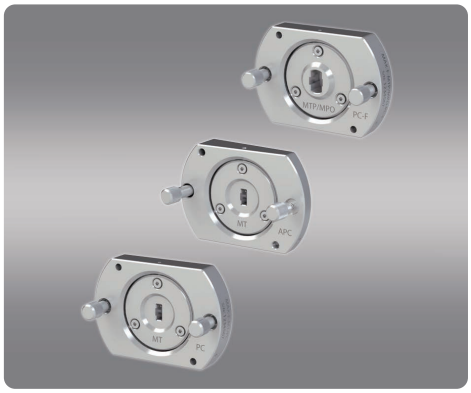
3D Measurement System for Optical Connector End Face

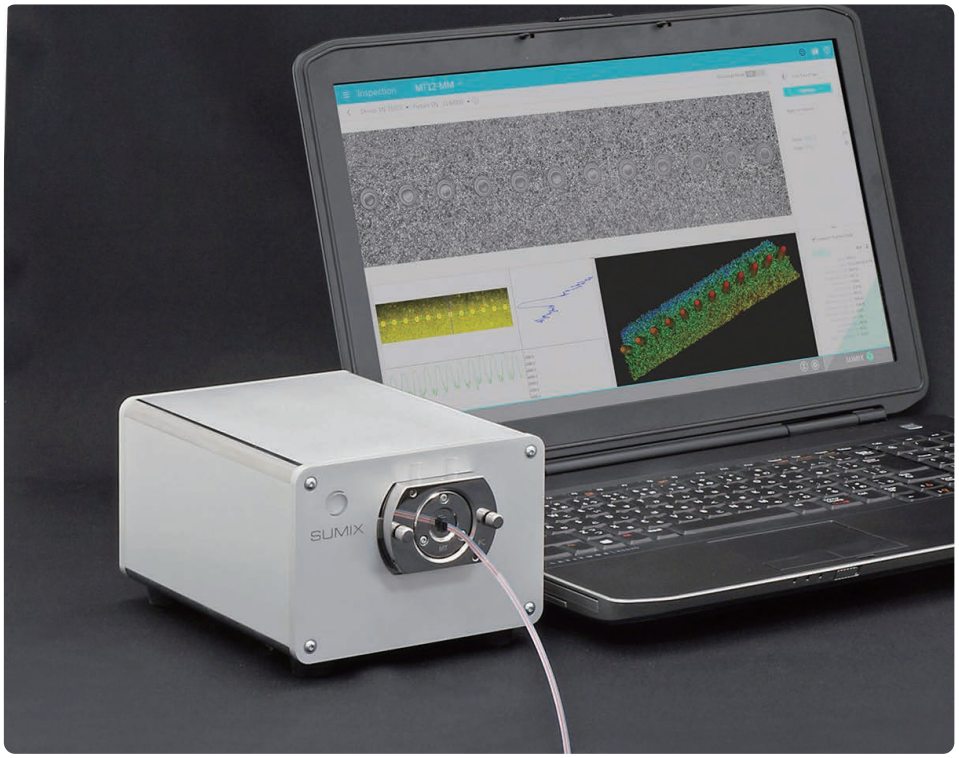
# MAX+/WIZ+ Series

## We support high quality optical connector manufacturing

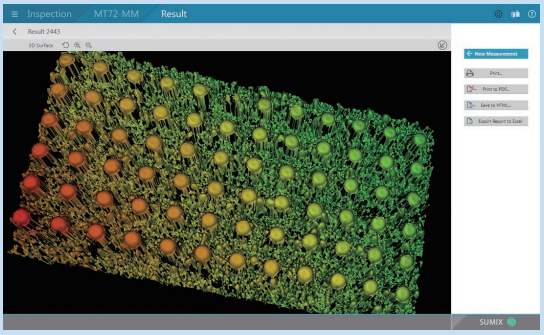
## with high resolution, speedy measurement.

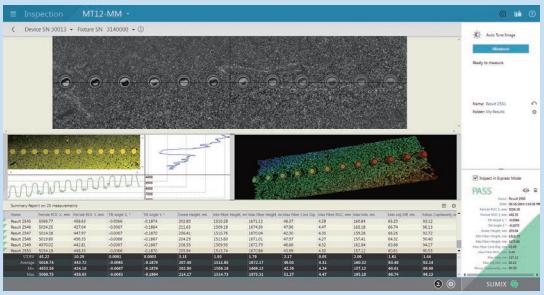









IT Infrastructure Support

https://www.ntt-at.com/product/smx/

# 3D Measurement System for Optical Connector End Face MAX+/WIZ+ Series

## We support high quality optical connector manufacturing with high resolution, speedy measurement.

The optical connector end face three dimensional shape measurement system MAX+/WIZ+ series is a noncontact high precision interference type shape evaluation device conforming to IEC international standard which can automatically measure the end face shape of single core / multi core connectors. Its compact housing makes it easy to handle, and it achieves speedy and highly accurate measurements, improving work quality at the optical connector manufacturing site.


## The strong points of MAX+/WIZ+ Series

### Compact and Lightweight Housing

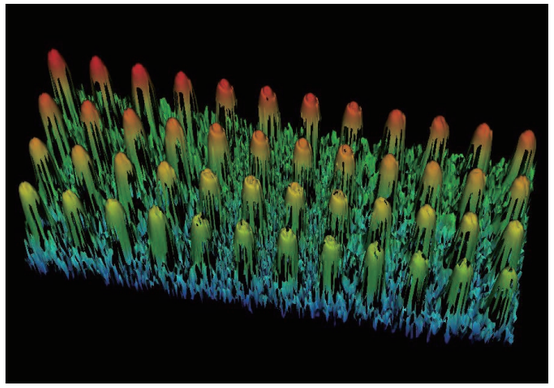
The housing enclosure has a compact design that can be installed in a smaller space than a B4 sized notebook, and weighs less than 4 kg, so it is easy to carry.

### Measurements Can be Made with a General Use PC

By simply installing the shape measurement software and drivers on a general Windows PC, you can start measuring immediately.

### Speedy Measurements with High Resolution Images

By adopting an optical system that realizes a wide viewing angle and a high resolution image sensor, it is possible to evaluate the edge shape with high definition.



### Many Types of Mounting Jigs

With a wide range of mounting fixtures available, not only standard optical connectors such as SC/LC/FC connectors, but also special optical connectors such as E2000 and MIL-ST can also be measured by simply exchanging mounts.


### No Anti-vibration Table Required

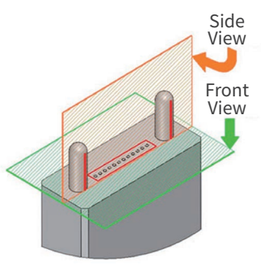
Careful anti-vibration measures are included in the housing eliminating the need for an anti-vibration table, so it can be installed anywhere.

### AF (Autofocus) Function

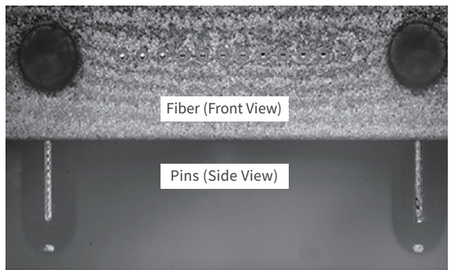
With the MAX+/WIZ+ series, the AF function automatically focuses and performs the measurement.

### High Reproducibility in Multicore Measurement

Sumix's unique SideView mound observes the ferrule part of the pin MPO connector from the side (Sideview), and automatically corrects the insertion position shift of the ferrule by software, realizing highly efficient repeatable measurements. Also, multi-core mounts can be easily secured to connectors so it is easy to apply to automated lines.





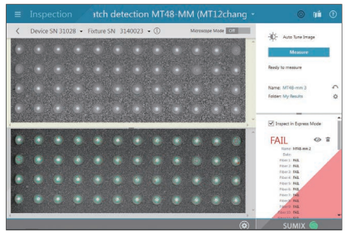



## Features and Functions of the Shape Measurement Software【MaxInspect】

### Automatic Scratch Detection

When measuring the end face shape, it captures the end face image of the optical connector, detects and evaluates scratches, dirt, chips, etc. by image analysis and makes an automatic pass / fail judgment. End face inspection and end surface shape measurement can be done simultaneously with one MAX+ series device, something which is two separate processes in conventional equipment. This also contributes to a reduction of the number of processes and time needed.

※ NOT available for WIZ-QS+/MAX-QM+




### Easy-to-Use Interface

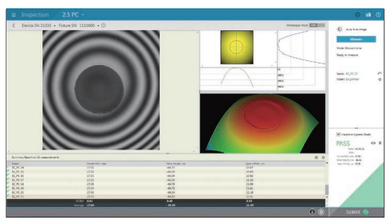
The icon interfece for each function allows for intuitive operation.The software is multi lingual. For Japanese and English version, NTT-AT 's own simple manual is also attached and there is no worry of getting lost even for the first time operation.

※ At installation, you can choose between the display languages of Japanese, English and Chinese.


### Suitable Design for Mass Production

It is equipped with the ideal functions, such as display simplification (express mode) and measurement with a foot pedal switch, for quality inspection in mass production processes. In addition, it is also possible to customize the operating environment according to the user, such as setting a special worker mode in which pass / fail judgment standard values cannot be changed, etc.

※ The foot pedal switch is optional equipment.




### Wide Variety of Output Report Functions

Output format is HTML, EXCEL and PDF. It is possible to output the calculated maximum, minimum, average and deviation value of each measurement data in summary form. You don't need to calculate the measured value.


## Points to Consider in Model Selection

### Functions for Both Single and Multi-Fiber Machines

| Model Number | Specifications | | Functions |
|---|---|---|---|
| | Field of View | Resolution | |
| MAX-Quantum | Large | High | ・Auto Focus<br>・MT16-32 core compatibility<br>・End face scratch inspection<br>・SideView compatibility |
| MAX-QM+ | Large | Medium | ・Auto Focus<br>・MT16-32 core compatibility<br>・SideView compatibility |
| MAX-QM-B+ | Medium | High | ・Auto Focus<br>・End face scratch inspection |

### Functions for Only Single-Fiber Machines

| Model Number | Specifications | | Functions |
|---|---|---|---|
| | Field of View | Resolution | |
| MAX-QS+ | Medium | Medium | ・Auto Focus<br>・End face scratch inspection<br>・SMA, MT-RJ connector measurement |
| WIZ-QS-110 | Small | Medium | ・Auto Focus |

・**Feild of View**
Large: more than 3 mm square; Medium: less than 3 mm square and more than 0.8 mm square; Small: less than 0.8 mm square

・**Resolution**
High: Less than 2 µm; Medium: more than 2 µm and less than 3 µm; Low: 3 µm or more

# Specifications

| | | | Only Single-Fiber Connectors | | Both Single and Multi-Fiber Connectors | | |
|---|---|---|---|---|---|---|---|
| | | | MAX+ Series | WIZ+ Series | MAX+ Series | | |
| Model | | | MAX-QS+ | WIZ-QS-110 | MAX-QM+ | MAX-QM-B+ | MAX-Quantum |
| Measurement time per a ferrule / connector※1 | | | 2sec. (Single Fiber/PC) | 1.8sec. (Single Fiber/PC) | 1sec. (Single Fiber)<br>3sec. (MT12) | 1sec. (Single Fiber)<br>5sec. (MT12) | 1.4sec. (Single Fiber)<br>7sec. (MT12) |
| Optical resolution (um) | | | 1.1 | 2.5 | 2.2 | 1.4 | 1.47 |
| Field of view (mm) | | | 1.1 × 0.9 | 1.2 × 0.9 | 5.6 × 3.5 | 3.5 × 2.5 | 6.0 × 4.4 |
| End face inspection (automatic scratch detection) function | | | ○ | — | — | ○ | ○ |
| Autofocus | | | ○ | ○ | ○ | ○ | ○ |
| Shape measurement accuracy※2 | Repeatability C.F./ Repeatability C.R. (SC/PC)※3 | ROC (%) | 0.1／0.16 | | 0.04／0.05 | 0.04／0.05 | 0.002／0.002 |
| | | Fiber height (nm) | 0.3／0.4 | | 0.1／0.4 | 0.1／0.4 | 0.4／0.4 |
| | | Apex offset (μm) | 0.02／0.6 | | 0.04／1.1 | 0.04／1.1 | 0.02／0.55 |
| | Repeatability C.F./ Repeatability C.R. (MT12)※3 | ROC (%) | — | | 0.9／1.2 | 0.9／1.2 | 0.9／1.2 |
| | | Fiber height (nm) | — | | 0.8／1.1 | 0.8／1.1 | 0.8／1.1 |
| | | Angle (deg) | — | | 0.0004／0.01 | 0.0002／0.005 | 0.0003／0.01 |
| Measurable ferrule/connectors※4 | ST, FC, SC (PC and APC) | | ○ | ○ | ○ | ○ | ○ |
| | MU, LC (PC and APC) | | ○ | ○ | ○ | ○ | ○ |
| | E2000 (PC and APC) | | ○ | ○ | ○ | ○ | ○ |
| | MIL-ST (M83522/16,MIL-C-83522) | | ○ | ○ | ○ | ○ | ○ |
| | M29504/14 (MIL-PRF-29504/14) | | ○ | ○ | ○ | ○ | ○ |
| | SMA 905 | | ○ | — | ○ | ○ | ○ |
| | MT-RJ (PC and APC) | | ○ | — | ○ | ○ | ○ |
| | MT12-MT72 (PC and APC) | | — | — | ○ | ○ | ○ |
| | MT16, MT32 (PC and APC) | | — | — | ○ | — | ○ |
| | MTP/MPO (PC and APC) | | — | — | ○ | ○ | ○ |
| | MTP/MPO (12-72 fiber and 16-32 fiber; PC and APC) for SVF fixture | | — | — | ○ | — | ○ |
| Illuminator | | | Green LED (530nm) | | | | |
| External interface | | | USB3.0 ×2 (For communication and power supply)<br>DC plug for power supply ×1 | | | | |
| Weight (kg) | | | 3.9 | | 3.8 | | 4.8 |
| Dimensions (H×W×L mm) | | | 103 × 137 × 183 | 150 × 120 × 90 | 103 × 137 × 183 | | 181 × 213 × 117 |
| Standard accessories | | | USB cable ×1, AC power adaptor ×1<br>Optical Flat standard 1set<br>USB memory (includes Measurement Software, Product Activation software, Users manual) 1set | | | | |

※1…Measurement time depends on the state of the end face of the object to be measured and the performance of the PC used.
※2…Values represent the values publicly posted by the manufacturer.
※3…Repeatability C.F. is a numerical value in 1 σ which measures the repeatability of 30 times without inserting and removing the optical connector. For MAX - Quantum only, the value for single-core data uses SC / APC.
※4…Requires the use of a separately sold mount jig.

## MAX+/WIZ+ Series Measurement Software【MaxInspect】Operating Environment

| Operating System | Processor | Memory | Interface | Software |
|---|---|---|---|---|
| Windows 10 | Intel Core i5<br>(Intel Core i7 Recommended) | 4GB and over | USB3.0 | Microsoft™ Excel® 2010 or higher |

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**For more information, please contact**

**https://www.ntt-at.com/product/smx/**


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