OPTICAL MEASURING INSTRUMENTS

Selection Guide

Model/Name		Optical Power — Low Level	Optical Power — Medium/High Level	Light Source Wavelength — Spectrum	Light Source Wavelength — Wavelength	Loss — High-loss	Loss — High Accuracy	Loss — Loss-wavelength	Optical Identification — Identification	Optical Identification — Loss	Optical Return Loss Measurement	Fiber Evaluation — Fault Location	Fiber Evaluation — Splice Loss	Laser Diode Testing	Others	Remarks
Light Source/ Handheld Power Meter	CMA5 Series	✓	✓			✓	✓	✓	✓	✓						0.85 µm to 1.625 µm
Optical Spectrum Analyzer	MS9740B	✓	✓	✓	✓	✓		✓						✓		0.6 µm to 1.75 µm
ACCESS Master	MT9085A/B/C		✓				✓		✓	✓	✓	✓	✓			0.85/1.3 µm (MM), 1.31/1.49/1.55/1.625/1.65 µm (SM)
Coherent OTDR	MW90010A						✓		✓	✓	✓	✓	✓			1535.03 nm to 1565.08 nm
Network Master Pro	MU100020A/MU100021A/ MU100022A/MU100023A		✓				✓		✓	✓	✓	✓	✓			0.85/1.3 µm (MM), 1.31/1.55/1.625/1.65 µm (SM)
Network Master	MU909014/15		✓				✓		✓	✓	✓	✓	✓			1.31/1.55/1.625/1.65 µm
Video Inspection Probe	G0382A/G0306C														✓	

Optical Connector Options for Anritsu Optical Measuring Instruments

A variety of optical connectors are used with optical fibers.

Specify the option number, model name, and number of the optical connector from the table below according to the type of optical connector you use. If no specification is made, an FC-type connector will be supplied.

For combinations marked with "✓" symbols in the table, the required instrument can be supplied according to the order.

For connectors without "✓" symbols or which do not appear in the table, consult your sales representative. For measuring equipment with more than one control panel, specify only the connector connected to the measured fiber. Be sure to consult us before ordering, particularly for optical connectors for single-mode fibers, to avoid trouble with connectors not fitting.

Optical connectors may be designed for either flat-polished or PC-polished ends. Some measuring instruments use connectors only for PC-polished ends; consult the literature on the instrument before specifying the connector option.

| Model/Name		Connector Option Number						
		25	26	37	38	39	40	43
		FC-APC key width 2.0 mm[*1]	SC-APC[*1]	FC	ST	DIN 47256	SC	HMS-10/A (SM)[*2]
Light Source/Optical Power Meter	CMA5 Series	For connector and product numbers, please refer to individual product page.						
Optical Spectrum Analyzer	MS9740B			✓[*3]	✓[*3]	✓[*3]	✓[*3]	
ACCESS Master	MT9085A/B/C	✓	✓	✓[*3]	✓[*3]		✓[*3]	
Network Master Pro	MU100020A/MU100021A/ MU100022A/MU100023A	✓	✓	✓[*3]		✓[*3]	✓[*3]	
Network Master	MU909014/15			✓[*3]			✓[*3]	
Coherent OTDR	MW90010A			✓[*3]	✓[*3]	✓[*3]	✓[*3]	✓[*3]

*1: Ferrule type; APC (angled PC)

*2: Ferrule type; PC

*3: Ferrule type; PC (user replaceable and cleanable)
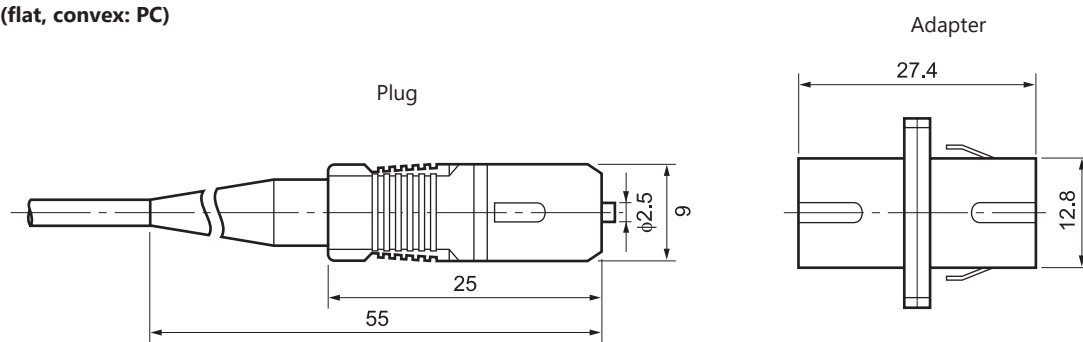
No marking: Ferrule type; Flat and PC.

Unit in mm

Option 25: FC-APC key width 2.0 mm (angled convex)
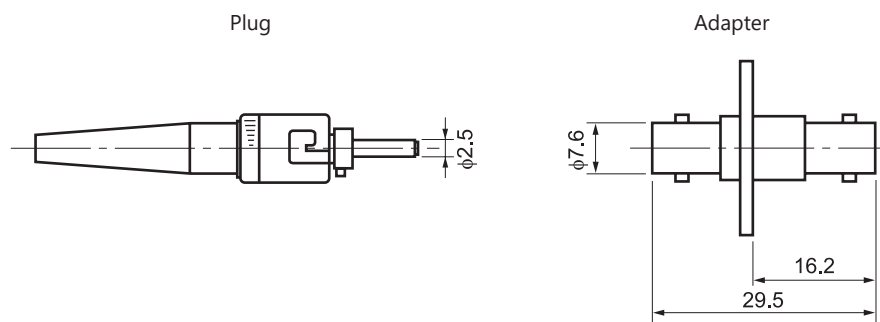**Option 37: FC (flat, convex)**

Plug

Adapter

15
5
4
φ9
42
φ2.5
M8 x 0.75

15
9.5
9.5
15
2-φ2.2 x φ3.8
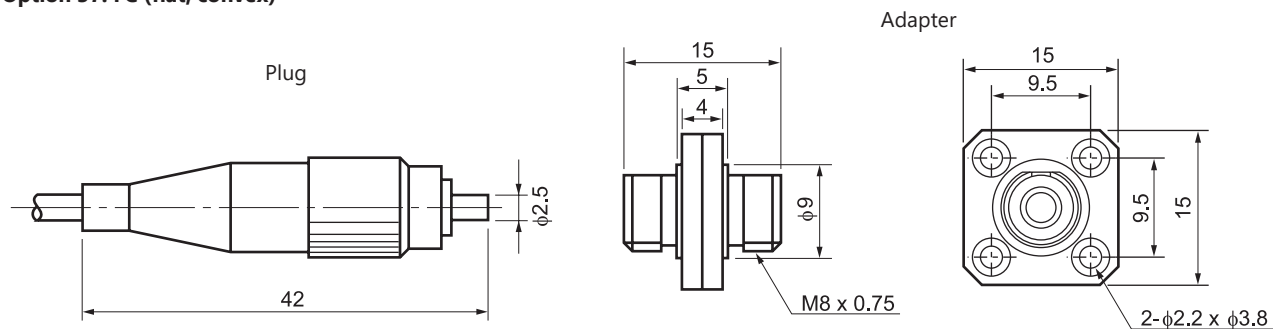
Option 26: SC-APC (angled convex)
Option 40: SC (flat, convex: PC)

Plug

Adapter

27.4
φ2.5
9
12.8
25
55

Option 38: ST (flat, convex: PC)

Plug

Adapter

φ2.5
φ7.6
16.2
29.5

Option 39: DIN 47256 (flat, convex: PC)

Plug

Adapter

φ6.9
M5.5 x 0.5
φ2.5
38.5

24.5
M5.5 x 0.5

Unit in mm
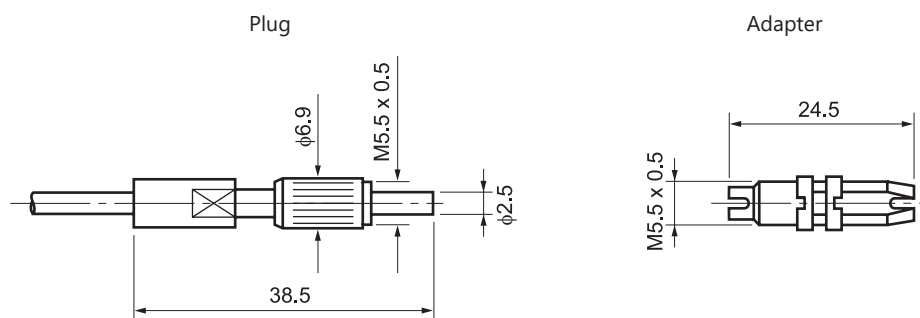
Option 43: HMS-10/A (SM, convex: PC)

Plug

Adapter

φ2.5

1/4-36 UNS

37.3

23.5

SW8   SW5.5
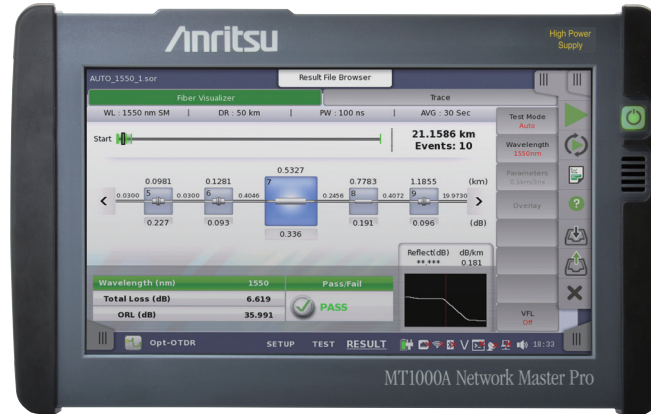
1/4-36 UNS-2A

φ9.5
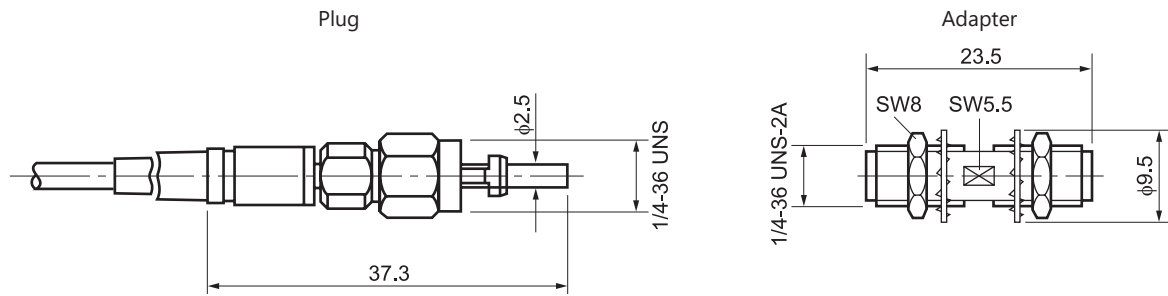
Network Master™ Series

MT1000A Network Master Pro
MU100020A/MU100021A/MU100022A/MU100023A OTDR Module
1310/1550 nm SMF, 1310/1550/850/1300 nm SMF/MMF, 1310/1550/1625 nm SMF, 1310/1550/1650 nm SMF

Remote Control
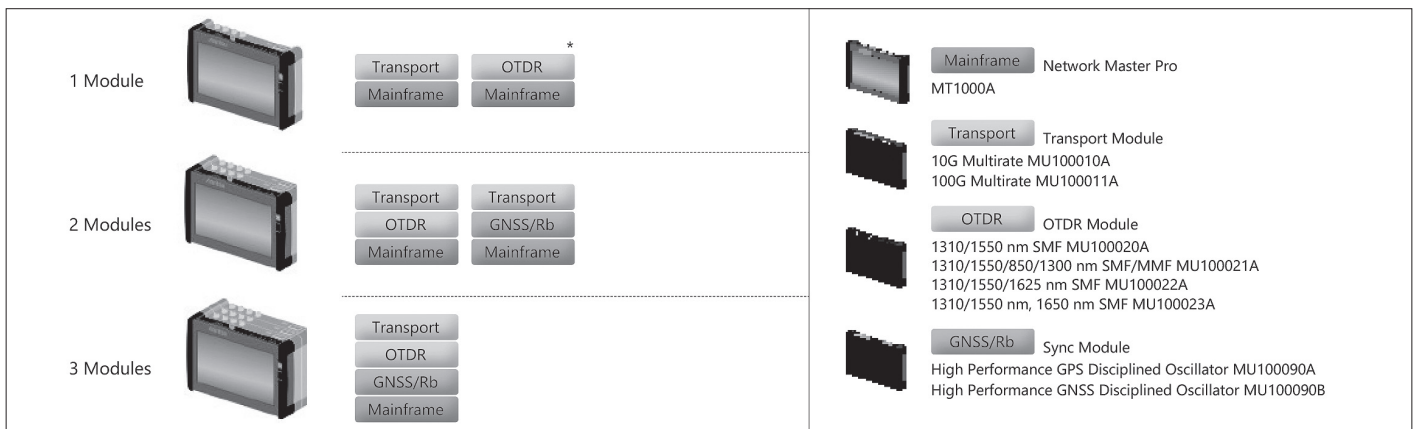**Ethernet | USB**

For Mobile Network I&M

The worldwide spread of mobile devices, such as smartphones and tablets using SNS, video streaming, etc., is causing an explosive increase in data traffic volumes. Mobile network base stations have various configurations; as well as shifting towards using smaller remote radio head (RRH) installations, optical fiber fault-finding and transport quality tests are required as the network environment evolves.
Installing the Transport Module MU100010A (10G Multirate)/MU100011A (100G Multirate) and OTDR Module MU100020A/MU100021A/ MU100022A/MU100023A in the Network Master Pro MT1000A supports all-in-one optical-fiber fault finding and transport quality tests.
Using the MU100020A/MU100021A/MU100022A/MU100023A, scratched or dirty connectors at fiber cable connections can be detected as fault locations from the excessive optical reflections to support fault finding and troubleshooting of Mobile optical networks. Additionally, work efficiency is greatly improved using the Fiber Visualizer function supporting Easy-to-Use/Easy-to-Report testing.

Network Master Pro MT1000A Series
- All-in-One Optical/Transport Tester Install OTDR Module and 10G/100G Multirate Module in one main frame
- Easy-to-Use Intuitive GUI Menus
- Compact Lightweight Design for Onsite Testing
- Modular Design for Maximized Investment Efficiency

Key Applications
Mobile Network I&M

Mobile Fronthaul and Backhaul Optical Loss and Reflection Attenuation Measurements
- Supports SM fiber (1310/1550/1625 nm, 1650 nm), MM fiber (850 nm/ 1300 nm) models
- All-in-one OTDR, light source, optical power meter, visible light source (option)
- High-accuracy event detection
- CPRI/OBSAI measurement with simultaneously installed Multirate Module MU100010A/MU100011A

Easy-to-Use, Easy-to-Report
- Graphical summary and Pass/Fail evaluation display using Fiber Visualizer function
- OTDR simple test mode operation using touch panel
- One-touch button PDF report output

Core and Metro Network Long Range I&M
- Measures Trunk Fibers of 100 km or more and PON Networks with up to 1×128 Splitters
- Supports three SM fiber (1310 nm/1550 nm) models (Standard, Enhanced, High-Performance)
- Supporting Construction using Multi-core Fiber Cables
- Supports other Mobile network applications

Network Master Pro MT1000A Module Line up
Any modular combination as shown in a figure.

*: Required if the transport modules is not used rear cover (B0720A).

All-in-One

Network I&M is supported by installing the MU100020A/MU100021A/ MU100022A/MU100023A and MU100010A/MU100011A in the MT1000A. The OTDR Module lineup includes the MU100021A for OTDR measurements of both SM and MM fibers in high demand by the Mobile network I&M, plus the MU100020A/MU100022A/MU100023A for OTDR measurements of SM fiber used by PON networks and long- range measurements in Core/Metro networks.

With 10G/100G Multirate Module and OTDR Module

Easy-to-Use GUI

The MT1000A GUI design simulates onsite operations to help increase evaluation efficiency at network installation and to speed-up fault troubleshooting and isolation. Additionally, the intuitive user interface operations also help cut training time.
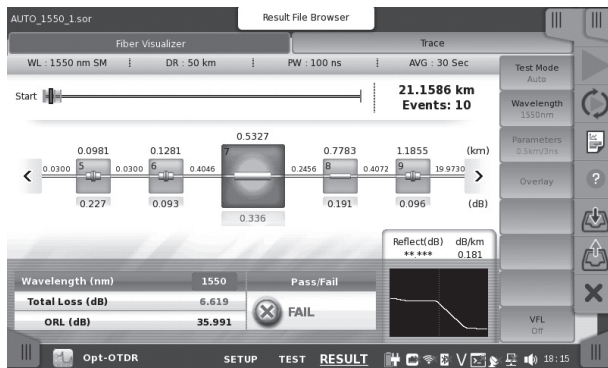
Easy-to-Read and Easy-to-Use 9-inch High-Resolution Touch Screen

The large 9-inch high-resolution, full-color, touch screen is easy to use and displays easy-to-read measurement results, helping improve onsite work efficiency.

Portable

All test functions required for network verification are built into the compact MT1000A cabinet for easy, all-in-one onsite support of most communications standards; the standard soft carry bag accessory is also ideal for carrying the MT1000A onsite.

Long Battery Life

Since AC power is not commonly available onsite, the MT1000A can run for up to 6 hours (with OTDR Module) on just one battery charge. And the optional car 12 Vdc adapter offers in-vehicle charging, helping facilitate uninterrupted work when moving between sites.

All-in-One Functions Required by Physical Layer I&M Tests

The MU100020A/MU100021A/MU100022A/MU100023A built-in light source and power meter functions can be used for optical loss tests in addition to OTDR tests. An optional (Option 002) visible light source can be installed as well.

Moreover, the presence of scratches and dirt on the fiber end face can be checked using the Video Inspection Probe (VIP).

∗: Separately sold Video Inspection Probe (External G0382A/G0306B)

G0382A

G0306B

OTDR Module Applications

Generally, depending on the optical fiber measurement environment, OTDR measurements require multiple settings such as distance range, pulse width, measurement time, etc., making work difficult for technicians who do not generally use an OTDR. When performing Pass/Fail evaluation of an optical network for a report, a simple intuitive GUI is key to improving work efficiency.

The MU100020A/MU100021A/MU100022A/MU100023A emphasizes easy-to-understand operability using four application measurement modes: Standard OTDR Measurement, FTTA Measurement, Construction Mode and OLTS Measurement.

Standard OTDR Measurements

Graphical Display Based on Three-Window Operation: SETUP/TEST/RESULT
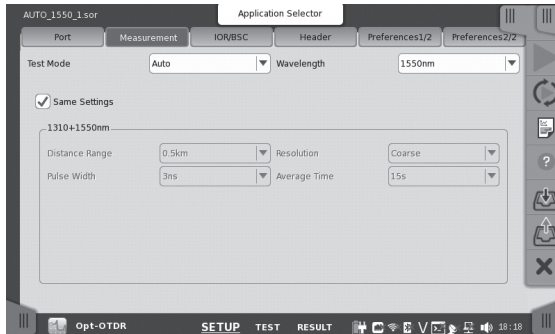
SETUP

This sets the measurement wavelength.
Other conditions, such as distance range, measurement time, etc., are measured at the Auto setting conditions.
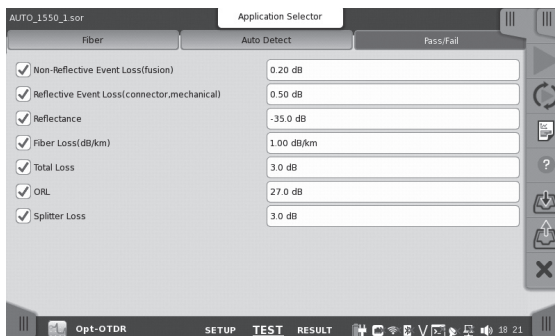
TEST

This sets the detection conditions for optical fiber connectors and splices as well as the Pass/Fail evaluation threshold values, and starts measurement.
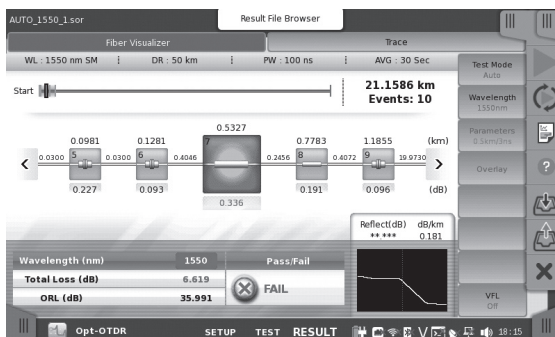
RESULT

This displays the Pass/Fail evaluation results for each event graphically at the Fiber Visualizer screen.
Additionally, waveform analysis is supported by switching to the Trace screen.

One-Button Screen Switch
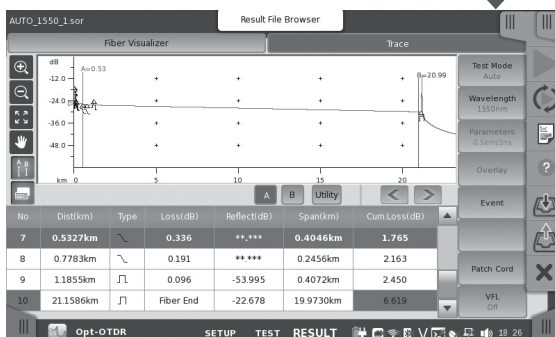
The measured data are output as a PDF report by an easy one-button operation.

Easy Pass/Fail Evaluation Using Fiber Visualizer

The OTDR measurement results are displayed as a trace showing the optical fiber length, losses and size of reflections, as well as an easy-to-view summary of the analysis results on the Fiber Visualizer screen.

Fiber Visualizer Screen

• Event icons showing characteristics of each connector, splice, and far end
• Pass/Fail evaluations based on user-settable threshold values

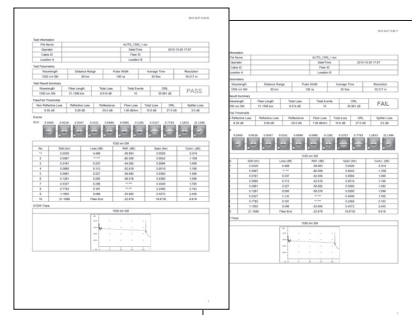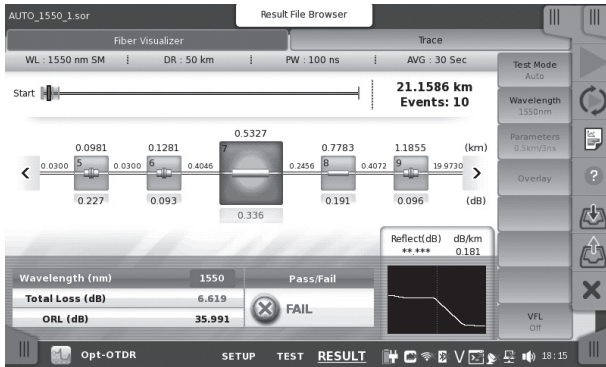The user can set any threshold value for each event. If the Pass/Fail evaluation settings prescribed in the engineering manual are set beforehand, the measured optical fiber loss status can be easily distinguished visually at the same time as measurement ends.

Intuitive Manual Waveform Analysis Using Touch Panel Operation

Using the Trace screen, it is also possible to perform manual analysis while moving the cursor on the captured waveform. Since the MT1000A has a touch panel, the optical fiber length, loss, and reflection attenuation can be analyzed manually using intuitive direct operations on the waveform.
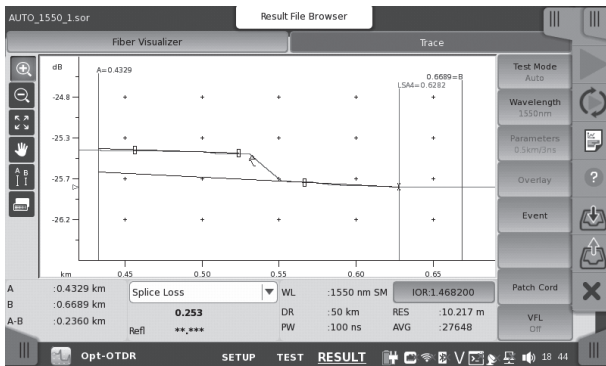

Manual Analysis Screen

Supports Long-Distance Optical Fibers and PON Network Measurements with 1 × 128 Splitters

OTDR measurements of long optical fibers exceeding 100 km as well as PON networks including many splitters require an OTDR with high dynamic-range performance.
With its high dynamic range of 46 dB (typ.), the MU100020A/MU100022A/MU100023A is ideal for evaluating Core/Metro/Access optical fiber networks.
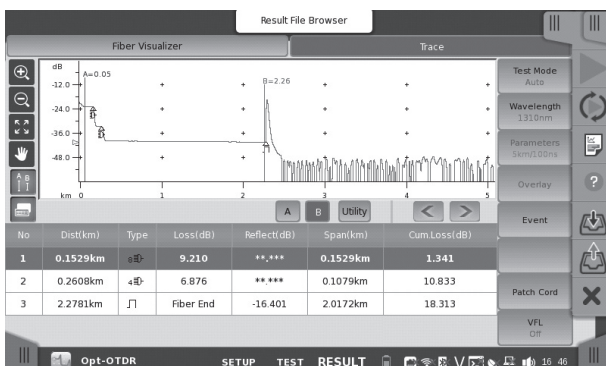
PON Measurement Screen

Various Functions and Performance for Precision OTDR Measurements

• 0.8-m Event Dead Zone
  Events can be detected with a dead zone of just 0.8 m (typ.). This is ideal for measurements in a mixed environment including short optical fibers, such as patch cords.
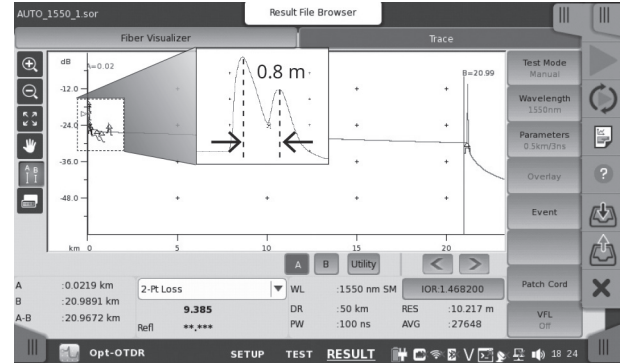
0.8-m Event Dead Zone

• 250,001 Sampling Points Max.
  Up to 250,001 sampling points are supported, offering a minimum resolution of 2 cm, and a resolution of 2 m for a distance range of 300 km.

• Optical Communications/Connection Check Functions
  If an optical data signal is being input to the OTDR from an external source, the optical fiber connection status will be poor, making it impossible to perform accurate measurement and analysis. When an optical data signal is detected at the start of OTDR measurement using these functions, the optical fiber connection status is evaluated as poor, a warning is displayed, and measurement is stopped.

• Supports OTDR Data Sharing Format
  The measured waveform and analysis results data from the Fiber Visualizer and waveform screens are saved in the same common OTDR format described in the Telcordia SR-4731 (issue 2) standards. Not only can saved data be read by these instruments, it can also be read by the "NETWORKS" Analysis Software running on a PC.
  ∗: The PC Analysis Software does not support the Fiber Visualizer function.

• Macro Bend Detection/Analysis
  Macro bends can be detected and analyzed by comparing two waveform (1310/1550 nm, 1310/1625 nm) measurements using wavelength bend characteristics, permitting confirmation of bending faults in optical fibers, which is a difficult evaluation using measurement only one wavelength.

• Multi-waveform Measurement and Display Functions
  This is very convenient for comparison with saved waveform data captured at network commissioning as well as for comparison with abnormal waveform data, such as that captured at macro bend measurements.

FTTA Measurements

Comparatively short optical fibers of around several hundred meters in length are usually installed at the Mobile fronthaul FTTA. In this type of measurement environment, measurements made by different operators under different conditions commonly have inconsistency problems at later data processing.

At FTTA measurement, the optical fiber installation measurement conditions are fixed previously, so measurements are always made under the same conditions.

Like the OTDR measurement function, each measurement result can be analyzed at the Trace and Fiber Visualizer screens.
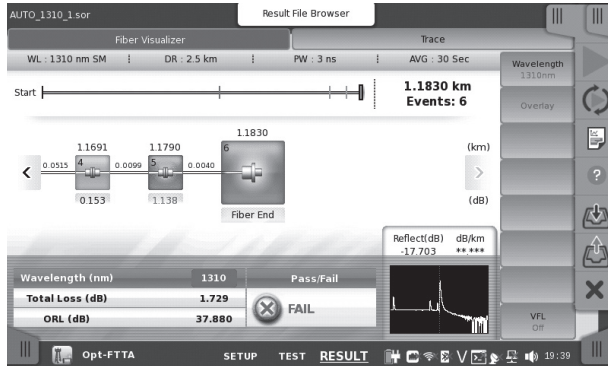
FTTA Measurements

OLTS Measurements

At measurement of the optical fiber, the first basic measurement is loss measurement using a light source and power meter. With a built-in light source and power meter as standard, the MU100020A/MU100021A/MU100022A/MU100023A can be used as an optical loss test set (OLTS). In addition, measurement results can be managed at the Loss Table for Pass/Fail evaluation of individual data based on set threshold values.
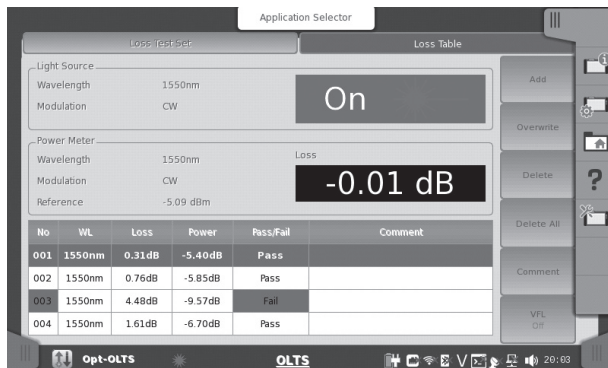
OLTS Measurement Loss Table

Construction Mode

The "Construction Mode" simplifies installation work and is especially useful when pulling multi-core fiber cables. Work mistakes are eliminated by automated operation using pre-settings, such as project data (number of fibers, file names, etc.) and measurement conditions, to facilitate efficient measurement of multi-core fiber cables.
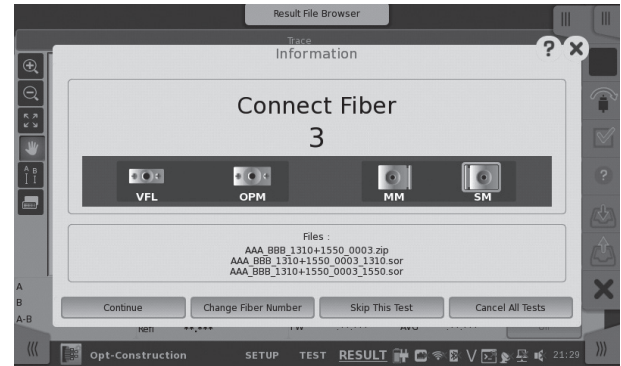
Construction Mode

Value of Offering Automatic Measurement Solutions

Simplifies multiple testing work, shortens on-site test time, and eliminates human operation errors. Supports simultaneous multiple tests. Download free editing software (MX100003A) to create scenarios without need for programing skills.
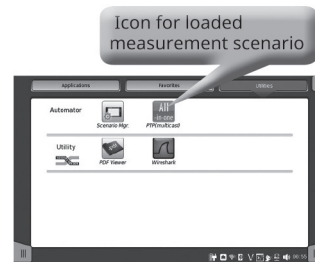
Automation Test Select

SEEK (Scenario Edit Environment Kit) MX100003A

Specifications

MT1000A + MU100020A/MU100021A/MU100022A/MU100023A

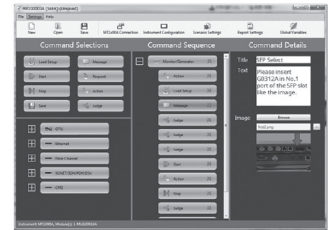|	
Display	9-inch active TFT display (800 × 480 pixels) and touch screen
Supported Languages	User selectable (English, Japanese, Simplified Chinese, Russian, French, Spanish, Finnish, Korean, German)
USB Data Interface	MT1000A operates as host: USB 2.0 type A (2 ports), MT1000A operates as device: USB 2.0 type Mini-B (1 port)
Ethernet Interface	Ethernet 10M/100M/1000M, Connector: RJ45
WLAN Interface*	IEEE 802.11 b/g/n
Bluetooth Interface*	Bluetooth 2.1 +EDR
Audio Interface	For connection of head set, Connector: 3.5-mm diameter jack
AUX Connector	For connection of optional G0325A GPS receiver
Built-in Loudspeaker	Monitors speech of voice channel, Output level: user-controlled from user Interface
Ext. Clock Input	For connection of external clock signals: SETS (E1: 2.048 Mbps), BITS (DS1: 1.544 Mbps) or 2.048 MHz TTL signal in accordance with ITU-T G.703, 10 MHz TTL signal in accordance with ITU-T G.703, Connector: BNC, Connector: BNC
Dimensions and Mass	MU100020A/MU100021A/MU100022A/MU100023A: 257.6 (W) × 163 (H) × 25 (D) mm (without rear panel), ≤0.8 kg with MT1000A: 257.6 (W) × 163 (H) × 84.3 (D) mm, 2.7 kg including battery (G0310A) with MT1000A/MU100010A: 257.6 (W) × 163 (H) × 102.2 (D) mm, 3.5 kg including battery (G0310A)
Mains Adapter	Input: 100 VAC to 240 VAC, 50 Hz/60 Hz Output: 18 V(dc), 3.62 A (max.) Power Consumption: ≤65 W With MT1000A-006 Input: 100 VAC to 240 VAC, 50 Hz/60 Hz Output: 18 V(dc), 6.6 A (max.) Power Consumption: ≤120 W
Battery	10.8 V rechargeable and replaceable intelligent Li-ion battery Operating time: 6.0 h (with MU100020A/MU100021A/MU100022A/MU100023A), Telcordia GR-196-CORE Issue2, September 2010, 25°C
Environmental Conditions	Operating Temperature: 0°C to +50°C, ≤85%RH (non-condensing) (with MU100020A/MU100021A/MU100022A/MU100023A) Charging Temperature: 0°C to +50°C, ≤85%RH (non-condensing) Storage Temperature: –30°C to +60°C, ≤90%RH (non-condensing) (without battery or AC adapter, with MU100020A/MU100021A/MU100022A/MU100023A) –20°C to +50°C, ≤90%RH (non-condensing) (with battery and AC adapter, with MU100020A/MU100021A/MU100022A/MU100023A)

CE		
	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

∗: Available for certified countries and regions including USA, Canada, Japan and EU countries. Please visit the Anritsu web site for updated information.

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MU100020A/MU100021A/MU100022A/MU100023A OTDR Module Common Specifications

IOR Setting	1.300000 to 1.700000 (0.000001 steps)
Units	km, m, kft, ft, mi
Sampling Points	Up to 250,001
Sampling Resolution	0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 40 m
Loss measurement accuracy (linearity)	±0.05 dB/dB or ±0.1 dB (whichever is greater)
Reflectance Accuracy	Single mode: ±2 dB, Multimode: ±4 dB
Distance Accuracy	±1 m ±3 × measurement distance × 10^{-5} ± marker resolution (excluding IOR uncertainty)
Distance Range (IOR = 1.50000)	Single mode: 0.5, 1, 2.5, 5, 10, 25, 50, 100, 200, 300 km Multimode: 0.5, 1, 2.5, 5, 10, 25, 50, 100 km
Realtime Sweep Time	≤0.2 sec. (Test Mode: Manual, Distance Range: 50 km, Resolution: Coarse)
Testing Modes	Standard OTDR application: Selectable automatic or manual set-up, Fiber Visualizer, Trace analysis, Light source, Power meter, Visual fault locator (Optional) FTTA application: Automatic set-up, Fiber Visualizer, Trace analysis, Light source, Power meter, Visual fault locator (Optional) Construction application: OTDR Measurement, Auto Save, Multi-core fiber measurements, Power meter, Visual fault locator (Optional) OLTS application: Power meter and Light source, Loss Table, Visual fault locator (Optional)
Fiber Event Analysis	Fiber condition setup: Patch-cord setup (Launch/Receive), Splitter Setup (Up to 128 branch) User defined Auto detect threshold: Event loss (Reflective and non-reflective), Reflectance, Fiber end, Macro bend detect ON/OFF, Splitter detect: Up to 128 branch User defined PASS/FAIL thresholds: Non-reflective event loss (fusion), Reflective event loss (connector, mechanical), Reflectance, Fiber loss (dB/km), Total loss, ORL, Splitter loss (Up to 128 branch)
OTDR Trace Format	Telcordia universal. SOR, issue 2 (SR-4731)
Other Functions	Loss modes: Splice loss, 2-pt loss, 2-pt LSA, dB/km loss, dB/km LSA, ORL Averaging modes: Timed (5, 10, 15, 30 sec, 1, 2, 3, 5, 10 min.) Live Fiber detect : Verifies presence of communication light in optical fiber Connection check: Automatic check of OTDR to FUT connection quality Remote Operation, Both-End Measurement

MU100020A OTDR Module

Options	Wavelength*1	Fiber Type	Pulse Width	Dynamic Range*2, *3	Deadzone (Fresnel)*4 (IOR = 1.500000)	Deadzone (Backscatter)*5 (IOR = 1.500000)
MU100020A-020	1310 nm/1550 nm ±25 nm	Single Mode Fiber (SMF) 10 μm/125 μm ITU-T G.652	3, 10, 20, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	39 dB/37.5 dB*6	≤80 cm (typ.)	≤3.8 m/4.3 m
MU100020A-021				42 dB/41 dB*6		
MU100020A-022				46 dB/46 dB*6		
				25 dB/25 dB*6 (Pulse width: 100 ns)		

MU100021A OTDR Module

Options	Wavelength*1	Fiber Type	Pulse Width	Dynamic Range*2, *3	Deadzone (Fresnel)*4 (IOR = 1.500000)	Deadzone (Backscatter)*5 (IOR = 1.500000)
MU100021A-021	1310 nm/1550 nm ±25 nm 850 nm/1300 nm ±30 nm	Single Mode Fiber (SMF) 10 μm/125 μm ITU-T G.652 GI Fiber 62.5 μm/125 μm*7	SMF: Same as MU100020A 1300 nm (MMF): 3, 10, 20, 50, 100, 200, 500, 1000, 2000, 4000 ns 850 nm (MMF): 3, 10, 20, 50, 100, 200, 500 ns	42 dB/41 dB*6 29 dB/28 dB*6	≤80 cm (typ.)	≤3.8 m/4.3 m ≤4.0 m/5.0 m

MU100022A OTDR Module

Options	Wavelength*1	Fiber Type	Pulse Width	Dynamic Range*2, *3	Deadzone (Fresnel)*4 (IOR = 1.500000)	Deadzone (Backscatter)*5 (IOR = 1.500000)
MU100022A-022	1310/1550/1625 nm ±25 nm	Single Mode Fiber (SMF) 10 μm/125 μm ITU-T G.652	3, 10, 20, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	46/46/44 dB*6	≤80 cm (typ.)	≤3.8/4.3/4.8 m
				25/25/23 dB*6 (Pulse width: 100 ns)		

MU100023A OTDR Module

Options	Wavelength*1	Fiber Type	Pulse Width	Dynamic Range*2, *3, *8	Deadzone (Fresnel)*4 (IOR = 1.500000)	Deadzone (Backscatter)*5 (IOR = 1.500000)
MU100023A-021	1310/1550 nm ± 25 nm 1645 nm to 1655 nm	Single Mode Fiber (SMF) 10 μm/125 μm ITU-T G.652	3, 10, 20, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	42/41/35 dB*6	≤80 cm (typ.)	≤5.0/5.5/6.5 m

Laser Safety*9	IEC 60825-1: 2007 CLASS 1M: 21 CFR1040.10 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007

*1: 25°C, Pulse width: 1 μs (1310/1550/1625/1650 nm), 100 ns (850 nm/1300 nm), Except for when charging the battery.

*2: Pulse widths: 20 μs (1310/1550/1625/1650 nm), 500 ns/4 μs (850 nm/1300 nm) Distance range: 100 km (1310/1550/1625/1650 nm), 25 km (850 nm/1300 nm) Averaging: 180 sec., SNR = 1, 25°C Except for when charging the battery.

*3: Dynamic range (one-way back-scattered light), SNR = 1: The level difference between the RMS noise level and the level where near end back-scattering occurs.
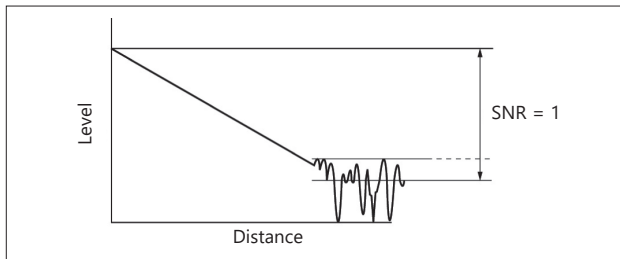
*4: Pulse width: 3 ns, Return loss: 40 dB, 25°C (Refer to the figure below) Except for when charging the battery.

l_1: Fresnel reflection
l_2: Back-scattered light
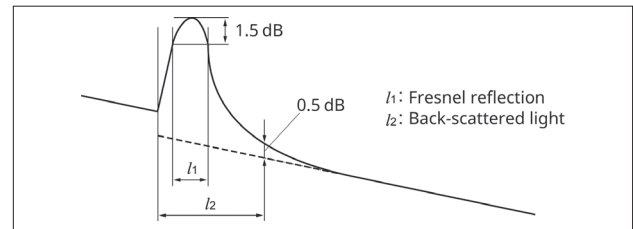
*5: Pulse width 10 ns, return loss 55 dB, Deviation ±0.5 dB, 25°C±5°C

*6: Typical. Subtract 1 dB for guarantee

*7: At measurement of 50 μm/125 μm MM Fiber, the dynamic range drops by about 3.0 dB

*8: At 1650 nm: With background light, 1310/1550 nm, −19 dBm CW light

*9: Safety measures for laser products This product complies with optical safety standards in IEC 60825-1, 21CFR1040.10 and 1040.11; the following descriptive labels are affixed to the product.

https://www.anritsu.com

Light Source Specifications

Standard on all models

Stabilized Light Source (through OTDR port)				
Options	MU100020A	MU100021A	MU100022A	MU100023A
Wavelength*1	1310 nm/1550 nm ±30 nm	1310 nm/1550 nm ±30 nm 850 nm/1300 nm ±30 nm	1310/1550/1625 nm ±30 nm	1310/1550 nm ±30 nm 1650 nm ±5 nm
Spectral Width*1	≤5 nm (1310 nm) ≤10 nm (850/1300/1550/1625 nm) ≤3 nm (1650 nm)			
Fiber Type	Single Mode Fiber (SMF) 10 µm/125 µm ITU-T G.652	Single Mode Fiber (SMF) 10 µm/125 µm ITU-T G.652 GI Fiber 62.5 µm/125 µm	Single Mode Fiber (SMF) 10 µm/125 µm ITU-T G.652	Single Mode Fiber (SMF) 10 µm/125 µm ITU-T G.652
Optical Connector	Same as OTDR			
Output Power*1	−5 ±1.5 dBm			
Output Stability*2	≤0.1 dB (1310/1550/1625/1650 nm)			
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz			
Warm up time	10 min.			
Laser Safety	Same as OTDR			

Power Meter Specifications

Standard on all models

Standard Power Meter (Dedicated port)	
Fiber Type	Single Mode (SMF) 10 µm/125 µm ITU-T G.652, GI Fiber 62.5 µm/125 µm
Wavelength Range	800 nm to 1700 nm
Setting Wavelengths	1310, 1490, 1550, 1625, 1650, 850, 1300 nm
Measurement Range	−67 to +6 dBm (CW, 1550 nm, −60 to +3 dBm @850 nm) −70 to +3 dBm (Modulation, 1550 nm, −63 to 0 dBm @850 nm)
Optical Connector	2.5 mm/1.25 mm Universal
Accuracy*3	±5% (−10 dBm, 1310 nm/1550 nm, CW, 25°C, Using Master FC fiber and 2.5 mm universal connector) ±10% (−10 dBm, 850 nm, CW, 25°C, Using Master FC fiber and 2.5 mm universal connector)
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz

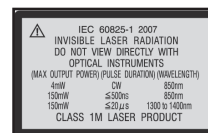| Visible Light Source (Option 002)	
Central Wavelength	650 nm ±15 nm (at 25°C)
Optical Output	0 ±3 dBm (CW, 25°C)
Output Optical Fiber	10 µm/125 µm, SMF (ITU-T G.652)
Optical Connector	2.5 mm universal
Output Function	OFF, CW, Blink
Laser Safety*4	IEC 60825-1: 2007 CLASS 3R 21CFR1040.10 and 1040.11 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007

*1: CW, 25°C

*2: CW, −10°C to +50°C (±1°C) difference between max/min. values over 1 minute, SM fiber 2 m, when an optical power meter with 40 dB or greater return loss is used (SM),after warming up.

*3: After zero offset

*4: Safety measures for laser products
This option complies with optical safety standards in IEC 60825-1, 21CFR1040.10 and 1040.11; the following descriptive labels are affixed to the product

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

1) Main Frame

Model/Order No.	Name	
MT1000A	Network Master Pro	
MT1000A-006[*1]	**Standard Accessories**	
	High Power Supply:	Installed
	Line Cord[*2]:	1 pc
B0745A	Softcase:	1 pc
B0728A[*3]	Rear Panel kit:	1 pc
G0385A[*4]	High Power AC Adaptor:	1 pc
G0310A	Li-ion Battery:	1 pc
Z1746A	Stylus:	1 pc
Z1747A[*5]	Carrying Strap:	1 pc
Z1748A[*6]	Handle:	1 pc
Z1817A[*7]	Utilities ROM:	1 pc
	Main Frame Option	
MT1000A-003[*8]	Connectivity for WLAN/Bluetooth	
MT1000A-005[*9]	AUX I/O	

*1: The presence of the MT1000A-006 option can be recognized at the top right of the front panel. To retrofit to the already shipped item, please contact us.

Without MT1000A-006   With in MT1000A-006

*2: One line cord is attached to the area to shipment.
*3: Set of B0720A (Rear Cover) and B0732A (Screw Kit).
    Please refer to next page "Module Configuration" for details.
*4: The MT1000A with MT1000A-006 can be used. Use the AC adapter when using the MT1000A without MT1000A-006 installed.
*5: Shoulder strap for MT1000A.
*6: Hand strap for MT1000A.
*7: This DVD includes PDF files and formatting tools of each product's instruction manual (such as W3933AE, W3810AE, W3736AE, W3946AE).
*8: Available for certified countries and regions including USA, Canada, Japan and EU countries. Please visit the Anritsu web site for updated information.
*9: MT1000A-005 is required for MU100090B. To retrofit to the already shipped item, please contact us.

2) Select OTDR Module

Select the OTDR module configuration according to the procedures in items 2-1) and 2-2) below.

2-1) Select Base Module

Select one of the following models.

Model/Order No.[*10]	Name	
MU100020A	OTDR Module (1310/1550 nm SMF)	
MU100021A	OTDR Module (1310/1550/850/1300 nm SMF/MMF)	
MU100022A	OTDR Module (1310/1550/1625 nm SMF)	
MU100023A	OTDR Module (1310/1550/1650 nm SMF)	
	Standard Accessories	
J1693A	Universal Connector 2.5 mm for OPM:	1 pc
J1694A	Universal Connector 1.25 mm for OPM:	1 pc
W3811AE	Quick Reference Guide:	1 pc

*10: Factory installed option only and cannot be retrofitted.

2-2) Select Dynamic Range Type

Select one of the following models.

Model/Order No.[*11]	Name
MU100020A-020	Standard Dynamic Range (1310/1550 nm: 39/37.5 dB)
MU100020A-021	Enhanced Dynamic Range (1310/1550 nm: 42/41 dB)
MU100020A-022	High-Performance Dynamic Range (1310/1550 nm: 46/46 dB)
MU100021A-021	Enhanced Dynamic Range (1310/1550/850/1300 nm: 42/41/29/28 dB)
MU100022A-022	High-Performance Dynamic Range (1310/1550/1625 nm: 46/46/44 dB)
MU100023A-021	Enhanced Dynamic Range (1310/1550 nm: 42/41 dB, 1650 nm: 35 dB)

*11: Factory installed option only and cannot be retrofitted.

3) Select Connector Types

Select a module polish type and connector adapter according to the procedures in items 3-1) and 3-2).

3-1) Polish Types

Specify one connector polish type.

Model/Order No.[*12]	Name
MU100020A-010	UPC Polish
MU100020A-011[*13]	APC Polish
MU100021A-010	UPC Polish
MU100021A-011[*13]	APC Polish
MU100022A-010	UPC Polish
MU100022A-011[*13]	APC Polish
MU100023A-010	UPC Polish
MU100023A-011[*13]	APC Polish

*12: Factory installed option only and cannot be retrofitted.
*13: Used by SM port. An APC connector cannot be specified for the MM port, which uses a UPC connector.

3-2) Select Connector Adapter type

Specify one type of connector adapter.

Model/Order No.	Name
	For UPC Polish with Option 010
MU100020A-037[*14]	FC Connector
MU100020A-039[*14]	DIN 47256 Connector
MU100020A-040[*14]	SC Connector
MU100021A-037[*15]	FC Connector
MU100021A-039[*15]	DIN 47256 Connector
MU100021A-040[*15]	SC Connector
MU100022A-037[*14]	FC Connector
MU100022A-039[*14]	DIN 47256 Connector
MU100022A-040[*14]	SC Connector
MU100023A-037[*18]	FC Connector
MU100023A-039[*18]	DIN 47256 Connector
MU100023A-040[*18]	SC Connector
	For APC Polish with Option 011
MU100020A-025[*14]	FC Connector key width 2.0 mm
MU100020A-026[*14]	SC Connector
MU100021A-025[*16]	FC Connector key width 2.0 mm
MU100021A-026[*17]	SC Connector
MU100022A-025[*14]	FC Connector key width 2.0 mm
MU100022A-026[*14]	SC Connector
MU100023A-025[*18]	FC Connector key width 2.0 mm
MU100023A-026[*18]	SC Connector

*14: One specified connector adapter supplied free of charge.
*15: One each of same connector adapter for SM port and MM port supplied free of charge. Cannot specify different connector adapters for each port.
*16: One connector adapter for SM port supplied free of charge. One connector adapter equivalent to Option 37 (FC/UPC) for MM port supplied free of charge.
*17: One specified connector adapter for SM port supplied free of charge. One connector adapter equivalent to Option 40 (SC/UPC) for MM port supplied free of charge.
*18: One each of same connector adapter for SM port (1310/1550 nm) and SM port (1650 nm) port supplied free of charge. Cannot specify different connector adapters for each port.

4) VFL

Model/Order No.[*19]	Name
MU100020A-002[*20]	Visual Fault Locator
MU100021A-002[*20]	Visual Fault Locator
MU100022A-002[*20]	Visual Fault Locator
MU100023A-002[*20]	Visual Fault Locator

*19: Factory installed option only and cannot be retrofitted.
*20: Installs dedicated port for visible light source; 2.5 mm universal light receiver type (connector adapter not required). J1335A required to connect 1.25 mm fiber.

5) Replacement Adapters

Model/Order No.	MU100020A MU100022A MU100023A*[21]	MU100021A	
For UPC Polish			
	SM port	SM port	MM port
J0617B (FC/UPC)	✓	✓	✓
J0618E (DIN/UPC)	✓	✓	✓
J0619B (SC/UPC)	✓	✓	✓
For APC Polish			
	SM port	SM port	MM port
J0739A (FC/APC)	✓	✓	N/A
J1697A (SC/APC)	✓	✓	N/A

*21: There are two SM ports — one for 1310/1550 nm, and another for 1650 nm.

6) Select Accessories & Replacement Items

Model/Order No.	Name	Description
For MT1000A Mainframe		
B0691B	Hard Case	Up to two installed modules
G0324A	Battery Charger	
J1569B	Car 12 Vdc Adapter	
G0382A	Autofocus Video Inspection Probe	Fixed x400 magnification (USB Autofocus type). For visually verifying fiber end-face condition using MT1000A Utility application
G0306B	Video Inspection Probe (X400)	Fixed x400 magnification (USB Standard type). For visually verifying fiber end-face condition using MT1000A Utility application
G0309A	AC Adapter	Use the AC Adapter when using the MT1000A without MT1000A-006 installed
B0720A	Rear Cover	MT1000A Rear Cover
B0728A	Rear Panel Kit	Rear Panel and Screw kit (Same as Standard accessory)
B0729A	Screw 1U	1 unit screw set (Total 4 pcs)
B0730A	Screw 2U	2 units screw set (Total 4 pcs)
B0731A	Screw 3U	3 units screw set (Total 4 pcs)
B0732A	Screw Kit	1U, 2U, 3U screw set (Total 12 pcs)
For MU100020A/MU100021A/MU100022A/MU100023A OTDR Modules		
W3810AE	MT1000A MU100020A Network Master Pro Operation Manual	Printed Matter
J1335A	MU/LC Connector Adapter	Converts ferrule connector diameter from 2.5 mm → 1.25 mm for visible light source (Option 002)
J1530A	SC Plug-in Converter (UPC(P)-APC(J))	SC/UPC → SC/APC Adapter
J1531A	SC Plug-in Converter (APC(P)-UPC(J))	SC/APC → SC/UPC Adapter
J1532A	FC Plug-in Converter (UPC(P)-APC(J))	FC/UPC → FC/APC Adapter
J1533A	FC Plug-in Converter (APC(P)-UPC(J))	FC/APC → FC/UPC Adapter
J1534A	LC-SC Plug-in Converter (for SM, SC(P)-LC(J))	SC/UPC → LC/UPC Adapter for SM fiber
J1535A	LC-SC Plug-in Converter (for MM, SC(P)-LC(J))	SC/UPC → LC/UPC Adapter for MM fiber
NETWORKS	PC Emulation Software for Data Analysis and Reporting	
J1579A	Optical cable SM LC/PC to LC/PC 3 m	
J1581A	Optical cable MM LC/PC to LC/PC 3 meter	
J1575A	Optical cable SM LC/PC to FC/PC 3 m	
J1571A	Optical cable SM LC/PC to SC/PC 3 m	

7) Maintenance Service

Model/Order No.	Description
MT1000A-ES210	2 Years Extended Warranty Service
MT1000A-ES310	3 Years Extended Warranty Service
MT1000A-ES510	5 Years Extended Warranty Service
MU100020A-ES210	2 Years Extended Warranty Service
MU100020A-ES310	3 Years Extended Warranty Service
MU100020A-ES510	5 Years Extended Warranty Service
MU100021A-ES210	2 Years Extended Warranty Service
MU100021A-ES310	3 Years Extended Warranty Service
MU100021A-ES510	5 Years Extended Warranty Service
MU100022A-ES210	2 Years Extended Warranty Service
MU100022A-ES310	3 Years Extended Warranty Service
MU100022A-ES510	5 Years Extended Warranty Service
MU100023A-ES210	2 Years Extended Warranty Service
MU100023A-ES310	3 Years Extended Warranty Service
MU100023A-ES510	5 Years Extended Warranty Service

Example of Ordering Configuration

1)	MT1000A	Network Master Pro
2-1)	MU100020A	OTDR Module (1310/1550 nm SMF)
2-2)	MU100020A-020	Standard Dynamic Range
3-1)	MU100020A-010	UPC Connector
3-2)	MU100020A-037	FC Connector

1)	MT1000A	Network Master Pro
2-1)	MU100021A	OTDR Module (1310/1550/850/1300 nm SMF/MMF)
2-2)	MU100021A-021	Enhanced Dynamic Range
3-1)	MU100021A-011	APC Connector
3-2)	MU100021A-025	FC Connector key width 2.0 mm
4)	MU100021A-002	Visual Fault Locator Option
5)	J0619B	Replaceable Optical Connector (SC)

• One must be specified from items 1), 2-1), 2-2), 3-1), and 3-2), but specification from 1) is not required if the MT1000A main frame is not required.
• When the MU100020A is specified in item 2-1), select from the MU100020A options for models for item 2-2) and later.

Network Master Series

MT9090A Mainframe
MU909014A1/B/B1/C/C6, MU909015A6/B/B1/C/C6 µOTDR Module™

Field Optical Testing Redefined

MT9090A with MU909014/15 Overview

There are many handheld OTDRs on the market that appear to be a good value until they are put into action and the user quickly finds out that they lack the performance needed to install and maintain today's networks.

The new µOTDR Module series MU909014/15 for the Network Master MT9090A platform from Anritsu finally addresses this need by providing all of the features and performance required for installation and maintenance of optical fibers in a compact, modular test set.

The MT9090A represents an unmatched level of value and ease of use, while not compromising performance. Data sampling of 2 centimeters, dead zones of 0.8-meter and dynamic range up to 38 dB ensure accurate and complete fiber evaluation of any network type – premise to access, metro to core...including PON-based FTTx networks featuring up to a 1 × 64 split.

The MT9090A with MU909014/15 module represents a new era in optical fiber testing!

Key Features

- Tri-wavelength OTDR for both installation and maintenance (1310 nm/1550 nm plus filtered 1650 nm or 1625 nm)
- Built-in PON Power Meter, Loss Test Set and Light Source functions
- High-end OTDR performance in a pocket-size package with unique battery operation
- "Fiber Visualizer" mode simplifies operation, no OTDR knowledge needed
- Complete PON testing through splitters up to 1 × 64
- Bluetooth, WLAN and Ethernet connectivity*

∗: These features use an USB Ethernet converter, USB WLAN dongle, or USB Bluetooth dongle.

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A Truly Revolutionary OTDR

Introducing the first handheld OTDR that does not compromise performance – the new µOTDR from Anritsu. With performance that rivals traditional OTDRs that are four times the size and more than double the price, the Network Master MT9090A µOTDR has created a new class of test instruments. It features 2 cm resolution for accurate mapping of events, dead zones of 0.8-meter (2.6-feet) and a dynamic range of up to 38 dB – enough to test over 150 km (90+ miles). The MT9090A µOTDR also takes portability to a new level by being the first handheld OTDR that truly fits in the palm of your hand.

Complete Testing Tool - Premise to Core

With a dynamic range of up to 38 dB, the µOTDR evolves far beyond the premise/access applications that other handheld OTDRs service. Metro links can be tested with lower pulsewidths which provides greater detail and better resolution while long haul fibers up to 175 km (108 miles) can also be completely evaluated.

FTTx and PON Ready

With splitter-based fiber-to-the-x (FTTx) deployments becoming more popular, the need for test equipment to thoroughly test and maintain them has risen. The µOTDR series features the ability to test up to a 1 × 64 split completely from end-to-end and with high resolution.
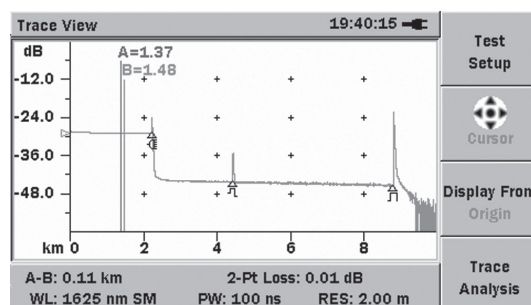
Easy Operation and Analysis

"Fiber Visualizer" is a new fault location function designed to simplify the entire testing process. Fiber Visualizer automatically selects the testing parameters to ensure the correct setup and provides a simple, graphical summary of the fiber under test within seconds.
A comprehensive PDF report can then be customized and generated, completing the testing process.

0.8-m Dead Zone for Short Fiber Analysis

With 0.8-meter dead zones, the MT9090A is perfect for evaluating central office, FTTx and intra building cables.

Fast Real Time Sweeping

The MT9090A μOTDR features real-time updates as quickly as 0.25 seconds. This is useful for connector and splice optimizations as well as verifications of parameter selection.

Portable

The MT9090A μOTDR takes portability to a whole new level. With dimensions of just 19 cm × 9.6 cm × 4.8 cm (7.5" × 3.8" × 1.9") and a weight of only 7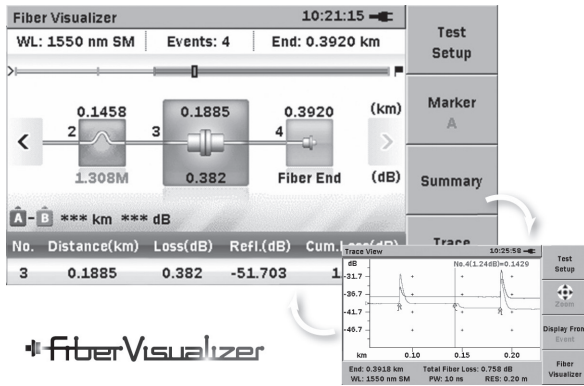00 g (1.54 lbs.), the μOTDR is the smallest and lightest OTDR on the market. With its lightweight design and user friendly dimensions, the MT9090A is perfect for the outside plant environment and can easily be managed with one hand.
The standard soft case with shoulder strap further increases portability when traveling from the truck to the testing site.

Bluetooth, WLAN and Ethernet Connectivity

The Bluetooth feature enables you to share files between the μOTDR series and a PC. The WLAN and Ethernet features enable you to share files as well as use the remote GUI feature. You can connect the μOTDR and PC, and control the μOTDR series from a browser.

Bluetooth:
- Share file folder

WLAN and Ethernet
- Share file folder
- Remote GUI

4.3-inch Wide Screen Display for Easy Viewing

The high resolution, full color, 4.3-inch wide screen display is the perfect format for viewing OTDR results. It also provides excellent readability both indoors and outdoors.

Integrated Launch Fiber

To further simplify testing, the MU909014/15 series is the only handheld OTDR that features an integrated launch cable. A ten meter (30-feet) fiber is built-in so initial fiber connections can be verified without the need for additional patchcords or launch fibers.

Reliable. Capable.

When buying products, you tend to choose ones that are innovative and from established companies.
When you need to install and maintain optical networks, this should also apply. With over 50 years of combined OTDR design, Anritsu, which now includes NetTest, delivers the features that matter.
Having been in the test and measurement business for a long time, we understand the importance of performance, portability, reliability, easy operation and of course price.

Event Table with User Defined Thresholds

PASS/FAIL thresholds for key acceptance criteria such as splice loss, reflectance and total span loss can be set in the MT9090A allowing technicians to easily assess a fiber's condition. Failing values are clearly highlighted in the event table alerting technicians of potential problems.

Unique Battery Operation

Since AC power is not always available where you need it, especially at fiber pedestals, the MT9090A typically provides 8 hours of testing on a single charge. This coupled with an optional car cigarette lighter cord guarantees the MT9090A is ready when you are. μOTDR supports widely available NiMH and Alkaline batteries for truly unique battery operation.

Quick Startup

The MT9090A is ready for measurement in under 15 seconds so productive work can start immediately.

Video Inspection Probe Support

When equipped with the optional connector video inspection probe (G0306B), the μOTDR becomes a powerful tool for evaluating connector cleanliness and quality. The G0306B can reduce issues by verifying the condition and cleanliness of connector end faces during the installation phase.
The G0306B has added a Pass/Fail analysis function to the conventional VIP.
This new function inspects the state of the connector end using video. It can automatically inspect the end of the optical connector for defects and scratches (The automatic pass/fail determination is made in accordance with the IEC61300-3-35 standard.)
You can also create a PDF report on the μOTDR series.
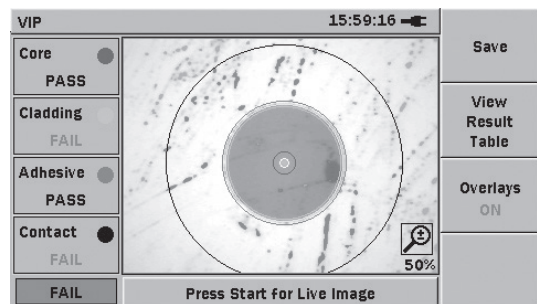
Screen Capture Function

Screen shots are sometimes useful for adding to reports so the MT9090A features the ability to save screen shots as Bitmap images.

Functions for FTTx

One μOTDR module supports FTTx installation and maintenance (PON Power Meter, Loss Test Set, Light Source) in addition to μOTDR functions. (See page 35 for details.)

Installation and Maintenance Simplified

Since the MT9090A is designed for technicians of any level, its hardware and user interface are optimized for simplicity. A customizable testing sequence and "Full Auto" mode automates testing and guides novice users. Specialized maintenance wavelengths are also available to eliminate equipment damage and transmission interruptions.

Installation Simplified

The MU909014/15 µOTDR Module series provides easy and accurate verification of fiber installations at 1310 nm, 1490 nm and 1550 nm to ensure your network is ready for any transmission type. The user simply connects the fiber, selects "Full Auto" and presses "Start" - all settings are automatically selected to ensure accurate and constant results for any skill level. Upon completion, all key fiber characteristics are displayed within seconds. Experienced users can also "fine tune" all testing parameters and make manual measurements.

Step 1 – Connect fiber and Power on

Step 2 – Select "Full Auto" and Press "Start"

All testing parameters are automatically selected.
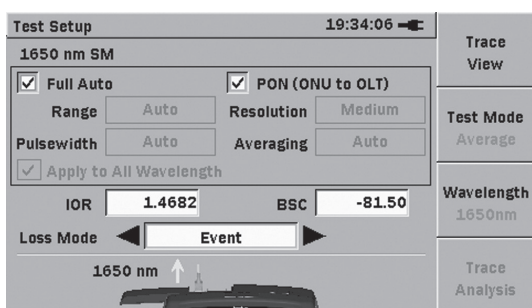
*: The screen items depend on the selected module.

Step 3 – Read Results

Test results including all splices and connectors, as well as total fiber length and loss are shown in an easy to read table.
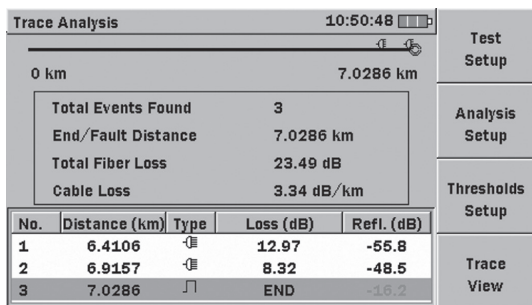
Step 4 – View Trace

View trace if desired to see the complete fiber trace and make any manual measurements.
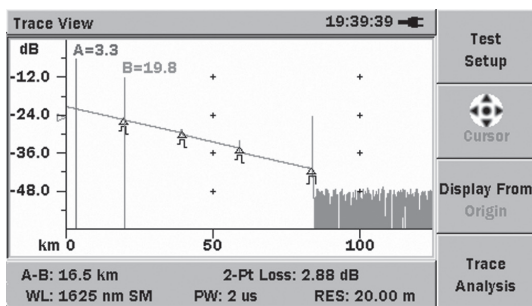
Maintenance Simplified

Being able to test active fibers is a key requirement for network maintenance since multiple users often share portions of the network and taking them all out of service is not an option. To address this need, special modules are available in the MT9090A µOTDR series. 1650 nm is recommended by the ITU-T L.41 for active maintenance since it features 100 nm of isolation from the nearest 1550 nm transmission wavelength. The 1650 nm OTDR also features an integrated filter to block transmissions from damaging the OTDR. 1625 nm is also available and can be used for in-service testing or as an "extra" test to verify installation for stresses such as macrobends.

- Added Macro Bending analysis function
  The µOTDR series finds macro bending points by comparing data from two traces: one 1310 nm and the other 1550 nm.
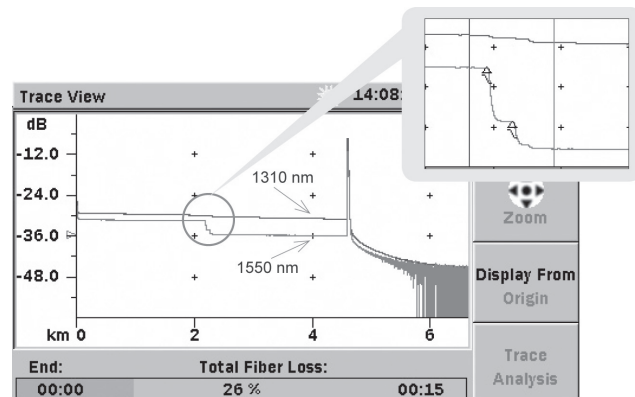
Network Documentation Simplified

- Simple Data Storage
  With internal data storage plus support for external USB memory devices, the MT9090A is more than capable. Add to this auto file saving and naming for easy, error-free documenting of your network.
- Common OTDR Data Format
  The MT9090A supports the universal Telcordia SR-4731 format making it compatible with not only legacy Anritsu and NetTest products, but with many other vendors data.
- Free and Simple Software Upgrades
  Firmware upgrades are easily performed via USB and available from the Anritsu website for registered users or through Anritsu customer support.
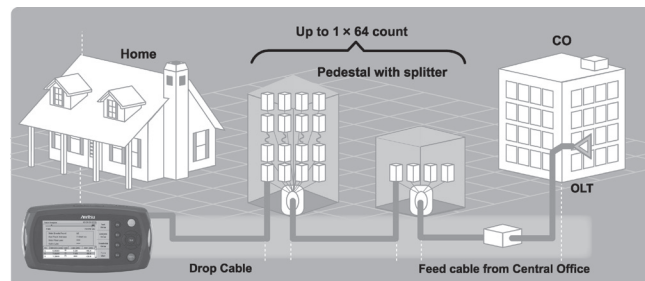
All-in-one FTTx Installation and Maintenance Functions

There are three types of µOTDR module: single wavelength (1625 nm or 1650 nm) for the FTTx maintenance market including Metro networks, dual wavelength (1310 nm/1550 nm) for the installation market, and triple wavelength for both these markets.

These all-in-one µOTDR modules support every function required at fiber installation and maintenance, as well as OTDR functions.

The PON Power Meter and Power Meter are ideal for loss measurements required for quality measurements and basic fault tests.
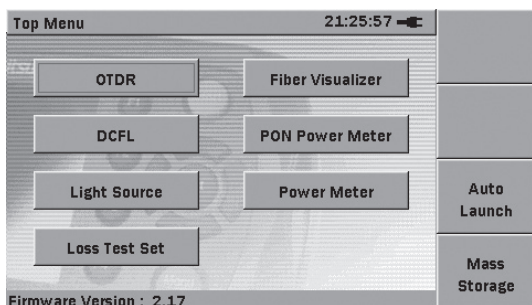
PON Power Meter (1490 nm/1550 nm)

Generally, PON communications use three wavelengths: 1310 nm, 1490 nm, and 1550 nm. Data (1490 nm) and video (1550 nm) signals are sent to subscribers through one optical fiber but a general-purpose optical power meter cannot separate the two wavelengths, making it difficult to locate faults using optical level measurements.

The PON Power Meter can identify and measure the two 1490 nm and 1550 nm signals to support PASS/FAIL evaluations based on a set threshold and reference value. Additionally, power measurements and µOTDR tests are quick and easy without changing the optical fiber because the PON Power Meter port is shared with the µOTDR function.
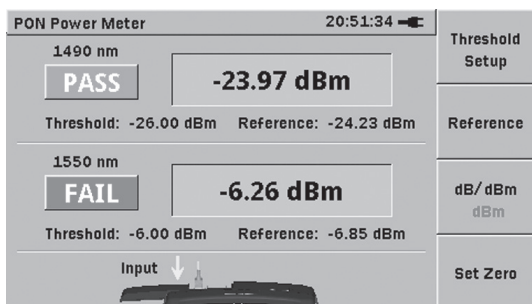
Light Source/Power Meter

The µOTDR module can be used as a light source to identify an optical fiber and measure the loss by connecting an optical fiber identifier and optical power meter at the other end of the fiber. Since all wavelengths are shared by one µOTDR port, the fiber identification, loss, and µOTDR measurements can all be performed as a single task without changing the fiber connection. Both modulation (270 Hz, 1 kHz, 2 kHz) and CW signals are supported.

The simple power meter function is ideal for checking optical levels to confirm a fault occurrence using total received power. Setting a threshold and reference value makes PASS/FAIL evaluation easy too. In addition, power measurements and µOTDR tests are quick and easy without changing the optical fiber, because the Power Meter port is shared with the µOTDR.
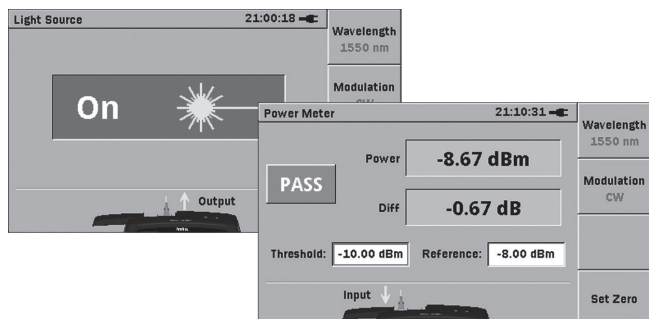
Loss Test Set

Combining the µOTDR module light source with the Power Meter supports use as a Loss Test Set.

The loss at both 1310 nm and 1550 nm can be measured with one µOTDR by looping-back the optical fiber. And both modulation (270 Hz, 1 kHz, 2 kHz) and CW signals are supported. Just setting the threshold and reference value makes PASS/FAIL evaluation easy.
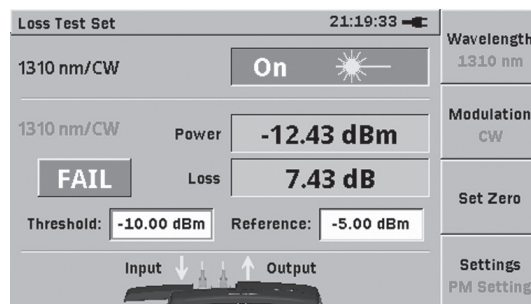
DCFL Function

The Drop Cable Fault Locate (DCFL) mode is a useful function to investigate faults occurring in a drop cable. It consists of the Power Meter function and OTDR function, so you are not required to switch measuring instruments or applications.
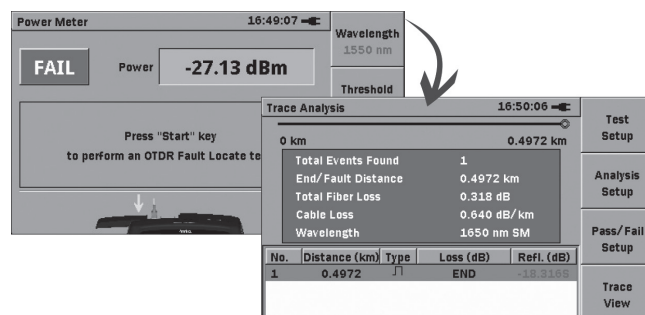
Visible Laser Diode

The optional visible red LD light source makes it easy to spot faults in splices and connectors and well as to manage fibers.

∗: The PON Power Meter, Light Source, Power Meter, Loss Test Set, and Visible Laser Diode functions have different menus, depending on the selected module. See the Ordering Information for details.

∗: The Visible Laser Diode is operated from the µOTDR and Power Meter menus.

∗: The screen items depend on the selected module.

Specifications

Mainframe MT9090A

Dimensions and Mass	190 (W) × 96 (H) × 48 (D) mm (7.5″ × 3.8″ × 1.9″) (including Mainframe and Module) <700 g (1.54 lbs.) (including Mainframe, Module and Standard battery)
Display	4.3-inch TFT Color LCD (480 × 272 pixels, Transmissive)
Interface	USB 1.1, Type A × 1 (memory), Type B × 1 (USB mass storage)

µOTDR Module Common (MU909014C/C6, MU909015C/C6, MU909014A1/B/B1 and MU909015B/B1, MU909015A6)

Fiber Type		10 µm/125 µm SMF (ITU-T G.652)
Optical Connector		FC, SC adapter are changeable
Distance Range		0.5, 1, 2.5, 5, 10, 25, 50, 75, 125, 250 km (IOR = 1.500000)
Pulse Width		5, 10, 20, 50, 100, 200, 500 ns, 1, 2, 5, 10, 20 µs
Linearity		Which ever is greater ±0.05 dB/dB or ±0.1 dB
Return Loss Measurement Accuracy[1]		±2 dB
Distance Measurement Accuracy		±1 m ±3 × Measurement distance × 10^{-5} ±Marker resolution (excluding IOR uncertainty)
Data Storage		Internal memory: 40 MB (<1,000 traces) External (USB Memory): 1 GB (<30,000 traces)
IOR Setting		1.3000 to 1.7000 (0.0001 steps)
Units		km, m, kft, ft, mi
Other Functions		Integrated launch fiber: 10 m (30 ft) Connection check: Automatic check of OTDR to FUT connection quality Live fiber detect: Verifies presence of communication light in fiber Real time sweep: <1 sec (typ.) Macro bend analysis (without single-wavelength model) Bluetooth, WLAN and Ethernet connectivity "Fiber Visualizer (FV)" function "DCFL" function (differs with selected module) Password protect function Video inspection probe (Option)
Language		User selectable (English, Simplified Chinese, Traditional Chinese, Korean, Japanese, French, German, Italian, Spanish, Polish, Portuguese, Finnish, Danish, Swedish, Spanish (Latin America), Russian and Dutch)
Power Supply		9 V(dc), 100 VAC to 240 VAC, Allowable Input voltage range: 90 VAC to 264 VAC, 50 Hz/60 Hz
Fiber Event Analysis		Automatic, Displayed in table format based on user defined PASS/FAIL thresholds
Loss Measurement Modes		2-point loss, Splice loss, dB/km Loss LSA, ORL, Event
OTDR Trace Format		Telcordia universal (.SOR) issue 2 (SR-4731)
Battery		NiMH (Standard battery), NiMH (AA Type), Alkaline Dry Battery (AA Type)[2] Operating time (Standard battery): 8 hours (typ.)[3], Telcordia GR-196-CORE Issue2, September 2010 Recharging time: <4 hours (typ.)[4]
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

µOTDR Module MU909014C/C6 and MU909015C/C6

| Model Name	MU909015C/C6-057 MU909015C/C6-067	MU909015C/C6-058 MU909015C/C6-068	MU909015C/C6-059 MU909015C/C6-069	MU909014C/C6-057 MU909014C/C6-067	MU909014C/C6-058 MU909014C/C6-068
Center Wavelength[5]	1310/1550 ±20 nm[6] 1625 ±15 nm	1310/1550 ±20 nm[6] 1650 ±15 nm	1310/1490/1550 ±20 nm[6]	1310/1550 ±20 nm[6] 1625 ±15 nm	1310/1550 ±20 nm[6] 1650 ±15 nm
Dynamic Range[7],[8] PW = 20 µs	38 dB/37 dB/35 dB[9],[10]	38 dB/37 dB/35 dB[9],[10]	36 dB/35 dB/35 dB	32.5 dB/31 dB/32.5 dB[9],[11]	32.5 dB/31 dB/32.5 dB[9],[11]
PW = 500 ns	27 dB/26 dB/25 dB[9],[10]	27 dB/26 dB/24 dB[9],[10]	25 dB/24 dB/24 dB	24.5 dB/23 dB/24 dB[9],[11]	24.5 dB/23 dB/24 dB[9],[11]
Dead Zone[12] (IOR = 1.500000)	Fresnel: ≤0.8 m (typ.) Backscatter: ≤4.0 m (1310 nm, typ.), ≤4.5 m (1490/1550/1625/1650 nm, typ.)				
Number of Sampling Points[13]	<250,001 pts (Course: <7,501 pts, Medium: <20,001 pts, Fine: <250,001 pts)				
Sampling Resolution	2 cm (min.)				
Testing Modes	OTDR (Full automatic, Manual, Real time), Power Meter, [Video Inspection Probe (Option)] [PON Power Meter, Loss Test Set, Light Source (MU909015C6, MU909014C6)]				
Power Meter	Please refer to the spec "Power Meter"				
PON Power Meter (only for MU909015C6/14C6)	Please refer to the spec "PON Power Meter"				
Light Source (only for MU909015C6/14C6)	Please refer to the spec "Light Source"				
Loss Test Set (only for MU909015C6/14C6)	Please refer to the spec "Loss Test Set"				

Environment	Temperature and Humidity
	  Operating: −10°C to +50°C, <95% (no condensation)
	  Storage: −30°C to +70°C, <95% (no condensation)
	Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51				

Laser Safety[14]	IEC Pub 60825-1: 2007 Class 1M, 21CFR1040.10				

µOTDR Module MU909014A1/B/B1 and MU909015B/B1

Model name	MU909015B/B1-056 MU909015B/B1-066	MU909014B/B1-056 MU909014B/B1-066	MU909014A1-053 MU909014A1-063	MU909014A1-054 MU909014A1-064
Center Wavelength*5	1310/1550 ±20 nm*6		1625 ±15 nm	1650 ±15 nm
Dynamic Range*7, *8 PW = 20 µs	37 dB/36 dB	32.5 dB/31 dB	32.5 dB*9, *11	
PW = 500 ns	28 dB/26 dB	24.5 dB/23 dB	24.5 dB*9, *11	24 dB*9, *11
Dead Zone*12 (IOR = 1.500000)	Fresnel: ≤1 m Backscatter: ≤5 m			
Number of Sampling Points*13	<125,001 pts (Course: <6,251 pts, Medium: <25,001 pts, Fine: <125,001 pts)			
Sampling Resolution	5 cm (min.)			
Testing Modes	OTDR (Full automatic, Manual, Real time), Power Meter, [Visible Fault Locator (Option)], [Video Inspection Prove (Option)]			
Power Meter (only for MU909014B/B1/15B/15B1)	Please refer to the spec "Power Meter"		Not applicable	
Visible Fault Locator (only for MU909014A1/B1/15B1)	Connector: 2.5 mm universal Wavelength: 650 ±15 nm (CW, +25°C) Output power: 0 ±3 dBm (CW, +25°C) Modulation: CW, 1 Hz			
Environment	Temperature and Humidity Operating: –5°C to +40°C, <80% (no condensation) Storage: –20°C to +60°C, <80% (no condensation) Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51			
Laser Safety*14	IEC Pub 60825-1: 2007 Class 1, IEC Pub 60825-1: 2007 Class 1M, IEC Pub 60825-1: 2007 Class 3R (VLD Option), 21CFR1040.10			

µOTDR Module MU909015A6

Model Name	MU909015A6-053 MU909015A6-063	MU909015A6-054 MU909015A6-064
Center Wavelength*5	1625 ±15 nm	1650 ±15 nm
Dynamic Range*7, *8 PW = 20 µs	35 dB*9, *10	
PW = 500 ns	25 dB*9, *10	24 dB*9, *10
Dead Zone*12 (IOR = 1.500000)	Fresnel: ≤0.8 m (typ.) Backscatter: ≤4.5 m (typ.)	
Number of Sampling Points*13	<250,001 pts (Course: <7,501 pts, Medium: <20,001 pts, Fine: <250,001 pts)	
Sampling Resolution	2 cm (min.)	
Testing Modes	OTDR (Full automatic, Manual, Real time), Power Meter, [Video Inspection Probe (Option)] [PON Power Meter, Light Source]	
Power Meter	Please refer to the spec "Power Meter"	
PON Power Meter	Please refer to the spec "PON Power Meter"	
Light Source	Please refer to the spec "Light Source"	
Environment	Temperature and Humidity Operating: –10°C to +50°C, <95% (no condensation) Storage: –30°C to +70°C, <95% (no condensation) Vibration: MIL-T-28800E Class 3, Dust and Drip proof: IP51	
Laser Safety*14	IEC Pub 60825-1: 2007 Class 1, 21CFR1040.10	

*1: Design assurance. Distance range: 25 km, Pulse width: 2 µs, 20 km open the fiber-end. BSC: –78.5 (1310 nm), –80.1 (1490 nm), –81.5 (1550 nm), –82.5 (1625 nm/1650 nm)

*2: All specifications are guaranteed by standard battery.

*3: Back light low, Sweeping halted, +25°C

*4: +10 to +30°C, Power off

*5: At +25°C, 1 µs, except charging battery

*6: Typical value, ±25 nm is Guaranteed

*7: Typical value, Distance range: 125 km, Averaging: 180 sec, SNR = 1, +25°C, Except while charging battery, Subtract 1 dB for guarantee

*8: Dynamic range (one-way back-scattered light)
    SNR = 1: The level difference between the RMS nose level and the level where near end back-scattering occurs.
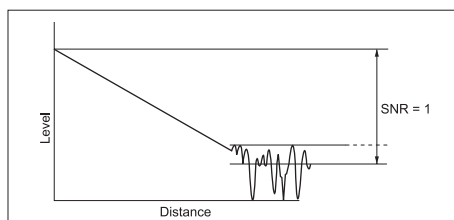
*9: 1490 nm/1550 nm cut filter included (1625 nm or 1650 nm port)

*10: Specified without background light (1625 nm, 1650 nm)

*11: In service Signal is –20 dBm (CW) at 1310 nm/1550 nm

*12: Return Loss 45 dB, +25°C
    Fresnel: PW = 5 ns, 1.5 dB down from the peak of Fresnel
    Backscatter: PW = 5 ns, Deviation ±0.5 dB

/1: Fresnel reflection
/2: Back-scattered light
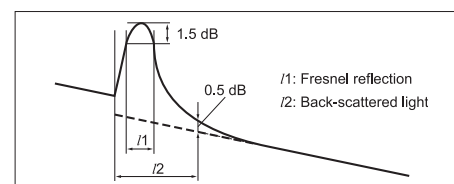
*13: Either medium and fine density value is selected depends on distance range

*14: Safety measures for laser products
    This option complies with optical safety standards, in Class1, 1M, 3R of IEC 60825-1; the following descriptive labels are affixed to the product.
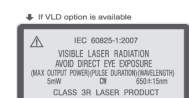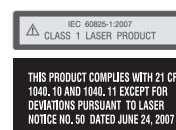
Light Source Function

Models	MU909015C6/14C6, MU909015A6
Wavelength*15	1310/1550 ±25 nm (MU909015C6/14C6) 1490 ±25 nm (MU909015C6-059, MU909015C6-069) 1625 ±25 nm (MU909015C6/14C6-057, MU909015A6-053, MU909015C6/14C6-067, MU909015A6-063) 1650 ±25 nm (MU909015C6/14C6-058, MU909015A6-054, MU909015C6/14C6-068, MU909015A6-064)
Fiber Type	10 µm/125 µm SMF (ITU-T G.652)
Output Port	Shared with OTDR port
Output Power*15, *16	−5 ±1.5 dBm
Output Stability*17	≤0.2 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz
Laser Safety	Same as OTDR

Power Meter Function

Models	MU909015C6/14C6, MU909015A6	MU909015C/14C	MU909015B/B1, MU909014B/B1
Setting Wavelength	1310/1490/1550/1625/1650 nm	1310/1490/1550 nm	1310/1490/1550/1625/1650 nm
Fiber Type	10 µm/125 µm SMF (ITU-T G.652)		
Measurement Range*18	−50 to +26 dBm (CW) −40 to +13 dBm (270 Hz, 1 kHz, 2 kHz)	−50 to −5 dBm (CW)	
Measurement Port	Shared with OTDR port 1625 nm or 1650 nm OTDR port Dedicated port (Options 059 and 069)	Shared with OTDR port 1310 nm/1550 nm OTDR port (Except options 059 and 069) 1310 nm/1490 nm/1550 nm OTDR port (Options 059 and 069)	
Measurement Accuracy*19	±0.5 dB		
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz	CW	

PON Power Meter Function (1490 nm/1550 nm)

Models	MU909015C6/14C6, MU909015A6
Wavelength	1490 nm/1550 nm
Fiber Type	10 µm/125 µm SMF (ITU-T G.652)
Measurement Range	−50 to +13 dBm (1490 nm, CW) −50 to +26 dBm (1550 nm, CW)
Measurement Port	Shared with OTDR port (1625 nm or 1650 nm) Dedicated port (Options 059 and 069)
Measurement Accuracy*20	±0.5 dB
Isolation*21	1490 nm: >35 dB, 1550 nm: >50 dB

Loss Test Set Function

Models	MU909015C6/14C6
Fiber Type	10 µm/125 µm SMF (ITU-T G.652)

Measurement Port	Light Source: Shared with OTDR port
	        1310 nm/1550 nm OTDR port (Except options 059 and 069)
	        1310 nm/1490 nm/1550 nm OTDR port (Options 059 and 069)
	Power Meter: Shared with OTDR port
	        1625 nm or 1650 nm OTDR port (Except options 059 and 069)
	        Dedicated port (Options 059 and 069)

Light Source	
Wavelength	1310 ±25 nm, 1550 ±25 nm (Except options 059 and 069) 1310 ±25 nm, 1490 ±25 nm, 1550 ±25 nm (Options 059 and 069)
Output Power*15, *16	−5 ±1.5 dBm (CW, 25°C)
Output Stability*17	≤0.2 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz
Laser Safety	Same as OTDR
Power Meter	
Setting Wavelength	1310/1490/1550/1625/1650 nm
Measurement Range*18	−50 to +26 dBm (CW) −40 to +13 dBm (270 Hz, 1 kHz, 2 kHz)
Measurement Accuracy*19	±0.5 dB
Modes of Operation	CW, 270 Hz, 1 kHz, 2 kHz

*15: At +25°C, CW
*16: Fiber length 2 m, after the warm-up.
*17: Wavelength 1310 nm/1550 nm, CW, ±1°C at one point within −10°C to +50°C, deference between the largest value and shortest value for one minute, single mode fiber 2 m, when the optical power meter with return loss of 40 dB or more is used. After the warm-up time (10 minutes) passed.
*18: At 1550 nm
*19: 1310 nm/1490 nm/1550 nm, CW, −20 dBm, +25°C, on master connector fiber (FC) use, after zero offset execution.
*20: 1490 nm/1550 nm, CW, −20 dBm, +25°C, on master connector fiber (FC) use, after zero offset execution.
*21: Design assurance.

Ordering information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Select Main Frame

Includes battery pack, AC charger/adapter, standard soft case, strap and protector.

Model/Order No.	Description
Main Frame	
MT9090A	Mainframe
Main Frame Option (Remember to specify)	
MT9090A-001	Dedicated for µOTDR Module

*1: When ordering MT9090A and MT9090A-001, two matching G0202A battery packs are supplied as standard accessories.

*2: This can be used as a neck strap to support waist-level operation.

Model/Order No.	Description
Standard Accessories for MT9090A	
G0202A*1	Replacement NiMH Battery Pack
G0203A	Replacement AC Charger/Adapter
B0601B	For MT9090A with/without Protector. This soft case is a standard accessory for the MT9090A main frame.
Z1023A	Replacement Strap
B0663A*2	Protector
Standard Accessories for MT9090A-001	
G0202A*1	Replacement NiMH Battery Pack

Select Base Module

Model/Order No.	Description
MU909014A1*3	µOTDR (Single wavelength, 30 dB class OTDR with VLD)
MU909015A6*4	µOTDR (Single wavelength, 35 dB class OTDR with PM, PON-PM and LS)
MU909014B*3	µOTDR (2-wavelength, 30 dB class OTDR)
MU909014B1*3	µOTDR (2-wavelength, 30 dB class OTDR with VLD)
MU909015B*3	µOTDR (2-wavelength, 35 dB class OTDR)
MU909015B1*3	µOTDR (2-wavelength, 35 dB class OTDR with VLD)
MU909014C*6	µOTDR (3-wavelength, 30 dB class OTDR)
MU909014C6*6	µOTDR (3-wavelength, 30 dB class OTDR with PM, PON-PM, LTS and LS)
MU909015C*5, *6	µOTDR (3-wavelength, 35 dB class OTDR)
MU909015C6*6, *7	µOTDR (3-wavelength, 35 dB class OTDR with PM, PON-PM, LTS and LS)

*3: One OTDR port (any of 1310 nm/1550 nm, 1625 nm, 1650 nm) and visible light source (option) (Fig. 1)

*4: One OTDR port (1625 nm or 1650 nm) (Fig. 2)

*5: One OTDR port (1310 nm/1490 nm/1550 nm; Options 059 and 069) (Fig. 2)

*6: Two OTDR ports (1310 nm/1550 nm, and 1625 nm or 1650 nm; Except options 059 and 069) (Fig. 3)

*7: One OTDR port and dedicated power meter port (1310 nm/1490 nm/1550 nm, and power meter; Options 059 and 069) (Fig. 3)

Fig. 1

Fig. 2

Fig. 3

Select Module, Connector Interface and Testing Options

Includes operation manual and quick reference guide.

Model/Order No. UPC type	APC type	Description	PM	PON-PM	LTS	LS*7	VLD*8	FV	DCFL
		Installation and Maintenance Models							
MU909014C-057	MU909014C-067	µOTDR (1310/1550/1625 nm, 32.5/31/32.5 dB)	✓*1					✓	
MU909014C-058	MU909014C-068	µOTDR (1310/1550/1650 nm, 32.5/31/32.5 dB)	✓*1					✓	
MU909015C-057	MU909015C-067	µOTDR (1310/1550/1625 nm, 38/37/35 dB)	✓*1					✓	
MU909015C-058	MU909015C-068	µOTDR (1310/1550/1650 nm, 38/37/35 dB)	✓*1					✓	
MU909015C-059	MU909015C-069	µOTDR (1310/1490/1550 nm, 36/35/35 dB)	✓*1					✓	
MU909014C6-057	MU909014C6-067	µOTDR (1310/1550/1625 nm, 32.5/31/32.5 dB)	✓*1	✓*3	✓*5	✓		✓	✓
MU909014C6-058	MU909014C6-068	µOTDR (1310/1550/1650 nm, 32.5/31/32.5 dB)	✓*1	✓*3	✓*5	✓		✓	✓
MU909015C6-057	MU909015C6-067	µOTDR (1310/1550/1625 nm, 38/37/35 dB)	✓*1	✓*3	✓*5	✓		✓	✓
MU909015C6-058	MU909015C6-068	µOTDR (1310/1550/1650 nm, 38/37/35 dB)	✓*1	✓*3	✓*5	✓		✓	✓
MU909015C6-059	MU909015C6-069	µOTDR (1310/1490/1550 nm, 36/35/35 dB)	✓*2	✓*4	✓*6	✓		✓	
UPC type	APC type	**General Purpose Models**							
MU909014B-056	MU909014B-066	µOTDR (1310/1550 nm, 32.5/31 dB)	✓*1					✓	
MU909014B1-056	MU909014B1-066	µOTDR (1310/1550 nm, 32.5/31 dB)	✓*1				✓	✓	
MU909015B-056	MU909015B-066	µOTDR (1310/1550 nm, 37/36 dB)	✓*1					✓	
MU909015B1-056	MU909015B1-066	µOTDR (1310/1550 nm, 37/36 dB)	✓*1				✓	✓	
UPC type	APC type	**Maintenance Models**							
MU909014A1-053	MU909014A1-063	µOTDR (1625 nm, 32.5 dB)					✓	✓	
MU909014A1-054	MU909014A1-064	µOTDR (1650 nm, 32.5 dB)					✓	✓	
MU909015A6-053	MU909015A6-063	µOTDR (1625 nm, 35 dB)	✓*1	✓*3		✓		✓	✓
MU909015A6-054	MU909015A6-064	µOTDR (1650 nm, 35 dB)	✓*1	✓*3		✓		✓	✓

*8: PM (Power Meter) function shared with OTDR port.

*9: Dedicated PM port.

*10: PON-PM (PON Power Meter) shared with 1625 nm or 1650 nm OTDR port. Identifies and measures 1490 nm and 1550 nm wavelengths.

*11: Dedicated PON-PM port. Identifies and measures 1490 nm and 1550 nm wavelengths.

*12: LTS (Loss Test Set) function for measuring 1310/1550 nm wavelengths. Light source shared with 1310/1550 nm OTDR port. Power meter shared with 1625 nm or 1650 nm OTDR port.

*13: LTS function for measuring 1310/1490/1550 nm wavelengths. Light source shared with 1310/1490/1550 nm OTDR port. Power meter is dedicated port.

*14: LS (Stabilized Light Source) shared with OTDR port for each wavelength.

*15: VLD (Visible Laser Diode) function with visible light source port operated from OTDR or Power Meter.
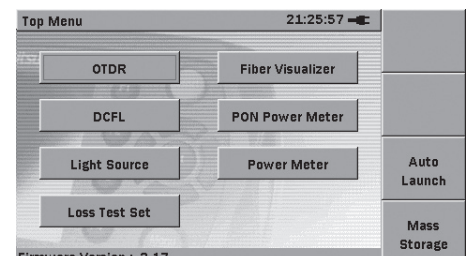
Top Menu differs with selected module

https://www.anritsu.com

Select Connector Adapter

Adapter included at no charge – must be added as a separate line item.

Model/Order No.	Description
MU909014A/B/C-025 MU909015A/B/C-025	FC-APC Connector key width 2.0 mm (APC: Models -063, 064, 066, 067, 068, and 069)
MU909014A/B/C-026 MU909015A/B/C-026	SC-APC Connector (APC: Models -063, 064, 066, 067, 068, and 069)
MU909014A/B/C-037 MU909015A/B/C-037	FC Connector (UPC: Models -053, 054, 056, 057, 058, and 059)
MU909014A/B/C-040 MU909015A/B/C-040	SC Connector (UPC: Models -053, 054, 056, 057, 058, and 059)

Select Accessories

Must be added as separate line items.

Model/Order No.	Description
Z1580A[1]	Protector & Soft Case
B0663A[2]	Protector
G0203A	AC Adapter (for Replacement)
G0202A	NiMH battery pack (for Replacement)
B0602B	Deluxe Soft Case (for MT9090A)
B0601B	Standard Soft Case
B0600B	Hard Case (for MT9090A)
Z1023A	Strap
J1402A	Car Plug Cord
J1530A	SC Plug-in Converter (UPC(P)-APC(J))
J1531A	SC Plug-in Converter (APC(P)-UPC(J))
J1532A	FC Plug-in Converter (UPC(P)-APC(J))
J1533A	FC Plug-in Converter (APC(P)-UPC(J))
J1534A	LC-SC Plug-in Converter (for SM, SC(P)-LC(J))
J1535A	LC-SC Plug-in Converter (for MM, SC(P)-LC(J))
W3585AE	Quick Reference Guide (English, Printed)
W3586AE	Operation Manual (English, Printed)
Z1579A	Operation Manual (English and Japanese, Electronic (CD-R))
G0306B	Video Inspection Probe (× 400)
NETWORKS	PC Emulation Software for Data Analysis and Reporting

*1: The protector (B0663A) and standard soft case (B0601B) from a set.
    The protector includes a shoulder strap.
*2: The shoulder strap can be used to hang the instrument around the neck while working.

Replacement Adaptors

Must be added as separate line items.

Model/Order No.	Description
J0617B	FC (UPC: Models -053, -054, -056, -057, -058)
J0619B	Replaceable Optical Connector SC (UPC: Models -053, -054, -056, -057, -058) (APC: Models -063, -064, -066, -067, -068)
J0739A	FC (APC: Models -063, -064, -066, -067, -068)
J1602A	Replaceable optical connector (SC) Phosphor bronze
J1603A	Replaceable optical connector (FC) Phosphor bronze

Standard Soft Case B0601B
This standard accessory accommodates the mainframe with fitted protector.

Deluxe Soft Case B0602B
Full Network Master operation without removal from the case. Provides excellent protection for use in hash conditions.
This does not accommodate the mainframe if the protector is fitted.

Hard Case B0600B
This accommodates two mainframes (with or without fitted protector), accessories (light source or power meter, backup battery, fiber cleaner, etc.).

Mainframe with Protector

Protector B0663A (Standard accessory)
The mainframe with fitted protector.
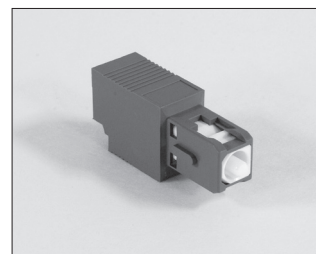
J1530A to J1535A
Plug-in Converter
(The photo shows the J1534A)

G0306B
Video Inspection Probe
(× 400)

https://www.anritsu.com

ACCESS Master

MT9085 Series
1.31/1.55/1.49/1.625/1.65 µm (SMF), 0.85/1.3 µm (MMF)

For Fiber Installation and Maintenance

The ACCESS Master MT9085 series is a compact handheld all-in-one tester for performing OTDR tests, optical loss/power measurements, and optical fiber end-face inspections. It has a wide variety of applications, ranging from installation and maintenance (I&M) of trunk fibers (Core, Metro, Access, Mobile Fronthaul, Mobile Backhaul) to troubleshooting Access networks, such as breaks in drop cables.

8-inch
Wide Touch Screen

Hard keys
Easy Operation

The easy to use rotary knob and hard keys support efficient manual waveform analysis.

Easy Analysis
Fiber Visualizer

Fiber events, such as splices, connectors, splitters, etc., are displayed as schematic icons along with loss and reflectance Pass/Fail evaluation results for at-a-glance confirmation.

FiberVisualizer

Fast Realtime Sweep Mode with High SNR

Supports Various Measurement Environments

Realtime measurement, fast sweeping is useful for position identification by bending the fiber, while high-SNR sweeping makes it easy to view the waveform. These two sweep modes can be applied in various measurement environments.
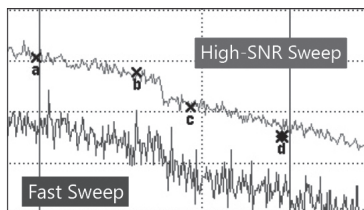
Up to 1 × 128 Branches

Identify Events for Each Splitter and Branch Information
Multiple PON splitters can be identified using high-quality waveforms, and events at each splitter are Pass/Fail evaluated based on preset threshold values.
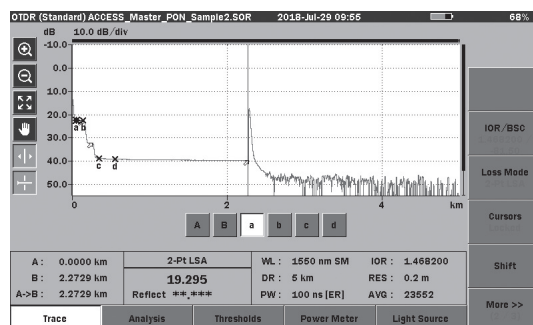
Accurate Event Detection and Loss Measurement

Multi-pulse Measurement is Supported with a 46-dB max. Dynamic Range and a Dead Zone of 0.8 m.
Measurement of both short fibers of a few meters to long fibers of more than 100 km is supported. Multi-pulse measurements enable accurate loss and reflection measurements between events separated by short distances.

Basic Applications

Optical Fiber Path Evaluation process

Multiple test are completed when evaluating optical fiber which include, fiber end-face inspection, and optical power/optical loss and OTDR measurements. these test can all be executed using a single MT9085 series unit (require built-in options and external hardware options).
In addition, data file saved for each measurement can be transferred over WLAN or Bluetooth network connection for further management and processing using dedicated PC tools.

Optical Fiber End-face Inspection	Optical Power/Loss Measurement	OTDR Measurement
Switching Measured Fiber Core		
Optical Fiber End-face Inspection	Optical Power/Loss Measurement	OTDR Measurement
Save Data		
Create Report		
Data Management at PC		
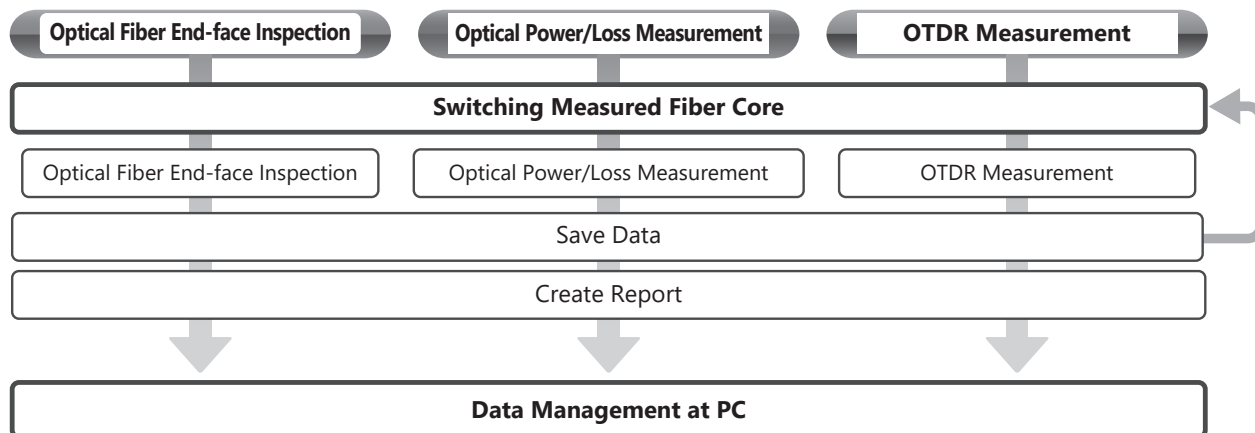
OTDR Measurement

OTDR measurement is a basic function of the MT9085 series. The models in the series support different wavelengths matching the measurement environment. The Fiber Visualizer function displays fiber events as schematic icons for at-a-glance confirmation of splices and connectors along the fiber length with automatic Pass/Fail evaluation of fiber loss and reflectance. Moreover, manual analysis of loss and reflectance using a combination of the rotary knob, hard keys and marker operations assures the same easy operability as previous ACCESS Master series. The excellent waveform quality supports both PON measurements as well as realtime short to long-distance fiber measurements.

MT9085 Series OTDR Product Line

Option	Wavelength	Dynamic Range	Feature
MT9085C-053	1310/1550 nm SM	46/46 dB	General-purpose model for installation and maintenance (I&M)
MT9085C-057	1310/1550/1625 nm SM	46/46/44 dB	Model for effective wavelength maintenance using macrobend analysis
MT9085B-053	1310/1550 nm SM	42/41 dB	General-purpose model for installation and I&M
MT9085B-055	1310/1550 nm, 1650nm SM	41/41 dB, 35 dB	Model with built-in filters for live circuit maintenance
MT9085B-056	1310/1490/1550 nm SM	42/41/41 dB	Model for FTTx/PON I&M
MT9085B-057	1310/1550/1625 nm SM	40/39/38 dB	Model for effective wavelength maintenance using macrobend analysis
MT9085B-058	1310/1490/1550/1625 nm SM	42/41/41/40 dB	Model for FTTx/PON I&M; supports sectioned evaluation of CWDM wavelength band
MT9085B-063	1310/1550 nm SM 850/1300 nm MM	42/41 dB, 29/28 dB	All-in-one model for SMF and MMF I&M
MT9085A-053	1310/1550 nm SM	39/37.5 dB	General-purpose model for installation and I&M
MT9085A-057	1310/1550/1625 nm SM	37/35.5/32.5 dB	Model for effective wavelength maintenance using macrobend analysis
MT9085A-063	1310/1550 nm SM 850/1300 nm MM	39/37.5 dB, 29/28 dB	All-in-one model for SMF and MMF I&M
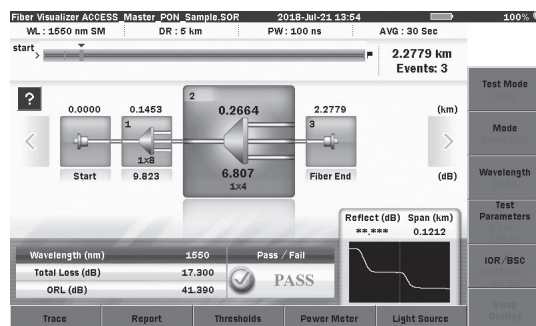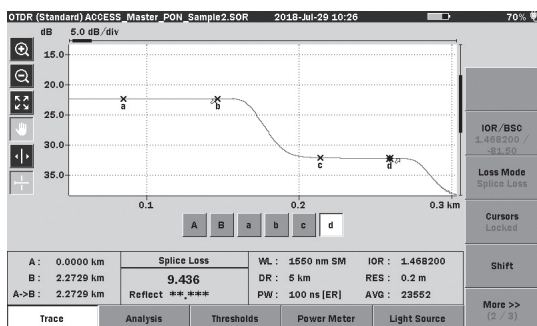
Optical Power/Loss Measurement

Optical power and loss measurement is a key basic function for confirming the optical fiber installation condition and fault status.
The OTDR measurement module functions as a light source outputting laser light. The optical power meter function built into a dedicated port option supports optical loss measurements (OLTS) using one tester.

MT9085 Series Optical Power Meter (Option) Product Line

These are specified as OTDR module options.

Option	Outline	Measurement Range
MT9085A/B/C-004	SMF Optical Power Meter	−50 to +23 dBm
MT9085A/B/C-005	SMF High Input Optical Power Meter	−43 to +30 dBm
MT9085A/B/C-007	SMF/MMF Optical Power Meter	−67 to +6 dBm
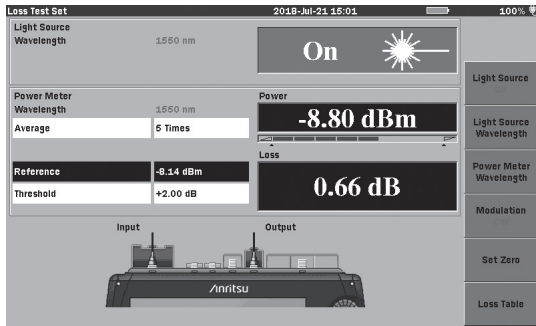
CMA5 Series: Light Source/Optical Power Meter
The CMA5 series is an optical power meter and optical loss tester for optical power and loss measurements.
For more details, see the separate catalog for the CMA5 series.

Visual Light Source Test

The visual light source is used when monitoring light leaking from the optical fiber core at fiber breaks.

MT9085 Series Visual Light Source (Option) Product Line

It is specified as an OTDR module option.

Option	Outline
MT9085A/B/C-002	Visual Fault Locator
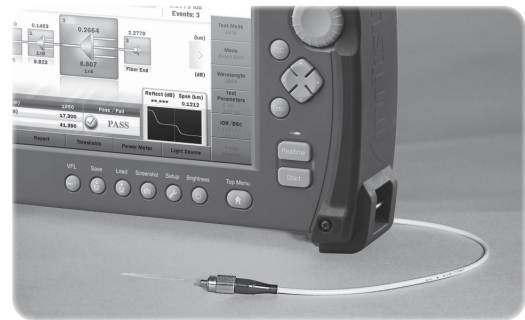
Optical Fiber End-face Inspection

Scratches and dirt on the ferrule end face of connectors is a main cause of signal transmission loss and reflections, which severely degrade transmission quality. Moreover, the optical fiber end face requires inspection and cleaning to assure accurate OTDR and optical power/loss measurements.
Using the MT9085 series in combination with the Video Inspection Probe G0306B external option (sold separately) supports end-face inspections.

Video Inspection Probe (External Attachment Option) Product Line

Option	Outline
G0306B	Video Inspection Probe

Saving Data Files and Creating Reports

On-site measurement data captured using the MT9085 series can be saved in each original measurement application data file format as well as in various other formats, including PDF reports. Moreover, these data can be shared with a PC via interfaces such as WLAN, Bluetooth, USB Memory, etc., for further waveform analysis and reporting at the PC using dedicated software tools based on the on-site captured original data files.
∗ Communications over WLAN and Bluetooth require a USB dongle adapter. Files can also be shared via Ethernet, USB memory, and USB cable.

WLAN
Bluetooth
Ethernet
USB Memory
USB Cable

On-site   ACCESS Master MT9085 series   PC   In back office
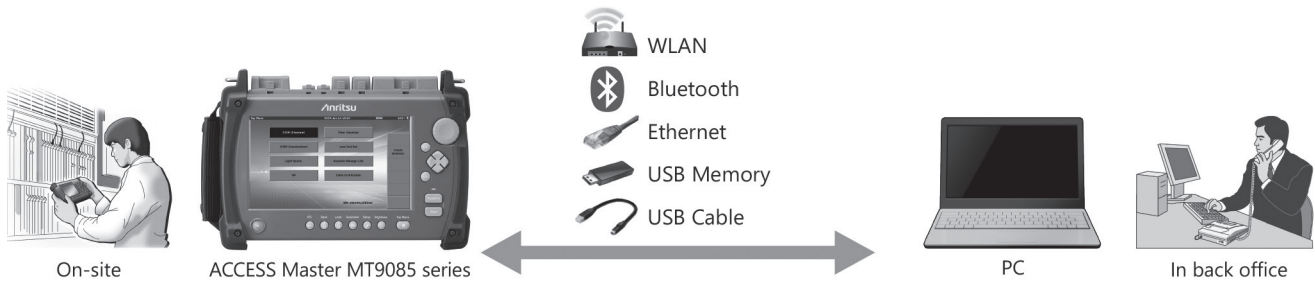
MT9085 Series Measured Data Save Methods

	Original Data Files	Screen Capture	.csv File	PDF Report Output
OTDR	✓	✓		✓
OLTS		✓	✓	
VIP	✓	✓		✓

Windows PC Analysis Tools

OTDR	NETWORKS • Waveform analysis of original data file (.sor) saved by MT9085 • Report creation
VIP	Connector Master MX900030A • Analysis of loaded data file (.vipi) originally saved by MT9085 + G0306B

Managing Measured Data

Each OTDR, OLTS, and VIP data set measured on-site using the MT9085 series can be saved as the original data file or as a .csv file. The screen capture function is useful when wanting to keep a simple record of the measured data. Saving is easy using the shortcut key at the bottom of the screen.
At OTDR and VIP measurement, saving the file in the original data format (.sor, .vipi) is useful for further waveform data analysis back at the office either by reloading the data onto the MT9085 series or onto a PC. Moreover, in addition to creating a PDF report, reports combining the OTDR and VIP measurements results can also be created.
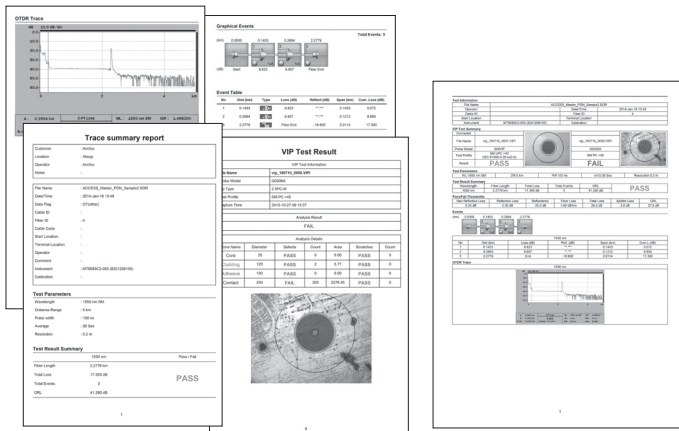
PDF Report Output

Waveform analysis and report creation for on-site OTDR measurement data results (.sor) on a PC can be performed using the dedicated Analysis Software NETWORKS (sold separately).
Similarly, VIP measurement data can also be analyzed on a PC using the dedicated Connector Master MX900030A software.
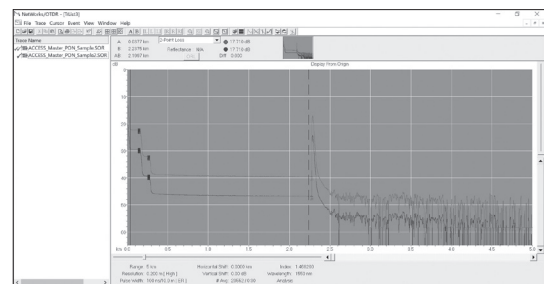
Waveform Analysis and Report Creation using NETWORKS

External Data File Transmission and Communications Control

In addition to transferring data files from the MT9085 series to a PC using either USB memory or a USB cable, data can also be transferred using WLAN and Bluetooth networks (requires external USB WLAN adapter). Communications over either WLAN or Ethernet interface can be controlled remotely using a Web browser GUI or remote commands. (Ethernet connection requires an external USB-Ethernet conversion cable.)
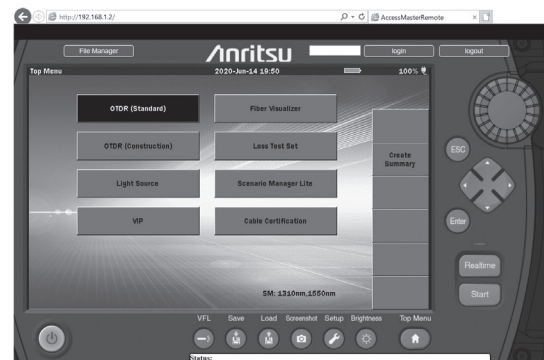
Remote GUI Control by Web Browser

Specifications

ACCESS Master MT9085A/B/C Common

Dimensions and Mass	Without Protector	Dimensions: 270 (W) × 165 (H) × 61 (D) mm, 10.6 × 6.5 × 2.4 inches
		Mass: 1.6 kg without battery, 1.9 kg including battery
	With Protector (option 010)	Dimensions: 284 (W) × 200 (H) × 77 (D) mm, 11.2 × 7.9 × 3 inches
		Mass: 2.6 kg including battery
Display	8-inch touch screen TFT-Color LCD	
Interface	USB 2.0: Type A × 3 (memory), USB1.1: MicroB × 1 (USB mass storage) ＊ USB power supply is 500 mA	
Wireless Interface	WLAN/Bluetooth ＊ via USB adapter connected to USB port	
Data Storage	Internal memory: 1 GB (up to 50,000 traces), External memory (USB): up to 32 GB	
Power Supply	12 V(dc), 100 VAC to 240 VAC, Allowable input voltage range: 90 V to 264 V, 50 Hz/60 Hz	
Battery	Type: Lithium ion Operating Time[*1]: 12 hours, Telcordia GR-196-CORE Issue 2, September 2010 Recharge Time: <5 hours (power off)	
Power Consumption	20 W max (recharging), 4 W standard (low backlight, sweep stopped)	
Power Saving Functions	Backlight off: Disable/1 to 99 minutes Auto shutdown: Disable/1 to 99 minutes	
Vertical Scale	0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10.0 dB/div	
IOR Setting	1.300000 to 1.700000 (0.000001 steps)	
Units	km, m, kft, ft, mi	
Languages	User selectable (English, Simplified Chinese, Traditional Chinese, French, German, Italian, Korean, Portuguese, Russian, Spanish, Swedish and Japanese)	
Sampling Points[*2]	Up to 150,001	
Sampling Resolution	0.05 m to 60 m	
Reflectance Accuracy	Single mode: ±2 dB (When measuring the non-connected end of an approximately 25 km length fiber, Distance range: 50 km, Pulse width: 2 µs) Multimode: ±4 dB (When measuring the non-connected end of an approximately 4.5 km length fiber, Distance range: 10 km, Pulse width: 100 ns)	
Distance Accuracy	± 1 m $\pm 3 \times$ measurement distance $\times 10^{-5} \pm$ marker resolution (excluding IOR uncertainty)	
Loss Measurement Accuracy (Linearity)	±0.05 dB/dB or ±0.1 dB (whichever is greater)	
Distance Range	Single mode: 0.5, 1, 2.5, 5, 10, 25, 50, 100, 200, 300 km Multimode: 0.5, 1, 2.5, 5, 10, 25, 50, 100 km	
Testing Modes	Fiber Visualizer: Provides end/break location, end to end loss, fiber length, easy graphical summary, PDF report, Standard OTDR: User selectable automatic or manual set-up Construction OTDR: Automated, multi-wavelength testing Light source: Stabilized Light source (CW, 270 Hz, 1 kHz, 2 kHz output) Loss test set (optional): Power meter and Light source Connector Video Inspection Probe (optional) Visual fault locator (optional): Visible red light for fiber identification and troubleshooting	

Fiber Event Analysis	Auto or manual operation, displayed in table format
	User defined Pass/Fail thresholds:
	  Reflective and non-reflective events: 0.01 to 9.99 dB (0.01-dB steps)
	  Reflectance: 70.0 to 20.0 dB (0.1-dB steps)
	  Fiber end/break: 1 to 99 dB (1-dB steps)
	Number of detected events: up to 99
	Macrobend detection	

OTDR Trace Format	Telcordia universal. SOR, issue 2 (SR-4731)	
Other Functions	Real time sweep[*3]: 0.15 sec. Loss modes: 2-point loss, dB/km, 2-point LSA, splice loss, ORL Averaging modes: Timed (1 to 3600 s) Live Fiber detect: Verifies presence of communication light in optical fiber Connection check: Automatic check of OTDR to FUT connection quality Trace overlay and comparison, Template function, USB keyboard support, Remote control, Remote GUI Password protection feature	
Environmental Conditions	Operating temperature and humidity: –10°C to +50°C, <80% (non-condensing) Storage temperature and humidity: –20°C to +60°C, <80% (non-condensing) Vibration: Conforming to MIL-T-28800E Class 3 Dust proof: MIL-T-28800E (Dust Exposure) Class 2 Drip proof: IP51 (IEC 60529), JIS C 0920 TYPE I complied Shock: MIL-T-28800E Style A (46 cm height , 8 corners, 6 faces ; 14 drops in total, power off), Bump: IEC 60068-2-27, JIS C60068-2-27, Shock-on-desk: MIL-T-28800E(45° angle or 100 mm lifted edge, 4 drops in total , power on)	
CE	EMC: 2014/30/EU, EN61326-1, EN61000-3-2 LVD: 2014/35/EU, EN61010-1 RoHS: 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018	

＊1: Typical, backlight Low, sweeping halted at 25℃
＊2: Either high density value is selected depending on distance range
＊3: Resolution: Low Density

OTDR

MT9085C							
Options	HR/ER Mode*4	Wavelength*5	Fiber Type	Pulse width	Dynamic Range*6, *7	Dead Zone (Fresnel)*8 (IOR = 1.500000)	Dead Zone (Backscatter)*9 (IOR = 1.500000)
MT9085C-053	✓	1310/1550 nm ±25 nm	Single Mode (SMF) 10/125 μm ITU-T G.652	3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	46/46 dB*11 25/25 dB*10 (Pulse width: 100 ns)	≤1 m, 0.8 m (typ.)	≤3.8/4.3 m
MT9085C-057	✓	1310/1550/1625 nm ±25 nm			46/46/44 dB*11 25/25/23 dB*10 (Pulse width: 100 ns)		≤3.8/4.3/4.8 m

MT9085B							
Options	HR/ER Mode*4	Wavelength*5	Fiber Type	Pulse width	Dynamic Range*6, *7, *13	Dead Zone (Fresnel)*8 (IOR = 1.500000)	Dead Zone (Backscatter)*9 (IOR = 1.500000)
MT9085B-053	✓	1310/1550 nm ±25 nm	Single Mode (SMF) 10/125 μm ITU-T G.652	3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	42/41 dB*11	≤1 m 0.8 m (typ.)	≤5/5.5 m
MT9085B-055	✓	1310/1550 nm ±25 nm, 1645 nm to 1655 nm			42/41/35 dB*11		≤5/5.5/6.5 m
MT9085B-056	✓	1310/1490/1550 nm ±25 nm			42/41/41 dB*11		≤6/6.5/6.5 m
MT9085B-057	✓	1310/1550/1625 nm ±25 nm			40/39/38 dB*11		≤6/6.5/7.5 m
MT9085B-058	✓	1310/1490/1550/ 1625 nm ±25 nm			42/41/41/40 dB*11		≤7/7.5/7.5/8.5 m
MT9085B-063	✓	1310/1550 nm ±25 nm, 850/1300 nm ±30 nm	HYBRID (SMF/MMF)*12	SMF: above MMF: 3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000 ns 850 nm: Does not support 1000, 2000, 4000 ns	42/41 dB*11 29/28 dB*11		≤5/5.5 m, ≤4/5 m (3/4 m typ.)

MT9085A							
Options	HR/ER Mode*4	Wavelength*5	Fiber Type	Pulse width	Dynamic Range*6, *7	Dead Zone (Fresnel)*8 (IOR = 1.500000)	Dead Zone (Backscatter)*9 (IOR = 1.500000)
MT9085A-053	✓	1310/1550 nm ±25 nm	Single Mode (SMF) 10/125 μm ITU-T G.652	3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 20000 ns	39/37.5 dB*11	≤1 m 0.8 m (typ.)	≤5/5.5 m
MT9085A-057	✓	1310/1550/1625 nm ±25 nm			37/35.5/32.5 dB*11		≤6/6.5/7.5 m
MT9085A-063	✓	1310/1550 nm ±25 nm, 850/1300 nm ±30 nm	HYBRID (SMF/MMF)*12	SMF: above MMF: 3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000 ns 850 nm: Does not support 1000, 2000, 4000 ns	39/37.5 dB*11 29/28 dB*11		≤5/5.5 m, ≤4/5 m (3/4 m typ.)

Laser Safety*14	IEC 60825-1:2007 CLASS 1M: option 053, 055, 056, 057, 058, 063 21CFR1040.10 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007

*4: HR: High Resolution mode for Short dead zone.
ER: Enhanced Range mode for PON measurement.

*5: 25°C, Pulse width: 1 μs (all except 850 nm, 1300 nm), 850 nm/1300 nm: 100 ns

*6: Pulse widths: 20 μs (Options 053, 055, 056, 057, 058, 063, 1310 nm/1550 nm) at Distance range: 100 km
Pulse width: 4 μs (Option 063, 1300 nm) at Distance range: 25 km
Pulse width: 500 ns (Option 063, 850 nm) at Distance range: 25 km
Averaging: 180 sec., SNR = 1, 25°C

*7: Dynamic range (one-way back-scattered light), SNR = 1: The level difference between the RMS noise level and the level where near end back-scattering occurs.
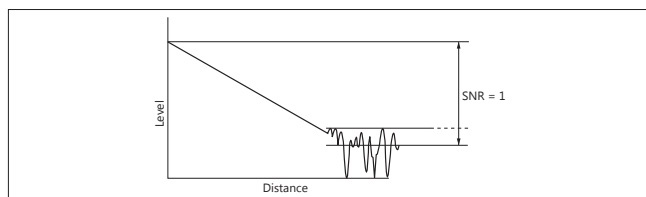
*8: Pulse width: 3 ns (Options 053, 055, 056, 057, 058, 063.)
Return loss: 40 dB, 25°C (Refer to the figure below)

*9: Pulse width 10 ns, return loss 55 dB, Deviation ±0.5 dB, 25°C
(Options 053, 055, 056, 057, 058, 063. All except 850 nm/1300 nm)
Pulse width 3 ns, return loss 40 dB, Deviation ±0.5 dB, 25°C
(Option 063, 850 nm/1300 nm)
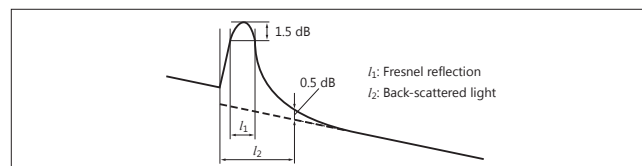
*10: Pulse width: 100 ns (ER Mode), Distance range: 100 km
Averaging: 180 sec., SNR = 1, 25°C

*11: Typical. Subtract 1 dB for guarantee

*12: At measurement of 50 μm/125 μm MM Fiber, the dynamic range drops by about 3.0 dB

*13: At 1650 nm: With background light, 1310/1550 nm, −19 dBm CW light

*14: Safety measures for laser products
This product complies with optical safety standards in IEC 60825-1, 21CFR1040.10 and 1040.11; the following descriptive labels are affixed to the product.
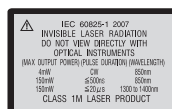
Light Source Specifications – Standard on all models[15]	
Stabilized Light Source (through OTDR port)	
Wavelength[17]	Same as OTDR
Spectral Width[17]	≤5 nm (1310 nm) ≤10 nm (850/1300/1490/1550/1625 nm) ≤3 nm (1650 nm)
Wavelength Accuracy[17]	850/1300/1310/1490/1550/1625 nm: ±30 nm 1650 nm: ±5 nm
Fiber Type	Same as OTDR
Optical Connector	Same as OTDR
Output Power[17]	−5 ±1.5 dBm
Output Stability[18]	≤0.1 dB
Modes of Operation[19]	CW, 270 Hz, 1 kHz, 2 kHz
Laser Safety	Same as OTDR

Power Meter Specifications – Standard on all models[15]	
Standard Integrated Power Meter[16] (through OTDR port)	
Maximum Input	+10 dBm
Measurement Range	−50 to −5 dBm
Fiber Type	Same as OTDR
Optical Connector	Same as OTDR
Accuracy[20]	±6.5%
Setting Wavelengths	1310, 1550, 1625, 1650 nm (Options 053, 055, 057, 063) 1310, 1490, 1550, 1625 nm (Options 056, 058)
Features	Store reference, loss table

Loss Test Set Specifications – Optional on all Models[17], [18]		
Power meters (004, 005 and 007)		
Option	MT9085A/B/C-007	MT9085A/B/C-004	MT9085A/B/C-005
Fiber Type	Single Mode: 10 µm/125 µm (G.652), Multimode: 62.5 µm/125 µm	Single Mode: 10 µm/125 µm (G.652) *PC only for UPC connector	Single Mode: 10 µm/125 µm (G.652)
Measurement Range[21]	−67 to +6 dBm[22] (CW, 1310 nm)	−50 to +23 dBm (CW, 1550 nm)	−43 to +30 dBm (CW, 1550 nm)
Wavelength Range	800 nm to 1700 nm	1200 nm to 1700 nm	
Setting Wavelengths	850, 1300, 1310, 1383, 1490, 1550, 1625, 1650 nm	1310, 1383, 1490, 1550, 1625, 1650 nm	
Optical Connector	Universal – uses LP-XX adapters	Universal – uses JXXXX adapters (same as OTDR)	Universal – uses MA9005B adapters
Accuracy	±5% (1310 nm/1550 nm)[23], ±0.5 dB (850 nm)[23]	±5% (1310 nm/1550 nm)[24]	
Reflectance	—	≥36 dB[25]	—
Modulation	CW, 270 Hz, 1 kHz, 2 kHz		
Features	Save reference, loss table		
Environmental	Operating temperature and humidity: 0°C to +50°C, <80% (non-condensing)		

Visual light Source (Option 002)	
Central Wavelength	650 nm ±15 nm (at 25˚C)
Optical Output	0 ±3 dBm (CW)
Output Optical Fiber	10 µm/125 µm, SMF (ITU-T G.652)
Optical Connector	2.5 mm universal
Laser Safety[26]	IEC 60825-1: 2007 CLASS 3R 21CFR1040.10 and 1040.11 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007
Environmental	Operating temperature and humidity: 0°C to +50°C, <80% (non-condensing)

*15: Some models do not support power meter (See next page)
*16: If Opttion 004, 005 or 007 is ordered, the standard integrated power meter is not available
*17: CW, 25°C
*18: CW, −10°C to 50°C (±1°C) difference between max/min. values over 1 minute, SM fiber 2 m
*19: Modulation +1.5% with 10 minute warm up
*20: CW input, −20 dBm at 1550 nm, 23°C ±2 Using Master FC connector
*21: Peak power, subtract 3 dB for modulated tones
*22: −60 to +3 dBm (Option 007 @850 nm)
*23: CW, at −10 dBm (1310/1550 nm), At −10 dBm (850 nm), 25°C, Using Master FC connector After zero offset
*24: CW, at 0 dBm (1310/1550 nm), 25°C, Using Master FC connector, After zero offset
*25: Using SM fiber (ITU-T G.652). Reflectance: ≥45 dB
*26: Safety measures for laser products
    This option complies with optical safety standards in IEC 60825-1, 21CFR1040.10 and 1040.11; the following descriptive labels are affixed to the product.
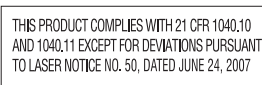
Standard Light Source and Power Meter Built-in

LS: MT9085A/B/C standard built-in stabilized Light Source,
OPM: MT9085A/B/C standard built-in Optical Power Meter

Options	Optical Port	LS	OPM
MT9085A/B/C-053	1310/1550 nm SM	✓	✓
MT9085B-055	1310/1550 nm SM	✓	✓
	1650 nm SM	✓	✓
MT9085B-056	1310/1490/1550 nm SM	✓	✓
MT9085A/B/C-057	1310/1550/1625 nm SM	✓	✓
MT9085B-058	1310/1490/1550/1625 nm SM	✓	✓
MT9085A/B-063	850/1300 nm MM	✓	—
	1310/1550 nm SM	✓	✓

Battery Pack: Z0921A

Battery	Lithium Ion secondary battery
Voltage, Capacity	11.1 V, 4200 mAh
Dimensions and Mass	53 (W) × 19 (H) × 215 (D) mm, 330 g (typ.)
Environmental Conditions	Charging: +5°C to +30°C, ≤80% RH
	Discharging: −20°C to +60°C, ≤80% RH
	Storage: −20°C to +50°C, ≤80% RH

AC Adapter: Z1625A

Rated AC Input	100 VAC to 240 VAC, 50 Hz/60 Hz
Rated DC Output	12 V(dc), 5 A
Environmental Conditions	Operating: 0°C to +45°C, 20 to 80% RH
	Storage: −20°C to +70°C, 10 to 90% RH

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

1) Specify at least one main unit.

Model/Order No.	Name	
	Main Unit	
MT9085C	ACCESS Master High Performance Dynamic Range	
MT9085B	ACCESS Master Enhanced Dynamic Range	
MT9085A	ACCESS Master Standard Dynamic Range	
	Standard Accessories	
Z1991A*1	ACCESS Master Operation Manual CD:	1 pc
W3974AE	MT9085 Series Quick Guide:	1 pc
Z1625A*2	AC adapter:	1 pc
	Line cord:	1 pc
Z0921A	Battery Pack:	1 pc

2) Specify at least one module option (wavelength).

Model/Order No.	Name
	Module Option (OTDR)*3
	High Performance Model
MT9085C-053	SMF 1.31/1.55 μm OTDR
MT9085C-057	SMF 1.31/1.55/1.625 μm OTDR
	Enhanced Model
MT9085B-053	SMF 1.31/1.55 μm OTDR
MT9085B-055	SMF 1.31/1.55/1.65 μm OTDR
MT9085B-056	SMF 1.31/1.49/1.55 μm OTDR
MT9085B-057	SMF 1.31/1.55/1.625 μm OTDR
MT9085B-058	SMF 1.31/1.49/1.55/1.625 μm OTDR
MT9085B-063	MMF 0.85/1.3 μm & SMF 1.31/1.55 μm OTDR
	Standard Model
MT9085A-053	SMF 1.31/1.55 μm OTDR
MT9085A-057	SMF 1.31/1.55/1.625 μm OTDR
MT9085A-063	MMF 0.85/1.3 μm & SMF 1.31/1.55 μm OTDR

3) Specify at least one optical connector.

Model/Order No.*5	Name
	Option (Connector)
MT9085x-025*3	FC-APC Connector Key width 2.0 mm
MT9085x-026*3	SC-APC Connector
MT9085x-037*4	FC Connector
MT9085x-038*4	ST Connector
MT9085x-040*4	SC Connector

4) Choose from the following options.

Model/Order No.*5	Name
	Option (Visual light Source)
MT9085x-002	Visual Fault Locator
	Option (Power Meter)*6
MT9085x-004	SMF Optical Power Meter
MT9085x-005	SMF High Power Optical Power Meter
MT9085x-007	SMF/MMF Optical Power Meter
	Option (Others)
MT9085x-010*7	Protector

*1: Stores operation manual and quick guide
*2: Power cord (J0979) supplied at separate purchase
*3: Can only connect APC-type optical fiber
*4: Cannot only connect APC-type optical fiber
*5: Specify A, B, or C at "x"
*6: Same optical connector or connector adapter supplied as type specified for optical pulse tester
*7: Front Protector B0584A cover supplied with belt as standard

Example of Ordering Configuration

1) MT9085B	ACCESS Master Enhanced Dynamic Range	
2) MT9085B-053	SMF 1.31/1.55μm OTDR	
3) MT9085B-040	SC Connector	
4) MT9085B-002	Visual Fault Locator	
4) MT9085B-007	SMF/MMF Optical Power Meter	
4) MT9085B-010	Protector	

- Requires one each for items 1) to 3)
  When specifying Model B, select from B-type options for items 2) to 4).
- 3) When specifying SC connector at 3), SC connector will be used at power meter in item 4).

With Protector (Option)
(The Protector Cover B0584A is supplied with a carrying strap as standard.)
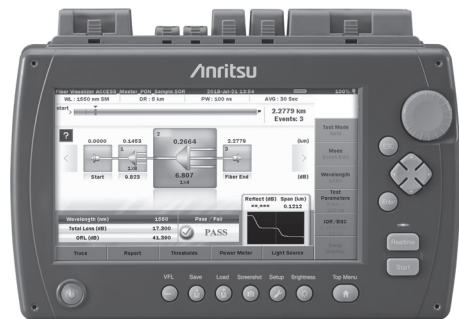
Without Protector

5) Choose from the following when specifying application parts, peripherals, consumables, etc.

Model/Order No.	Name	Description
	Application Parts	
W3971AE	MT9085 Series Operation Manual	Printed. Electronic version included on accessory CD Z1991A.
W3972AE	MT9085 Series SCPI Remote Control Operation Manual	Printed. Electronic version included on accessory CD Z1991A.
B0745A	Softcase	
B0582A	Soft carrying case	With shoulder strap. Can also accommodate main unit with fitted Option 010 Protector
B0583A	Hard transit case	Dimensions 420 (W) × 330 (H) × 148(D) mm
B0549	HARD CARRYING CASE	
B0584A	Front cover	Option 010 Protector cover only
Z0921A	Battery Pack	Li-ion Secondary battery, 11.1 V(dc), 4200 mAh
Z1632A	Battery Charger	Li-ion battery charger
J1295	CAR PLUG CORD	
J0617B	Replaceable optical connector (FC-PC)	For OTDR port, For option power meter port (MT9085A/B/C)
J0618D	Replaceable optical connector (ST)	For OTDR port, For option power meter port (MT9085A/B/C)
J0618F	Replaceable optical connector (HMS-10/A)	For OTDR port, For option power meter port (MT9085A/B/C)
J0619B	Replaceable optical connector (SC-PC)	For OTDR port, For option power meter port (MT9085A/B/C)
J0739A	Replaceable optical connector (FC-APC)	For OTDR port (MT9085A/B/C)
J1697A	Replaceable optical connector (SC-APC)	For OTDR port (MT9085A/B/C)
J0057	OPTICAL ADAPTER FC TYPE	FC-FC connector (JJ adapter)
J1335A	MU/LC connector adapter	Ferrule connection adapter 1.25 mm → 2.5 mm for visual light source (Option 002 only)
MA9005B-37	FOR FC CONNECTOR	For option power meter port (MT9085A/B/C-005)
MA9005B-38	FOR ST CONNECTOR	For option power meter port (MT9085A/B/C-005)
MA9005B-40	FOR SC CONNECTOR	For option power meter port (MT9085A/B/C-005)
LP-FC	FC-PC POWER METER ADAPTER	For option power meter port (MT9085A/B/C-007)
LP-ST	ST-PC POWER METER ADAPTER	For option power meter port (MT9085A/B/C-007)
LP-SC	SC-PC POWER METER ADAPTER	For option power meter port (MT9085A/B/C-007)
J1530A	SC PLUG IN CONVERTER (UPC(P)-APC(J))	Converts main unit SC/UPC connector to SC/APC
J1531A	SC PLUG IN CONVERTER (APC(P)-UPC(J))	Converts main unit SC/APC connector to SC/UPC
J1532A	FC PLUG IN CONVERTER (UPC(P)-APC(J))	Converts main unit FC/UPC connector to FC/APC
J1533A	FC PLUG IN CONVERTER (APC(P)-UPC(J))	Converts main unit FC/APC connector to FC/UPC
J1534A	LC-SC Plug-in Converter (for SM, SC(P)-LC(J))	Converts main unit SC connector to LC (SMF only)
J1535A	LC-SC Plug-in Converter (for MM, SC(P)-LC(J))	Converts main unit SC connector to LC (MMF 62.5/125 μm only)
Z0914A	Ferrule cleaner	1 pc
Z0915A	Replacement reel for ferrule cleaner	6 pcs for Z0914A
Z0284	Adapter Cleaner	Stick type (200 pcs/set)
G0306B	Video Inspection Probe	× 400 magnification fixed. Displays fiber end-face condition on ACCESS Master screen and performs Pass/Fail evaluation. Also supports end-face evaluation on PC running MX900030A software downloaded from Anritsu web site.
J1480A	USB-Ethernet converter	For remote GUI connection
	PC Software	
NETWORKS	NETWORKS	Microsoft Windows 10 (32 bit, 64 bit), Windows 8/8.1 (32 bit, 64 bit), Windows 7 (32 bit), Windows XP SP3 (currently Ver. 5.00 at September 2018)

Softcase (B0745A)

Soft Carrying Case (B0582A)

Hard Carrying Case (B0583A)-Attache style

Hard Carrying Case (B0549)
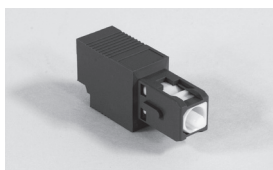
J1530A to J1535A
Plug-in Converter
(The photo shows the J1534A)

Battery Pack (Z0921A)

CAR PLUG CORD (J1295)

Video Inspection Probe (× 400)
(G0306B)

Coherent OTDR

MW90010A

Measure Submarine Cables up to 12,000 km Long with 10 m Resolution
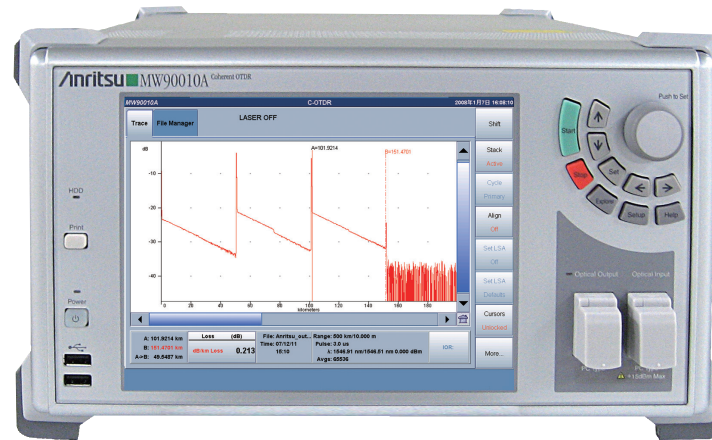
The Coherent OTDR (C-OTDR) MW90010A is a measuring instrument for detecting faults in ultra-long optical submarine cables of up to 12,000 km including multiple repeaters (EDFAs). It is the ideal solution for evaluating new cables at service deployment as well as for troubleshooting in-service faults.

Ultra-long optical submarine cables use optical amplifiers to boost signals. Successful OTDR measurement through the repeaters requires configuring a backscatter detection system using up and down links. The MW90010A can measure the backscatter light through all repeaters by using coherent detection. As a result, it can display every fault condition, such as optical loss between repeaters, bending loss, distances, breaks, etc., on-screen for waveform data analysis.

Features
- Fault detection with 10 m distance resolution
- Compact and lightweight all-in-one design for on-site portability [320 (W) × 177 (H) × 451 (D) mm, 17 kg Max.]
- Simple and easy touch-panel operation for easy first-time use by any operator
- Wide dynamic range supporting fault detection and troubleshooting of submarine cables with repeaters at 80 km or wider intervals
- Built-in tunable light source with high wavelength accuracy of ±0.2 nm for wavelength setting range of 1535.03 nm to 1565.08 nm
- Adjustable output power from 0 to +13 dBm

Application

C-OTDR Measurement Example

- Waveform at installation (Reference comparison)

Distance

- Waveform at fault occurrence

Distance

Fault

Measure Submarine Cables up to 12,000 km Long with 10 m Resolution

The MW90010A can capture data from up to 1.2 million points on the horizontal axis at a fixed resolution of 10 m with no dependency on measured distance. As a result, faults can be located with very high resolution even in fibers longer than 10,000 km.

Lightweight and Compact

In comparison to previous optical submarine cable measuring equipment, the MW90010A is less than half the weight (17 kg max.) and size. The all-in-one design incorporates a tunable light source for easy on-site portability and troubleshooting.

Excellent GUI

Every stage from setting parameters to starting measurement is made easy using the touch-screen. The rotary knob and keypad can be used for operation too. The easy-to-use design coupled with standard interfaces for USB memory, USB mouse, keyboard, and VGA OUT, makes measurement simple even for novice OTDR operators.

Remote Operation Function

The MW90010A has a built-in VNC server. When the MW90010A (server) is connected over Ethernet to a PC (client) running either a Windows or Linux OS, the MW90010A GUI can be remotely controlled from the PC to transfer files between the server and client.

Wide Dynamic Range

Typical optical submarine cables are designed with repeaters every 50 km to 60 km but the high resolution of the MW90010A easily supports fiber loss measurement of these systems as well as fault location of cables with repeaters spaced at more than 80 km.

Simultaneous Display of 8 Waveforms (max.)

Installation and maintenance of optical submarine cables requires comparison of current waveform data with data at cable installation to monitor aging changes. The MW90010A makes this comparison easy because it can display up to 8 waveforms simultaneously, allowing faults to be seen at glance by comparing the install waveform with the fault waveform on one screen.

Waveform Analysis using Emulation Software

Waveform data measured and saved by the MW90010A can be analyzed on a PC running a Windows OS using the optional NETWORKS (version 4.1 or newer) emulation software (sold separately).

Measurement setup for Dynamic Range

MW90010A

Fiber

Fiber

ASE

Ps = −57 dBm
Pase = −20 dBm/nm

Specifications

Coherent OTDR MW90010A

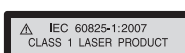|	
Fiber Under Test	ITU-T G.653 (DSF)
Optical Connector	FC, SC, DIN, HSM-10/A, ST (Replaceable, PC type)
Wavelength (Probe Light)	1535.03 nm to 1565.08 nm (ITU-T Grid, Wavelength in vacuum setting with 50 GHz steps)
Wavelength Accuracy	±0.2 nm (+20°C to +30°C)
Warm-up Time	30 minutes (+20°C to +30°C)
Loading Light Source (Dummy)	" wavelength of probe light " +50 GHz or –50 GHz The loading wavelength can be selectable at +50 GHz or –50 GHz of the probe (OTDR) wavelength.
Pulse Width	3, 10, 30, 60, 100 µs
Optical Output Power	0 to +13 dBm, 0.5 dB steps

Dynamic Range
(one way, S/N=1)
(See the block diagram on previous page)
	>17 dB
	Measurement Conditions:
	  Pulse width: 10 µs, Average times: 2^{16}, Distance range: 1000 km, Smoothing: On, Ps: –57 dBm @ Pin[*1]
	  Pase: –20 dBm/nm @ Pin[*1]

Dead Zone	0.5 km (Pulse width: 3 µs)
Distance Measurement Accuracy	±10 m ±0.5 × 10^{-6} × measurement value (m) This does not include optical fiber refraction index (IOR) based uncertainty.
Vertical Scale	0.02, 0.05, 0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10.0 dB/div
Distance Range	100 km, 500 km to 12,000 km (in 500 km steps)
Sampling Resolution (IOR = 1.500000)	10 m
Measurement Time	15 minutes (Distance range: 1000 km, Average times: 2^{16})
Average Times	2^8 to 2^{24}
Ior Settings	1.300000 to 1.700000 (0.000001 steps)
Monitor Output	–25 to –15 dBm (for OTDR Wavelength Monitor)

Other Functions	• Real Time Measurement
	• Multiple Trace Display (8 Waveforms max.)
	• Zoom & Shift
	• Loss Calculation
	  Splice Loss, 2Pt Loss, 2Pt LSA, dB/ km Loss, dB/km LSA, 2Pt & dB/km, 2Pt & dB/km LSA
	• File Save formats
	  GR-196, SR4731
	• USB Memory support
	• Internal Memory (2.8 GB)
	• Print
	  External printer, Hard copy (file: PDF)
	• Distance Unit
	  miles, feet, kilofeet, meters, kilometers
	• File Utility
	  File: Copy, Paste, Delete
	  Folder: Create new
	• Help function
	• Remote Control Function (Option)

Display	8.4 inch, XGA (1024 × 768) color LCD with touch panel
Interface	USB (2 ports, REV1.1), Mouse (USB), Keyboard (PS/2), VGA
Power Supply	100 VAC to 120 VAC/200 VAC to 240 VAC, 50 Hz to 60 Hz, ≤300 VA
Dimensions and Mass	320 (W) × 177 (H) × 451 (D) mm, <17 kg
Environmental Conditions	Temperature: +10°C to +35°C (operating), –10°C to +50°C (storage) Humidity: <85% RH Vibration: Conforms to MIL-STD-810D

CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

Laser Safety Level[*2]	IEC 60825-1: 2007
	  CLASS 1M: Optical Output Port
	  CLASS 1: Monitor Port
	21CFR1040.10
	Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007

*1: Ps: Maximum backscatter level at the input [dBm]
    Pase: ASE level at the input [dBm]
*2: Safety measures for laser products
    This product complies with optical safety standards in 21CFR1040.10 and IEC 60825-1; the following descriptive labels are affixed to the product.

  IEC 60825-1:2007
INVISIBLE LASER RADIATION
DO NOT VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS
(MAX OUTPUT POWER)(PULSE DURATION) (WAVELENGTH)
  50mW   CW   1535-1570nm
CLASS 1M LASER PRODUCT

IDENTIFICATION LABEL
ANRITSU CORP.
5-1-1,ONNA,ATSUGI-SHI
KANAGAWA 243-8555,JAPAN
MANUFACTURED AT:TOHOKU ANRITSU CO., LTD
KORIYAMA PLANT,   .20

  IEC 60825-1:2007
CLASS 1 LASER PRODUCT

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

Model/Order No.	Name	
	Main Frame	
MW90010A	Coherent OTDR	
	Standard Accessories	
	Power Cord:	1 pc
W3030AE	MW90010A Operation Manual (CD-R):	1 copy
	Options	
MW90010A-001	Remote Control Function	
MW90010A-002*1	OS Upgrade to WES2009	
MW90010A-101	Remote Control Function Retrofit	
MW90010A-102*2	OS Upgrade to WES2009 Retrofit	
	Options (Optical Connector)	
MW90010A-037*3	FC Connector	
MW90010A-038*3	ST Connector	
MW90010A-039*3	DIN 47256 Connector	
MW90010A-040*3	SC Connector	
MW90010A-043*3	HMS-10/A Diamond Connector	
	Application Parts	
NETWORKS	Emulation Software (Version 4.1 or newer)	
B0335C	Carrying Case	
B0604A	Rack Mount Kit	
J0617B	Replaceable Optical Connector (FC-PC)	
J1409A	Replaceable Optical Connector (ST)	
J1410A	Replaceable Optical Connector (DIN)	
J1411A	Replaceable Optical Connector (SC)	
J1412A	Replaceable Optical Connector (HMS-10/A)	
J0057	Optical Adapter FC type	
J0635*4	Optical Fiber Cord with FC-PC at both ends (SM, with FC-PC at both ends)	
J0952A	FC · PC-FC · APC(SG)-1M-SM	
Z0914A	Ferrule Cleaner	
Z0915A	Replacement Reel for Ferrule Cleaner (6 pcs/set)	
Z0284	Adapter Cleaner (Stick type, 200 pcs/set)	
W3024AE	MW90010A Operation Manual (Printed version)	
Z0397A*5	FC Adapter Cap	
Z0412A*5	DIN Adapter Cap	
Z0413A*5	SC Adapter Cap	
Z0414A*5	HMS-10 Adapter Cap	

*1: Please be sure to specify.

*2: Factory (in Japan) option.

*3: Required option
    Specify the optical connector type. The same type of connector will be supplied
    for the optical output port, optical input port, and optical monitor port.

*4: Specify the optical fiber length as A, B or C (A: 1 m, B: 2 m, C: 3 m)

*5: Monitor Output Port optical connector cap. Specify exchangeable optical
    connectors (J1409A, J1410A, J1411A, J1412A and J0617B) as a pair.

Optical Loss Tester/Light Source/Optical Power Meter

CMA5 Series

Optical Loss Tester/Light Source 850, 1300, 1310, 1550 nm/Optical Power Meter 850, 1300, 1310, 1490, 1550, 1625 nm

Compact and Lightweight for Optical Fiber Installation and Maintenance

The CMA5 series (Optical Loss Tester/Light Source/Optical Power Meter) measures optical loss and power for optical fiber I&M.
The CMA5 series are compact and lightweight, its excellent cost performance and simple operation with the required minimum number of functions make it ideal for onsite I&M. Service engineers can choose from three models — optical loss tester, optical source, and optical power meter — to match the onsite application.

Features

Optical Loss Tester
- All-in-one light source and optical power meter supporting SM (1310 nm/1550 nm) and MM (850 nm/1300 nm) fiber
- Compact and lightweight (300 g)
- Measures +23 dBm max. optical power*1
- 20 hours of battery (dry cell) operation*2
- Useful fiber identification modulation function (270 Hz, 1 kHz, 2 kHz and CW)

*1: SM type (CATV model) only
*2: With 9-V alkaline batteries using optical source and optical power meter

Light Source
- Supports MM model (850 nm/1300 nm), SM model (1310 nm/1550 nm)
- Lightweight at only 250 g
- 16 hours of continuous running with 9 V alkaline battery
- Light source for fiber identification (270 Hz, 1 kHz, 2 kHz and CW)

Optical Power Meter
- Lightweight at only 250 g
- 40 hours of continuous running with 9 V alkaline battery
- Measures up to +23 dBm optical power*3

*3: CATV model

Specifications

Optical Loss Tester

Optical Loss Tester*		
SM Model	1310 nm/1550 nm (Power Meter: Standard)	
	1310 nm/1550 nm (Power Meter: CATV)	
MM Model	850 nm/1300 nm	

*: One 9 V alkaline battery as standard. No AC adapter.

Model/Order No.	5LT35	5LT35C	5LT83
Light Source Port			
Supported Optical Fiber	10 µm/125 µm SM fiber, PC-polished		62.5 µm/125 µm MM fiber, PC-polished
Emitter Type	LD		
Wavelength	1310 nm/1550 nm ±20 nm		850 nm/1300 nm ±20 nm
Output Power	≥−7 dBm		≥−7 dBm*1
Source Line Width (FWHNM)	≤5 nm		
Modulation Output	CW, 270 Hz, 1 kHz, 2 kHz (±2%)		
Stability	±0.05 dB/15 minutes		
	±0.10 dB/8 hours (1310 nm/1550 nm) ±0.15 dB/8 hours (850 nm/1300 nm)		
Connector Type	FC/PC, SC/PC, ST/PC (user replaceable)		
Optical Power Meter Port			
Supported Optical Fiber	SM (10 µm/125 µm) MM (50 µm/125 µm, 62.5 µm/125 µm)		
Detector Type	InGaAs		
Calibrated Wavelength	850, 1300, 1310, 1490, 1550, 1625 nm		
Measurement Range*2	−60 to +5 dBm −50 to +10 dBm (850 nm)	−40 to +23 dBm	−60 to +5 dBm −5 to +10 dBm (850 nm)
Accuracy*2	±0.2 dB @ −10 dBm (±0.5 dB @ 850 nm)		
Linearity*2	±0.2 dB		±0.5 dB
Display Resolution	0.01 dB		
Auto-Zero Setting	Supported		
Warm-up Time	60 s		
Connector Type	FC, SC, ST (user replaceable)		
General Specifications			
Input Power	9 V (9 V alkaline battery)		
AC Adapter (Option)	Input: 100 V to 240 V, 50 Hz to 60 Hz Output: 7.5 V		
Battery Operation	40 hours min. (Optical Power Meter) 20 hours min. (Optical Power Meter & Light Source)		
Auto Off Function	5 minutes		
Others	Reference setting function, Loop loss testing function		
Operating Temperature Range	−10°C to +50°C		
Storage Temperature Range	−25°C to +60°C		
Relative Humidity	0 to 95% (no condensation)		

| Model/Order No.	5LT35	5LT35C	5LT83
Dimensions	75 (W) × 145 (H) × 25 (D) mm (excl. rubber cover)		
Mass	300 g (0.66 lbs) or less (excl. rubber cover and 9 V alkaline battery)		
Warranty	3 years		
Laser Safety*3	IEC 60825-1: 2007 CLASS1, 21CFR 1040.10 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007		
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2	
	LVD	2014/35/EU, EN61010-1	
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018	

Specifications assured at 25°C (±3°C)

*1: If a 50 μm/125 μm MM fiber is connected to the optical output port, the rated output power (≥−7 dBm) can not be obtained due to differences in core diameter, NA, and fiber excitation condition. The optical output power can drop by about 2 to 10 dB from the rated output power.

*2: When GI fiber (62.5 μm/125 μm) is connected to optical power meter port.

*3: Safety measures for laser products
This product complies with optical safety standards in 21CFR1040.10 and IEC60825-1; the following descriptive labels are affixed to the product.

⚠ IEC 60825-1: 2007 CLASS 1 LASER PRODUCT
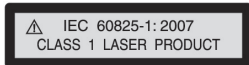
THIS PRODUCT COMPLIES WITH 21 CFR 1040. 10 AND 1040. 11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO. 50, DATED JUNE 24, 2007

Light Source

Light Source*	
SM Model	1310 nm/1550 nm
MM Model	850 nm/1300 nm

*: One 9 V alkaline battery as standard. No AC adapter.

Model/Order No.	5L83	5L35
Emitter Type	LD	
Wavelength	850/1300 ±20 nm	1310/1550 ±20 nm
Output Power*1	−7 dBm*2 (62.5 μm/125 μm MM fiber)	−7 dBm (SM fiber)
Source Line Width (FWHM)	<5 nm	
Modulation Output	CW, 270 Hz, 1 kHz, 2 kHz	
Stability (8 hours)	±0.1 dB (25°C)	
Connector Type	FC, ST, SC (User replaceable)	
Battery Operation Time	16 h (9 V alkaline battery)	
Input Power	9 V (9 V alkaline battery)	
AC Adapter (Option)	Input: 100 V to 240 V, 50 Hz to 60 Hz Output: 7.5 V	
Operating Temperature Range	−10°C to +50°C	
Storage Temperature Range	−25°C to +60°C	
Relative Humidity	0 to 95% (no condensation)	
Dimensions	75 (W) × 145 (H) × 25 (D) mm (excl. rubber cover)	
Mass	250 g	
Warranty	3 years	
Laser Safety*3	IEC 60825-1: 2007 CLASS 1 21CFR 1040.10 Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007	
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

*1: Typical (25°C)

*2: If a 50 μm/125 μm MM fiber is connected to the optical output port, the rated output power (≥−7 dBm) can not be obtained due to differences in core diameter, NA, and fiber excitation condition. The optical output power can drop by about 2 to 10 dB from the rated output power.

*3: Safety measures for laser products
This product complies with optical safety standards in 21CFR1040.10 and IEC 60825-1; the following descriptive labels are affixed to the product.

⚠ IEC 60825-1: 2007 CLASS 1 LASER PRODUCT

THIS PRODUCT COMPLIES WITH 21 CFR 1040. 10 AND 1040. 11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO. 50, DATED JUNE 24, 2007

Optical Power Meter

Optical Power Meter* (Calibrated for 850, 1300, 1310, 1490, 1550, and 1625 nm)	
Standard Model	−60 to +10 dBm
CATV Model	−50 to +23 dBm

*: One 9 V alkaline battery as standard. No AC adapter.

Model/Order No.	5P100	5P100C
Connector Type	FC, SC, ST (User replaceable)	
Fiber Type	MM, SM	
Detector Type	InGaAs	
Calibrated Wavelength	850/1300/1310/1490/1550/1625 nm	
Measurement Range	−60 to +10 dBm −50 to +10 dBm (850 nm)	−50 to +23 dBm
Accuracy*1	±0.2 dB, ±0.5 dB (850 nm)	
Linearity*2	±0.2 dB @ 1310/1550 nm (−60 to +5 dBm) ±0.5 dB @ 850 nm (−50 to +5 dBm)	±0.2 dB @ 1310/1550 nm (−40 to +23 dBm) ±0.5 dB @ 850 nm (−40 to +23 dBm)
Display Resolution	0.01 dB	
Modulation Detection	2 kHz modulation	
Display	4-digit, 7-segment display LCD	
Others	Reference setting function, battery level display, automatic power OFF	
Battery Operation Time	40 hours min. (9 V alkaline battery)	
Input Power	9 V (one alkaline battery)	
AC Adapter (Option)	Input: 100 V to 240 V, 50 Hz to 60 Hz Output: 7.5 V	
Operating Temperature Range	−10°C to +50°C	
Storage Temperature Range	−25°C to +60°C	
Relative Humidity	0 to 95% (no condensation)	
Dimensions	75 (W) × 145 (H) × 25 (D) mm (excl. rubber cover)	
Mass	250 g	
Warranty	3 years	
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

*1: −10 dBm, 25°C (typ.)
*2: 25°C

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

Optical Loss Tester

Model/Order No.	Description	
5LT35-YY*	**Main Frame** Optical Loss Tester 1310 nm/1550 nm (Standard Power Meter)	
5LT35C-YY*	Optical Loss Tester 1310 nm/1550 nm (CATV Power Meter)	
5LT83-YY*	Optical Loss Tester 850 nm/1300 nm (Standard Power Meter)	
	Standard Accessories CMA5 Optical Loss Tester Operation Manual: Rubber Protective Cover: 9 V Alkaline Battery:	1 pc 1 pc 1 pc
GN-3HH-CASE CMA5-POUCH-A CMA5-BAT Z1525A CMA5-AD-LS-FC CMA5-AD-LS-SC CMA5-AD-LS-ST CMA5-AD-LS-ALL3 CMA5-AD-PM-FC CMA5-AD-PM-SC CMA5-AD-PM-ST CMA5-AD-PM-ALL3 J1530A J1532A J1534A J1535A	**Accessories** Hard Case (for two CMA5 series) Carrying Pouch/Shoulder Strap 9 V Alkaline Battery AC Adapter (CMA5) FC Connector Adapter (Light Source Port) SC Connector Adapter (Light Source Port) ST Connector Adapter (Light Source Port) Connector Adapter (FC, SC and ST) FC Connector Adapter (Power Meter Port) SC Connector Adapter (Power Meter Port) ST Connector Adapter (Power Meter Port) Connector Adapter (FC, SC and ST) SC Plug-in Converter (UPC(P)-APC(J)) FC Plug-in Converter (UPC(P)-APC(J)) LC-SC Plug-in Converter (for SM, SC(P)-LC(J)) LC-SC Plug-in Converter (for MM, SC(P)-LC(J)) ∗62.5 μm/125 μm type	

∗: Specify one connector adapter at YY (FU = FC/PC, SU = SC/PC, TU = ST/PC).

The specified connector adapter is fitted at each optical source and power meter connector.

Light Source

Model/Order No.	Description	
5L35-YY*	**Main Frame** Light Source: 1310 nm/1550 nm (Dual wavelength for SM fiber)	
5L83-YY*	Light Source: 850 nm/1300 nm (Four wavelength for MM fiber)	
	Standard Accessories CMA5 Operation Manual: Rubber Protective Cover: 9 V Alkaline Battery:	1 pc 1 pc 1 pc
GN-3HH-CASE CMA5-POUCH-A CMA5-BAT Z1525A CMA5-AD-LS-FC CMA5-AD-LS-SC CMA5-AD-LS-ST CMA5-AD-LS-ALL3	**Accessories** Hard Case (for two CMA5 series) Carrying Pouch/Shoulder Strap 9 V Alkaline Battery AC Adapter (CMA5) FC Connector Adapter SC Connector Adapter ST Connector Adapter Connector Adapter (FC, SC and ST)	

∗: Specify one connector adapter for YY.
FU = FC/PC, SU = SC/PC, TU = ST/PC, FA = FC/APC, SA = SC/APC
(FA = FC/APC and SA = SC/APC cannot be selected for 5L83-YY.)

Optical Power Meter

Model/Order No.	Description	
5P100-YY* 5P100C-YY*	**Main Frame** Optical Power Meter (Standard): –60 to +10 dBm Optical Power Meter (CATV): –50 to +23 dBm	
	Standard Accessories CMA5 Operation Manual: Rubber Protective Cover: 9 V Alkaline Battery:	1 pc 1 pc 1 pc
GN-3HH-CASE CMA5-POUCH-A CMA5-BAT Z1525A CMA5-AD-PM-FC CMA5-AD-PM-SC CMA5-AD-PM-ST CMA5-AD-PM-ALL3	**Accessories** Hard Case (for two CMA5 series) Carrying Pouch/Shoulder Strap 9 V Alkaline Battery AC Adapter (CMA5) FC Connector Adapter SC Connector Adapter ST Connector Adapter Connector Adapter (FC, SC and ST)	

∗: Specify one of FC, SC or ST connector adaptor for YY.

Optical Spectrum Analyzer

MS9740B
600 nm to 1750 nm

Reduce the measurement processing times by up to half compared
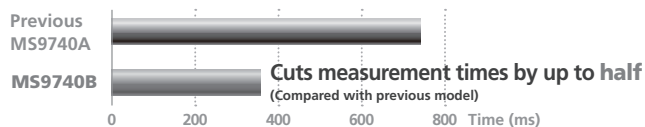
Excellent Eco Product

Reduce the measurement processing times by up to half compared to the earlier model while assuring high performance and complete test menus brings higher-efficiency inspection of active optical devices.

Ideal All-in-One Design for Active Optical Device Evaluation
With all functions and performance needed for evaluating active optical devices, including optical transceivers, VCSL, DFB light sources, etc.

- Wavelength sweeping time <0.35 s[*1,*4]
- Maximum wavelength sweeping time <0.2 s[*2]
- All-in-one function (MM mode) supporting SM and MM fiber[*3]
- Supports LC connectors (using adapter)

∗1: Typical. value. Reduce the sweep time by 50% compared to previous models.
  VBW: 1 kHz_Fast, Resolution: 0.1 nm, Sweep Width: 30 nm, Sampling point: 1,001
*2: VBW: 10 kHz, Resolution: 0.1 nm, Sweep Width: 5 nm, Sampling point: 501
*3: The MS9740B-009 Multimode Fiber Interface option is designed for multimode connections to the optical input section; it supports measurements with high optical sensitivity and high sweep speeds when using a MM fiber with a core diameter of 62.5 μm and a NA of ≤0.275. Although the MS9740B-009 option can also be used to measure SM fiber, some features are different from the standard MS9740B model. For details refer to the MS9740B and MS9740B-009 specifications.
*4: GPIB Interface, SMSR Measurement Time (DFB Light Source), VBW: 1 kHz_Fast (MS9740B)/1 kHz (MS9740A) Setting, 0.1-nm Resolution, 30-nm Sweep Width, 1001 Sample Points

Previous
MS9740A

MS9740B

Cuts measurement times by up to half
(Compared with previous model)

0   200   400   600   800   Time (ms)

High Resolution and Wide Dynamic Range
Supports signal evaluation requiring wide dynamic range and high resolution, such as OSNR analysis of WDM signals.

- Dynamic range >58 dB (at ±0.4 nm from peak wavelength)
- –90 dBm lowest optical sensitivity
- 30 pm minimum resolution
- ±20 pm wavelength accuracy (C/L band, at wavelength calibration using wavelength calibration light source)
- Supports signal level integration function supporting modulation signals
- Accurate noise position estimation using noise fitting function
- Supports optical axis alignment, wavelength calibration, effective resolution calibration functions

Supports Nine Application Modes
Efficient fast measurement is assured by complete menus containing all test items required by various applications plus all-at-once analyses with best items.

Application Name	Test Items
DFB-LD	Spectrum analysis of single longitudinal mode laser
FP-LD	Spectrum analysis of multiple longitudinal mode laser
LED	Spectrum analysis of wideband light source
PMD	PMD characteristics evaluation of optical fiber
Opt. Amp / Opt. Amp (Multi-channel)	Evaluation of fiber amp (EDFA) gain and NF characteristics
WDM	Spectrum evaluation of WDM for up to 300 wavelengths (channels)
LD Module	Evaluation of optical transceiver characteristics
WDM Filter	Analysis of optical bandpass filter

Optical Chip/CAN Device Evaluation

MS9740B

Fiber Probe

Fiber Probe

CAN-LD

CAN-LD
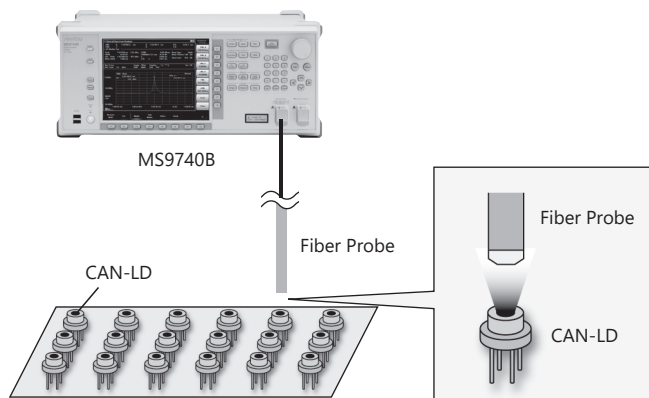
Example of Device Characteristics Evaluation
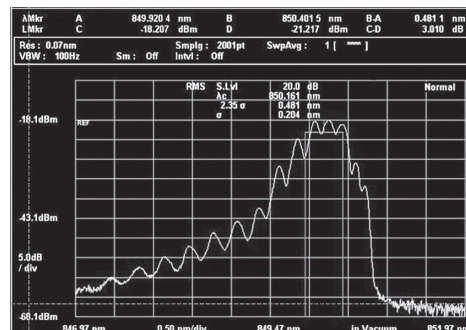
850 nm VCSEL Spectrum Measurement Example

With a built-in Fast mode, the MS9740B supports both a wide dynamic range and high-speed measurement at Rx optical bandwidths (200 Hz and 1 kHz) used most commonly by optical-device production lines. At the same Rx optical bandwidth setting, it retains the same measurement sensitivity as its MS9740A predecessor while cutting measurement times by 50% for better production efficiency.

Specifications

Common

Power Supply		100 VAC to 120 VAC/200 VAC to 240 VAC, 50 Hz to 60 Hz, ≤75 VA
Dimensions and Mass		426 (W) × 177 (H) × 350 (D) mm (excluding projections), ≤15.0 kg (without options)
CE	EMC	2014/30/EU, EN61326-1, EN61000-3-2
	LVD	2014/35/EU, EN61010-1
	RoHS	2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018

Optical Spectrum Analyzer MS9740B

Supported Optical Fiber	SM fiber (ITU-T G.652), 50 µm/125 µm GI fiber[1], PC Connector (reflection attenuation 40 dB or more)
Wavelength Measurement Range	600 nm to 1750 nm
Wavelength Accuracy[2]	±20 pm (1520 nm to 1620 nm, Resolution: 0.03 nm to 0.2 nm)[3], ±100 pm (1520 nm to 1620 nm, Resolution: 0.5 nm, 1.0 nm)[3]
	±300 pm (600 nm to 1520 nm)[4], ±200 pm (1520 nm to 1570 nm)[4], ±300 pm (1570 nm to 1750 nm)[4]
Setting Resolution	0.03, 0.05, 0.07, 0.1, 0.2, 0.5, 1.0 nm (RBW: 3 dB optical filter: transmission bandwidth)
Dynamic Range[2]	High dynamic range: 70 dB (±1 nm from peak wavelength), 60 dB (±0.4 nm from peak wavelength), 42 dB (±0.2 nm from peak wavelength) Normal dynamic range: 62 dB (±1 nm from peak wavelength), 58 dB (±0.4 nm from peak wavelength), 42 dB (±0.2 nm from peak wavelength) [Wavelength: 1550 nm, Resolution: 0.05 nm, Optical Att: Off, 20°C to 30°C]
Sweep[2]	Sweep width: 0.2 nm to 1200 nm, 0 nm
	Sweep time: ≤0.2 s (span: 5 nm, Resolution: 0.1 nm), ≤0.3 s (span: 500 nm) [VBW: 10 kHz, Normal dynamic range, center 1550 nm (span: 5 nm), 1200 nm (span: 500 nm), sweep start to stop, no optical input, sampling point: ≤501] Sweep time: 0.35 s/30 nm (typ.) [VBW: 1 kHz-Fast, dynamic range, center 1550 nm, Resolution: 0.1 nm, sweep start to stop, optical input –10 dBm, sampling point: 1001] Sweep time: 1.65 s/30 nm (typ.) [VBW: 200 Hz-Fast, dynamic range, center 1550 nm, Resolution: 0.1 nm, sweep start to stop, optical input –10 dBm, sampling point: 1001]

*1: The connection loss when connecting 50 µm/125 µm multimode optical fiber degrades the minimum light reception sensitivity.
The MS9740B has an MM mode function to correct correction loss when connecting 50 µm/125 µm multimode optical fiber and to display the level.
The optical loss level is corrected when the MM mode is On. It corrects the level by 14 dB (sum).
Level display errors occur if light is input under other excitation conditions.
*2: Warm-up the instrument for at least 2 hours before measurement by performing repeated sweeping at span ≥100 nm, VBW ≥10 kHz. Perform waveform calibration after auto-optical alignment (Wl Cal) and keep the instrument at the same temperature unless stated otherwise. Use either SM fiber (ITU-T G.652) or GI fiber (50 µm/ 125 µm) with a return loss of >40 dB, or GI fiber (62.5 µm/125 µm) with a return loss of >38 dB.
*3: Built-in MS9740B-002, after Wl cal (ref) wavelength calibration execution, at stable room temperature
*4: After Wl cal (Ext) wavelength calibration execution by external light source, such as Single Longitudinal mode laser (DFB-LD)

Multimode Fiber Interface (50/62.5 μm) MS9740B-009

Supported Optical Fiber	SM fiber (ITU-T G.652), 50 μm/125 μm GI fiber*1, 62.5 μm/125 μm GI fiber*1, PC Connector SM (ITU-T G.652), GI (50 μm/125 μm): reflection attenuation 40 dB or more, GI (62.5 μm/125 μm): reflection attenuation 38 dB or more
Wavelength Measurement Range	600 nm to 1750 nm
Wavelength Accuracy*2	±50 pm (1530 nm to 1570 nm)*3, ±100 pm (1530 nm to 1570 nm)*4
	±300 pm (600 nm to 1750 nm)*5
Setting Resolution	0.07, 0.1, 0.2, 0.5, 1.0 nm (RBW: 3 dB optical filter: transmission bandwidth)
Dynamic Range*2	High dynamic range: 70 dB (±1 nm from peak wavelength, 20°C to 30°C), 60 dB (±0.5 nm from peak wavelength, 20°C to 30°C) 65 dB (±1 nm from peak wavelength, 5°C to 45°C), 55 dB (±0.5 nm from peak wavelength, 5°C to 45°C) Normal dynamic range: 62 dB (±1 nm from peak wavelength, 20°C to 30°C), 58 dB (±0.5 nm from peak wavelength, 20°C to 30°C) 57 dB (±1 nm from peak wavelength, 5°C to 45°C), 53 dB (±0.5 nm from peak wavelength, 5°C to 45°C) [Wavelength: 1550 nm, Resolution: 0.07 nm, using SM fiber, Optical Att: Off]
Sweep*2	Sweep width: 0.2 nm to 1200 nm, 0 nm
	Sweep time: ≤0.2 s (span: 5 nm, Resolution: 0.1 nm), ≤0.3 s (span: 500 nm) [VBW: 10 kHz, Normal dynamic range, center 1550 nm (span: 5 nm), 1200 nm (span: 500 nm), sweep start to stop, no optical input, sampling point: ≤501] Sweep time: 0.35 s/30 nm (typ.) [VBW: 1 kHz- Fast, dynamic range, center 1550 nm, Resolution: 0.1 nm, sweep start to stop, optical input –10 dBm, sampling point: 1001] Sweep time: 1.65 s/30 nm (typ.) [VBW: 200 Hz-Fast, dynamic range, center 1550 nm, Resolution: 0.1 nm, sweep start to stop, optical input –10 dBm, sampling point: 1001]

*1: The NA is 0.2 for 50 μm/125 μm GI fiber and 0.275 for 62.5 μm/125 μm GI fiber.
*2: Warm-up the instrument for at least 2 hours before measurement by performing repeated sweeping at span ≥100 nm, VBW ≥10 kHz. Perform waveform calibration after auto-optical alignment (WI Cal) and keep the instrument at the same temperature unless stated otherwise. Use either SM fiber (ITU-T G.652) or GI fiber (50 μm/125 μm) with a return loss of >40 dB, or GI fiber (62.5 μm/125 μm) with a return loss of >38 dB.
*3: Built-in MS9740B-002, after Wl Cal (Ref), with SM fiber and resolution at 0.07 nm to 0.2 nm
*4: Built-in MS9740B-002, after Wl Cal (Ref), with SM fiber and resolution at 0.5 nm/1.0 nm
*5: After Wl cal (Ext) wavelength calibration execution by external light source, such as DFB-LD, using SM fiber or GI fiber (50 μm/125 μm or 62.5 μm/125 μm)

Please enquire for other details about standard values, such as electrical performance.

Ordering Information
Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

(1) Specify the mainframe

Model/Order No.	Name
MS9740B	**Main Frame** Optical Spectrum Analyzer
Z2024A*1	**Standard Accessories** MS9740B Operation Manual (CD): 1 pc Power Cord: 1 pc

(2) Specify one optical connector

Model/Order No.	Name
MS9740B-037 MS9740B-038 MS9740B-039 MS9740B-040	**Options (Optical Connector)*2** FC Connector ST Connector DIN 47256 Connector SC Connector

(3) Select an option from the list

Model/Order No.	Name
MS9740B-001 MS9740B-101	**Options (Interface)** GPIB Interface GPIB Interface Retrofit
MS9740B-002 MS9740B-102	**Options (Light Source for Wavelength Calibration)*3, *4** Light Source for Wavelength Calibration Light Source for Wavelength Calibration Retrofit
MS9740B-009	**Option (Multimode Fiber Interface)*5, *6** Multimode Fiber Interface (50/62.5 μm)
MS9740B-108*7	**Options (Windows OS)** OS Upgrade to Win10 Retrofit

*1: CD contains Operation Manual for Main Frame and Remote Control.
*2: One free specified optical connector for optical input port.
*3: When MS9740B-002 selected, one more connector specified in (2) supplied free.
*4: Executing wavelength calibration with this option secures ±20 pm (1520 nm to 1620 nm, without MS9740B-009) accuracy.
  The MS9740B supports wavelength calibration with the external light source, such as DFB-LD, but this option assures higher accuracy.
  Refer to the specifications for details.
*5: Factory option and Retrofit not supported.
*6: Optical Spectrum Analyzer MS9740B standard not guaranteed. Refer to Multimode Fiber Interface Option MS9740B-009 Standard.
*7: This option upgrades the Windows Embedded Standard 7 to the Windows 10 Enterprise LTSC. It is performed by Anritsu factory or service center return.

Refer to the separate Catalog for details of functions and specifications.
Contact your Anritsu sales representative for details.

Video Inspection Probe Series

G0382A Autofocus Video Inspection Probe
G0306C Video Inspection Probe

> ### *Optical Connector End Face Inspection*
>
>

Scratches and stains to optic fiber ferrule endfaces are often said to have a negative impact on transmission quality.

When the external optical fiberscope (G0382A USB Autofocus type, G0306C USB Standard type: sold separately) is connected, scratches and dirt on the optical connector endface can be confirmed visually.

The Video Inspection Probe can be connected to the Network Master Pro MT1040A/MT1000A, ACCESS Master MT9085 Series, µOTDR MU909014x/15x Anritsu products and PC.

Products Support

	G0382A	G0306C
Network Master Pro MT1040A	✓	✓
Network Master Pro MT1000A	✓	✓
ACCESS Master MT9085 Series	NA	✓
µOTDR MU909014x/15x	NA	✓
Autofocus VIP Software (For PC) MX900031A	✓	NA
Connector Master (For PC) MX900030A	NA	✓

Features

	G0382A	G0306C
	USB Autofocus type. Based on Auto Operation.	USB Standard type. Based on Manual Operation.
Automatic Focus Adjustment	✓	NA
Automatic Fiber Image Centering	✓	NA
Automatic Image Capture	✓	NA ✓ (MT1040A/MT1000A)*
Pass/Fail Analysis on Screen	✓	✓
Pass/Fail LED	✓	NA
LED Light	NA	✓

✱: It is available to MT1040A/MT1000A VIP application only.

Specifications

G0382A

Magnification	400 times with 7" monitor
Resolution	1.0 µm/pixel
Focus	Automatic
Power	2 W
Interface	USB 2.0
Dimensions	182 (W) × 25 (H) × 48 (D) mm
Mass	152 g
Operation Temperature	−10°C to +50°C
Storage Temperature	−40°C to +70°C
Vibration/Shock proof	MIL-T-28800E (Class3)
CE	EMC: 2014/30/EU, EN61326-1, EN61000-3-2 RoHS: 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
RCM	Australia, New Zealand: AS/NZS 4417:2012

G0306C

Items	Parameter
Interface	USB 2.0 (Compatible USB 1.1)
Display Resolution	640*480
Resolution	<1 µm
Field of View	0.365*0.273 mm
Focus Mode	Manual
Operating Voltage	5 ±0.2 V
Operating Temperature	−10°C to +50°C
Storage Temperature	−40°C to +70°C
Dimensions	33 (W) × 44 (H) × 211 (D) mm
Mass	188 g
Cable Length	1.5 m
CE	EMC: 2014/30/EU, EN61326-1, EN61000-3-2 RoHS: 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018
RCM	Australia, New Zealand: AS/NZS 4417:2012

Ordering information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

G0382A

Model/Order No.	Name
	Main Frame
G0382A	Autofocus Video Inspection Probe
	Standard Accessories
H0383A	1.25PC-M (1.25 mm PC Universal)
H0382A	2.5PC-M (2.5 mm PC Universal)
H0387A	2.5APC-M (2.5 mm APC Universal)
H0385A	LC-PC-F (LC PC Bulk)
H0386A	FC-PC-F (FC PC Bulk)
H0384A	SC-PC-F (SC PC Bulk)
H0398A	SC-APC-F (SC APC Bulk)
	Quick Reference Guide
	Application Parts
H0388A	1.25APC-M (1.25 mm APC Universal)
H0395A	FC-APC-F (FC APC Bulk)
H0393A	LC-PC-F-L (LC PC Long Bulk)
H0394A	LC-APC-F-L (LC APC Long Bulk)
H0396A	ST-PC-F (ST PC Bulk)
H0397A	MU-PC-F (MU PC Bulk)
H0390A	E2000-PC-F (E2000 PC Bulk)
H0392A*	MPO-PC/APC-F (MPO PC/APC Bulk)

Operation Manual and Autofocus VIP Software (For PC) MX900031A can be downloaded from Anritsu public Web site.

*: It is not available to Autofocus and Pass/Fail functions operation.

G0306C

Model/Order No.	Name
	Main Frame
G0306C	Video Inspection Probe
	Standard Accessories
H0383A	1.25PC-M (1.25 mm PC Universal)
H0382A	2.5PC-M (2.5 mm PC Universal)
H0387A	2.5APC-M (2.5 mm APC Universal)
H0385A	LC-PC-F (LC PC Bulk)
H0386A	FC-PC-F (FC PC Bulk)
H0384A	SC-PC-F (SC PC Bulk)
H0398A	SC-APC-F (SC APC Bulk)
	Operation Manual (Printed)
	Application Parts
H0388A	1.25APC-M (1.25 mm APC Universal)
H0395A	FC-APC-F (FC APC Bulk)
H0393A	LC-PC-F-L (LC PC Long Bulk)
H0394A	LC-APC-F-L (LC APC Long Bulk)
H0396A	ST-PC-F (ST PC Bulk)
H0397A	MU-PC-F (MU PC Bulk)
H0390A	E2000-PC-F (E2000 PC Bulk)

Connector Master (For PC analysis) MX900030A can be downloaded from Anritsu public Web site.

Bare Fiber Adapter

FiberConnect

Coupling Unterminated Fiber or Optical Components to Test Equipment

The FiberConnect is the ultimate time saving solution for coupling unterminated fiber or optical components to test equipment.
By allowing the user to perform optical measurements without terminating, which requires additional equipment and procedures, test time can be significantly reduced over 50% compared to other methods. The low loss and highly repeatable connection made using the FiberConnect is similar to that of connectorized fiber.

Optical Specifications

Fiber Type Single-mode	9 μm/125 μm
Multimode	62.5 μm/125 μm or 50 μm/125 μm
Pigtail Length	1 m
Insertion Loss	<0.6 dB (typ.)
Number of Insertions	2000 (min.)
Back Reflectance	<−50 dB

General Specifications

Temperature Range	Operating: −10°C to +50°C (14°F to 122°F) Storage: −40°C to +60°C (−40°F to 140°F)
Connector Types	FC, ST, SC, D4, E2000, LC, DIN
Weight (With Cable)	≤90 g (3.2 oz)
Unit Size (with suction cup)	35 (W) × 32 (H) × 35 (D) mm (1.375 × 1.25 × 1.375 inches)
Case Size	240 (W) × 80 (H) × 200 (D) mm (9.5 × 3.5 × 8 inches)

Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

FiberConnect-X-XXX
X = 1: Single-mode 9 μm/125 μm
X = 2: Multimode 62.5 μm/125 μm
X = 3: Multimode 50 μm/125 μm

XXX = Connector and polish
UFC = Ultra FC
USC = Ultra SC
UST = Ultra ST
AFC = Angled FC (single mode only)
ASC = Angled SC (single mode only)

Package Includes

• FiberConnect
• Maintenance kit
• Magnetic stand
• Manual
• Cleaning brush
• Carrying case
• Index matching oil
• Spare pigtail
• 90 days warranty

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