Anritsu envision : ensure

MT9085 Series
ACCESS Master

MT9085A/B/C

1310/1490/1550/1625/1650 nm (SMF)
850/1300 nm (MMF)

FiberVisualizer

Anritsu OTDR

New

MT9085 Series

The next generation of ACCESS Master


Anritsu
Fiber Visualizer ACCESS Master_PON_Sample.SOR
2018-Jul-21 13:54
AVG : 30 Sec
WL : 1550 nm SM
DR : 5 km
PW : 100 ns
2.2779 km
Events: 3
100%
start
(km)
(dB)
0.0000
0.1453
0.2664
2.2779
6.807
1x8
1x4
9.823
Start
Fiber End
Reflect (dB)
Span (km)
.*
0.1212
Wavelength (nm)
1550
Total Loss (dB)
17.300
ORL (dB)
41.390
Pass / Fail
PASS
Test Mode
Auto
Mode
Event Edit
Wavelength
1550
Test Parameters
5 km / 100 ns
IOR/BSC
1.468200 / -84.60
Swap
Overlay
Trace
Report
Thresholds
Power Meter
Light Source
VFL
Save
Load
Screenshot
Setup
Brightness
Top Menu
ESC
Enter
Realtime
Start

Metro Networks

FTTx

Easy to Use Anytime Anywhere

8-inch
Wide Touch Screen

Easy Analysis
Fiber Visualizer

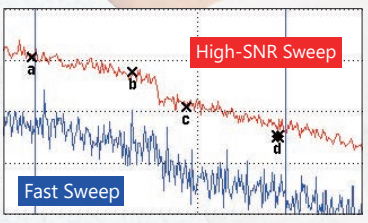
Fiber events, such as splices, connectors, splitters, etc., are displayed as schematic icons along with loss and reflectance Pass/Fail evaluation results for at-a-glance confirmation.

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.



Mobile Fronthaul

Hard keys

Easy Operation

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

Accurate Event Detection and Loss Measurement

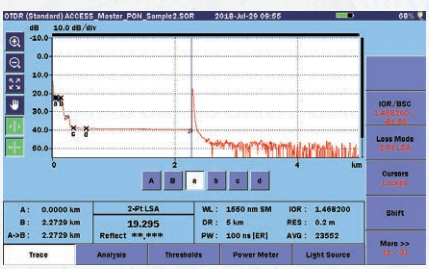
Multi-pulse measurement is supported with a 46-dB max. dynamic range and a dead zone of 0.8 m.

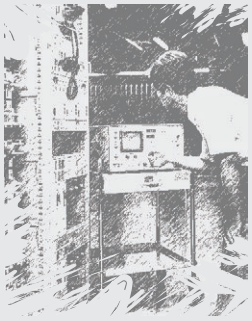
Measurement of both short fibers of a few meters to long fibers of more than 100 km is supported. Multi-pulse measurements enable accurate loss and reflection measurements between events separated by short distances.

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.





History of Anritsu OTDRs

1980

World-first optical pulse tester

This all-inclusive optical pulse tester was developed with a full range of functions, including a light source and optical power meter for measuring and finding faults in optical fibers.

1993

Portable OTDR

With an excellent dynamic range of 35 dB (SNR = 1, pulse width = 10 µs), the shockproof compact portable MW9070A was developed with superior dust and water resistance for on-site work.

2004

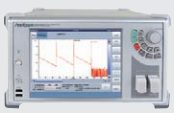
First ACCESS Master Series

This first-generation ACCESS Master incorporated an OTDR, OLTS, and visual light source in one handheld unit

2009

OTDR for Deep-Sea Cable Inspection

This OTDR can find faults in deep-sea optical cables up to 12,000 km in length with a measurement resolution of 10 m. Anritsu is the only company capable of testing the full fiber market from the Field to the Submarine.



2009

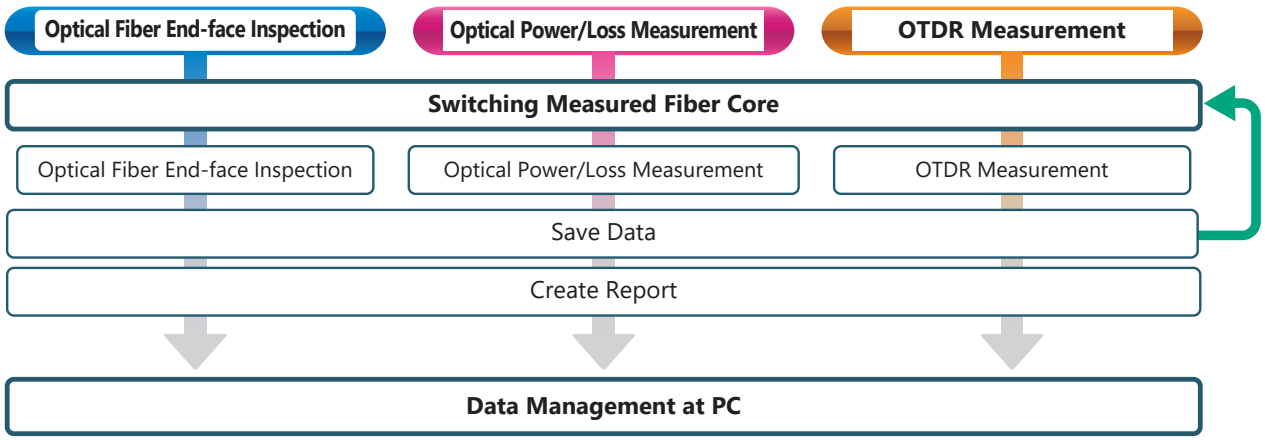
Mini Size OTDR

This small and lightweight OTDR for fiber maintenance OTDR has a maximum dynamic range of 37 dB.

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.

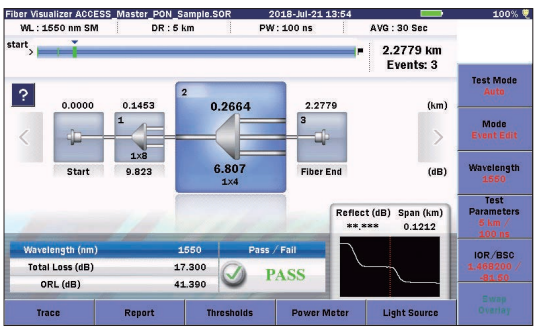


OTDR Measurement

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



Basic Applications

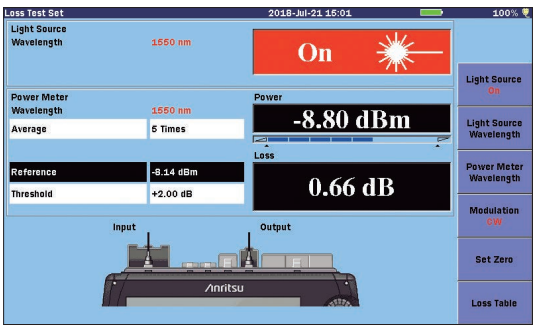
Optical Power/Loss Measurement

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

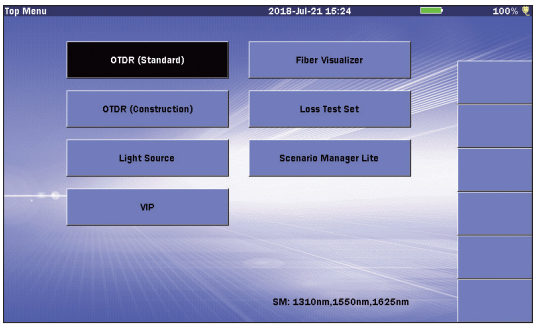
Basic Applications

OTDR | OLTS · Power Meter | Visual Light Source | Fiber Scope

The All-in-one MT9085 series Supports the Various Needs of Fiber I&M

By selecting each application from the top menu. Dedicated hard keys make it easy to move to relevant screens and return quickly to the top menu. Top-menu applications are structured using multiple menus starting with optical pulse tests (OTDR measurements).

* Application menu displays change according to installed options.

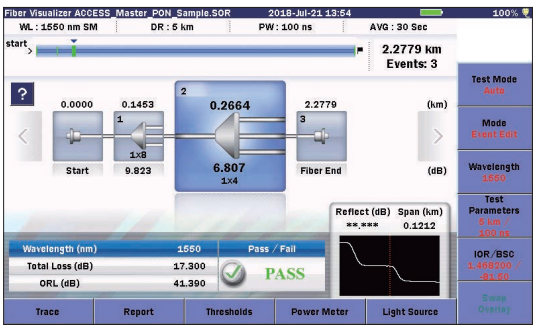


Top Menu Screen

OTDR

First-Time User Easy-to-Understand Pass/Fail Evaluations Fiber Visualizer Function

On-site I&M work sometimes requires use of unfamiliar instruments, depending on the measurement environment. In addition, operation of complex measuring instruments cuts first-time users' work efficiency. The Fiber Visualizer simplifies the procedure from setting the measurement conditions to analyzing the measurement results. In addition, events such as the fiber far end, PON splitters, optical connectors, splices, etc., along the fiber are displayed as schematic icons along with the distance to each event and loss, helping resolve problems quickly.

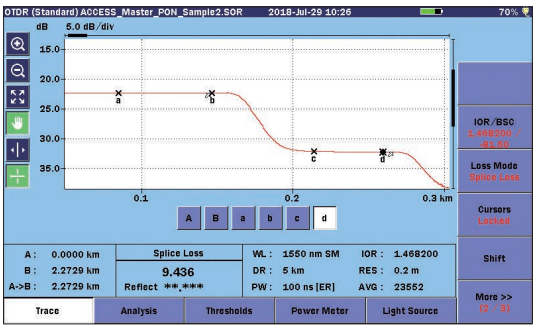


Fiber Visualizer Screen

OTDR

Manual Analysis

Realtime measurements as well as loss and reflectance and analysis of fiber connectors and splices in accordance with installation documentation working procedures are frequently performed manually using either the two-point or LSA method. While keeping the effective rotary knob manual operation of its predecessors, the MT9085 series also has new touch-screen operations for improved operability. The pressure-sensitive touchscreen even supports input without removing work gloves.

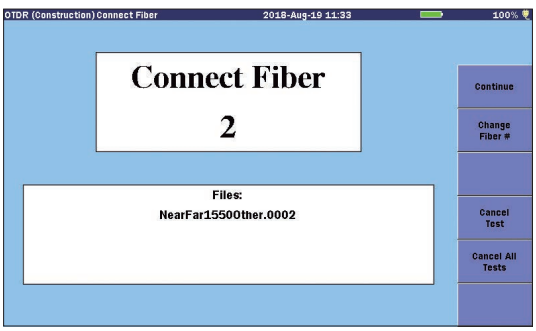


Connection Loss and Reflectance Analysis using Four Markers

OTDR

Multiple Fiber Management: Installation Test Function

Efficient working practices are needed in environments requiring back-office management of both optical fiber cables with multiple Fibers, and multiple fibers. The Installation Test function improves work efficiency by presetting the number of fibers for measurement and the on-site measurement data to perform uninterrupted automatic measurement of multiple fibers.

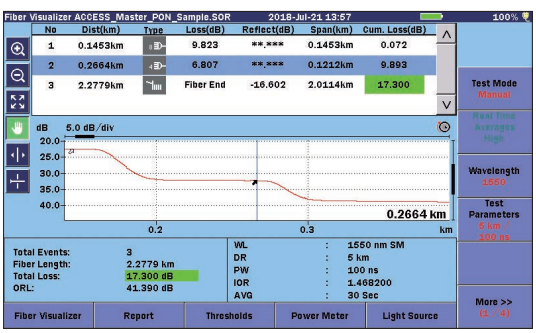


Installation Test Setting Screen

OTDR

PON Network Analysis

The MT9085 series supports PON network measurements for up to 1 × 128 branches. The Fiber Visualizer function can preset information about splitter branches and threshold values to increase the analysis accuracy of event detection.



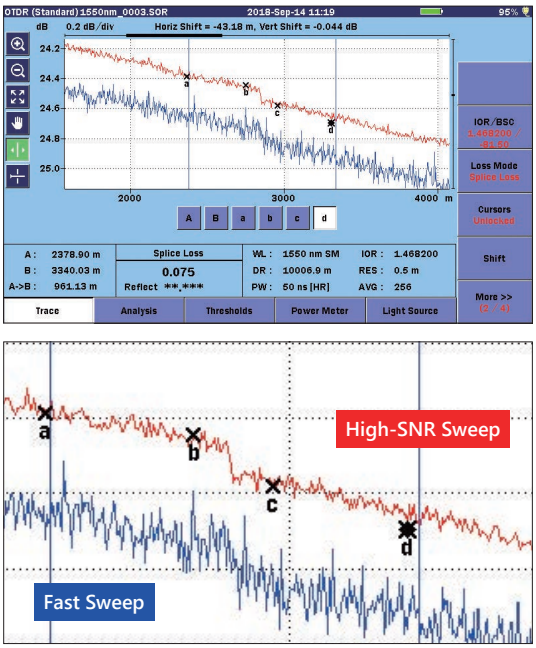
PON Measurement Analysis Screen

Basic Applications

OTDR

Realtime Measurement

The Realtime Measurement function is used when provisionally specifying the position of the fiber far end before starting averaging measurement, and when specifying the position of optical fiber bends. The MT9085 series not only keeps the high-quality realtime waveforms from predecessor ACCESS Master models but also has two high-speed and high S/N measurement modes that can be selected to match the usage environment.
Additionally, the attenuation is adjusted automatically and the trace near the cursor is displayed at optimum quality.

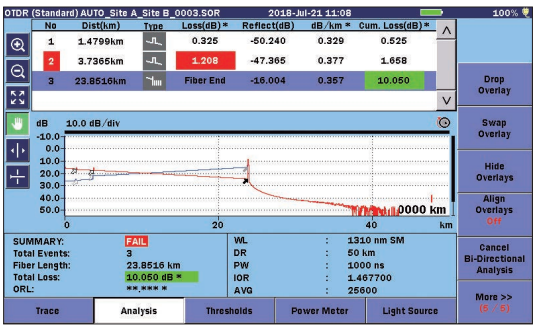


Realtime Measurement Screen

OTDR

Bi-directional Measurement Function

When connecting different types of optical fiber or mixtures of old and new fiber, sometimes it is impossible to measure loss accurately using one-way measurements. The Bi-directional waveform analysis function loads two data files measured for each direction respectively to perform accurate loss analysis using the average analysis values.



Bi-directional Analysis Screen

OTDR

Optical Communications Check Function

Outputting test optical signals from an OTDR into an in-service live optical fiber circuit risks damage to receivers at the opposite side of the communication system. The Optical Communications Check Function detects optical communications on the live circuit, stopping OTDR measurements causing problems on the live circuit.

OTDR

Connection Check Function

Accurate waveform data cannot be captured when the optical fiber connection condition at the OTDR output is bad, which prevents accurate data analysis and evaluation. This function checks the optical fiber connection condition to assure accurate measurement.

OTDR

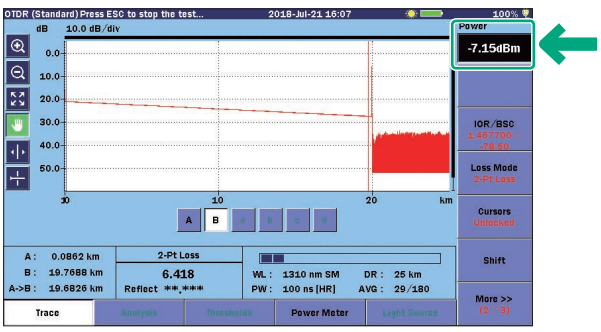
Telcordia Format (SR-4731) Support

The MT9085 series supports the latest Telcordia format used commonly by OTDRs.

OTDR OLTS· Power Meter Visual Light Source

Simultaneous OTDR, Optical Power Meter and Visual Light Source Use

Sometimes installation work orders include multiple procedures such as optical power meter measurements, OTDR measurements, etc. In these cases, the MT9085 series improves work efficiency by supporting multiple measurements at one screen using the optical power meter and visual light source functions on the OTDR measurement screen.



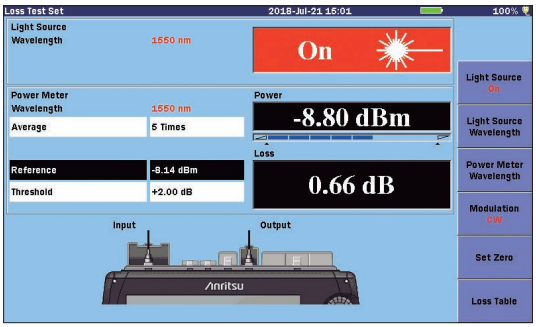
Optical Power Meter Values Displayed at Top-Right of Screen

Basic Applications

OLTS· Power Meter

OLTS (Optical Loss/Power Measurement) Function

A power meter is built into the MT9085 series as standard equipment. The product line includes three optical power meter options, which can be selected according to support for SMF and MMF types and maximum measured level (+30 dBm).

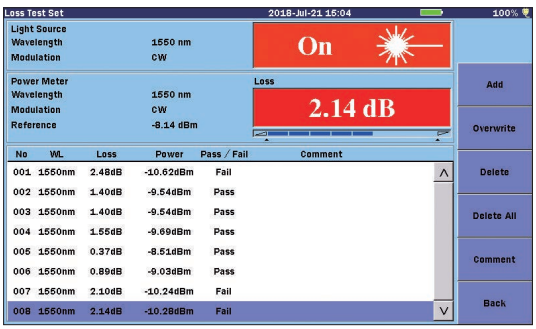


Optical Loss Measurement

OLTS· Power Meter

Measured Power, Loss Logs

Repeat measured optical power meter and optical loss data can be saved as log files that can be output in .csv format.

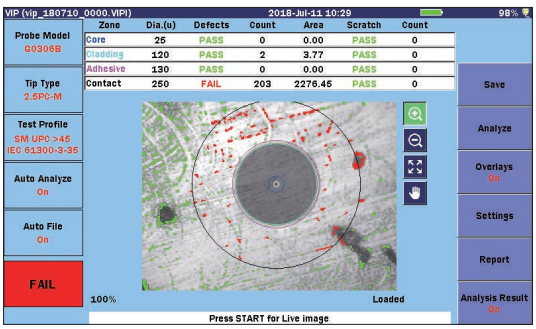


Logged Optical Power and Loss Output Screen

Fiber Scope

IEC61300-3-35 Optical Fiber End-Face Inspection

The condition of the fiber connector end face can be inspected using the MT9085 series in combination with the Fiberscope G0306B (VIP) for automatic Pass/Fail evaluation in accordance with the IEC61300-3-35 standard. Moreover, this Pass/Fail evaluation can also be performed using a PC and the G0306B.



Fiberscope Measurement Screen

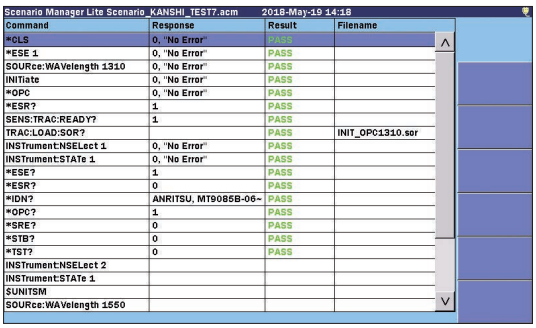
Fiber Scope

Full Line of VIP Tips

The external VIP option comes with seven different tip types on the assumption that various different optical connector end faces will be inspected. Other tip options are available.

Scenario Manager Lite Function

This application executes predefined programs; it records test procedures and test parameters using remote commands in scenarios on the MT9085. Consequently, tests can be executed automatically without requiring a PC for remote control.

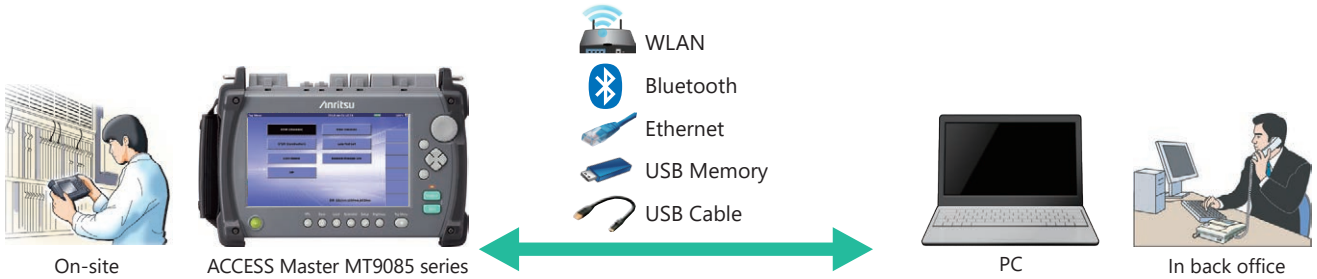


Scenario Manager Function

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.



MT9085 Series Measured Data Save Methods

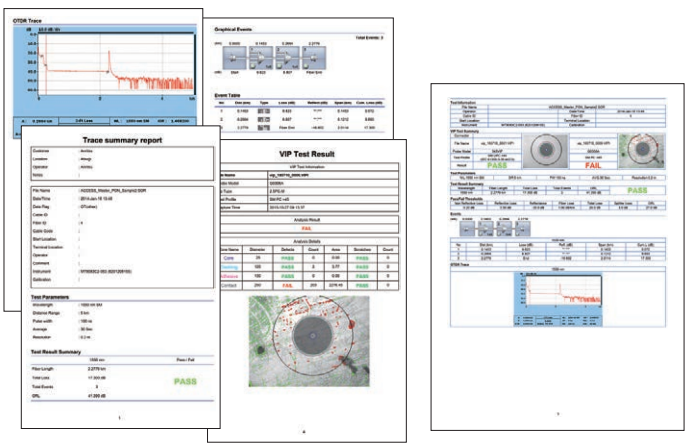
	Original Data Files	Screen Capture	.csv File	PDF Report Output
OTDR	✓	✓		✓
OLTS		✓	✓	
VIP	✓	✓		✓

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

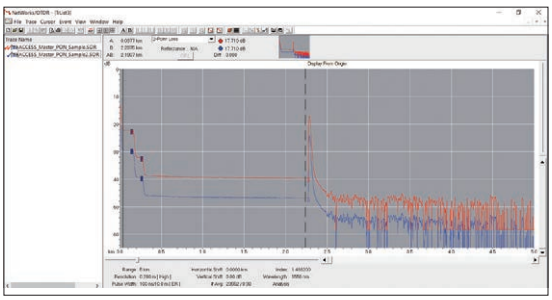
Managing Measured Data

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

Other Useful Functions and Performance

Common

Internal Memory

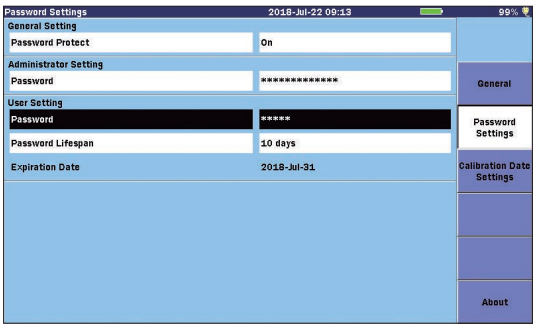
With a large built-in memory of 1 GB for saving up to 50,000 waveforms, the MT9085 series presents no problems in saving large image data files and PDF files. At OTDR measurement, up to 50,000 waveforms can be saved in the original data file format (.sor).

USB Port Connection

The MT9085 series has three built-in USB2.0 Type A ports and a Micro-B type USB port. With these multiple port types, different ports can be allocated to individual functions, such as connection of a WLAN and Bluetooth dongle to one port each for data transfer, leaving other ports for connection of the fiberscope and USB mouse. In addition, data storage can be connected via a cable to the Micro-B USB port.

Password Protection Function

The MT9085 series has a built-in password protection function for requiring password input after starting the measuring instrument, which not only protects important internal data but also limits use of the instrument to registered users.



Password Protection Function

File Name Input Support

Saving measured data sometimes requires saving many pieces of relevant information, including date, wavelength, and measurement location in the file name. The MT9085 series makes it easy to manage file names using the built-in Matrix file name input function.

Matrix File Input Function

The latest firmware for the MT9085 series can be downloaded free-of-charge from the Anritsu website. In addition, the PC software (Connector Master MX900030A) for the G0306B can also be downloaded from the website.

* Contact our business section for version upgrades of OTDR PC software analysis tools (NETWORKS).

Panel Layout

* With Option 010 Protector fitted.

1 Three optical Power Meter options

2 Visual Light Source, shows light leaking from breaks in the optical fiber core, identifying fault locations, simultaneously use with OTDR

3 OTDR test port, supports various wavelengths matching application requirements

4 Three Type-A USB2.0 ports, connecting USB memory, WLAN and Bluetooth adapters for remote control using remote commands and remote web browser GUI using USB-Ethernet Adapter. Micro-B USB1.1 port for connecting internal memory to PC

5 Menus for selecting OTDR and LTS, VFL, VIP etc

6 8-inch wide Touch Screen, LCD-backlit color TFT, displays waveforms data etc., with good indoors and outdoors visibility

7 Compact, lightweight (1.9 kg) case (including battery, excluding protector)

8 Rotary knob for trace manipulation and setting

9 Arrow keys for trace manipulation and setting

10 Laser output indicator, red when laser on

11 Measurement Start button (real-time, ave)

12 Dedicated hard keys, top menu, file save/load, screen capture, etc.

Specifications

ACCESS Master MT9085A/B/C Common Specifications

Dimensions and Mass	Without Protector	Dimensions: 270 (W) × 165 (H) × 61 (D) mm, 10.6 × 6.5 × 2.4 inches
		Mass: 1.6kg 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 V(ac) to 240 V(ac), 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 ±3 × measurement distance × 10^{-5} ± 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° to +50°C, <80% (non-condensing) Storage temperature and humidity: –20° 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)	
EMC	EN61326-1, EN61000-3-2	
LVD	EN61010-1	
RoHS	EN50581	

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

Specifications

OTDR Specifications

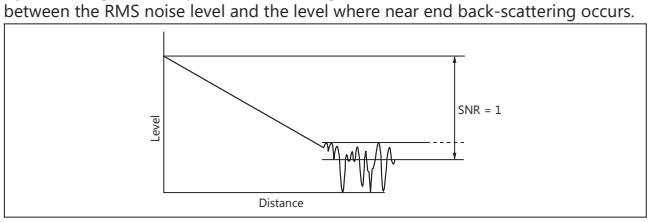
MT9085C							
Options	HR/ER Mode*4	Wavelength*5	Fiber Type	Pulse width	Dynamic Range*6, *7	Dead Zone (Fresnel)*8 (IOR = 1.500000)	Dead Zone (Backscatter)*9 (IOR = 1.500000)
MT9085C-053	✓	1310/1550 nm ±25 nm	Single Mode (SMF) 10/125 µm ITU-T G.652	3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000, 10000,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

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.)

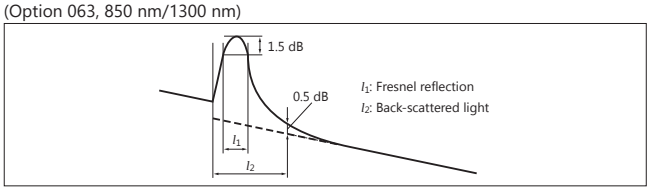
MT9085A							
Options	HR/ER Mode*4	Wavelength*5	Fiber Type	Pulse width	Dynamic Range*6, *7	Dead Zone (Fresnel)*8 (IOR = 1.500000)	Dead Zone (Backscatter)*9 (IOR = 1.500000)
MT9085A-053	✓	1310/1550 nm ±25 nm	Single Mode (SMF) 10/125 µm ITU-T G.652	3, 10, 20, 30, 50, 100, 200, 500, 1000, 2000, 4000, 10000, 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

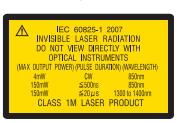
*4: HR: High Resolution mode for Short dead zone.
ER: Enhanced Range mode for PON measurement.
*5: 25°C, Pulse width: 1 µs (all except 850 nm, 1300 nm), 850 nm/1300 nm: 100 ns
*6: Pulse widths: 20 µs (Options 053, 055, 056, 057, 058, 063, 1310 nm/1550 nm) at Distance range: 100 km
Pulse width: 4 µs (Option 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.

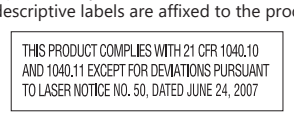


*8: Pulse width: 3 ns (Options 053, 055, 056, 057, 058, 063.)
Return loss: 40 dB, 25˚C (Refer to the figure below)
*9: Pulse width 10 ns, return loss 55 dB, Deviation ±0.5 dB, 25°C
(Options 053, 055, 056, 057, 058, 063. All except 850 nm/1300 nm)
Pulse width 3 ns, return loss 40 dB, Deviation ±0.5 dB, 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.





Specifications

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° 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° 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° 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.

THIS PRODUCT COMPLIES WITH 21 CFR 1040.10 AND 1040.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO. 50, DATED JUNE 24, 2007

Specifications

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° to +30°C, ≤80% RH
	Discharging: –20° to +60°C, ≤80% RH
	Storage: –20° to +50°C, ≤80% RH

AC Adapter: Z1625A

Rated AC Input	100 V(ac) to 240 V(ac), 50 Hz/60 Hz
Rated DC Output	12 V(dc), 5 A
Environmental Conditions	Operating: 0° to +45°C, 20 to 80% RH
	Storage: –20° 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	MT9085 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-039*4	DIN 47256 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

Ordering Information

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)
J0618E	Replaceable optical connector (DIN)	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-39	FOR DIN 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)
LP-DIN	DIN-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	X400 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)

MT1000A Network Master Pro

OTDR Module 1310/1550 nm SMF	**MU100020A**
OTDR Module 1310/1550/850/1300 nm SMF/MMF	**MU100021A**
OTDR Module 1310/1550/1625 nm SMF	**MU100022A**

Installing an OTDR Module MU100020A/MU100021A/MU100022A provides the OTDR functions required for optical fiber I&M. Work efficiency is increased by all-in-one support for optical fiber tests and data communications network commissioning. I&M tests of 1.5-Mbps to 10-Gbps communications networks can be executed by simultaneously installing the MU100010A. In addition to supporting Ethernet, OTN, etc., networks, Mobile base station CPRI and OBSAI, as well as SyncE protocols are also supported.

10G Multirate Module	**MU100010A**
100G Multirate Module	**MU100011A**

Installing the MU100010A or MU100011A in the MT1000A supports commissioning and maintenance tests of communications networks operating at speeds from 1.5 Mbps to 100 Gbps. In addition to Ethernet, OTN, etc., networks, the CPRI, OBSAI, and SyncE protocols used by mobile-network base stations are supported too.

MU100020A/MU100021A/MU100022A

MU100010A/MU100011A

MT9090 Series

µOTDR Module	**MU909014/15**

Compact OTDR for fully automatic verification of optical networks, FTTH-PON, Metro and Core.

Optical Channel Analyzer Module	**MU909020A**

Compact CWDM channel analyzer to verify power levels, drift and channel presence of CWDM networks.

Gigabit Ethernet Module	**MU909060A**

Dedicated field test solution for installation and troubleshooting Ethernet links in access networks.

MU909014/15

MU909020A

MU909060A

Light Source/Optical Power Meter CMA5 Series

For optical fiber installation and maintenance

Anritsu envision : ensure

Specifications are subject to change without notice.

• United States
Anritsu Company
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