

Specifications

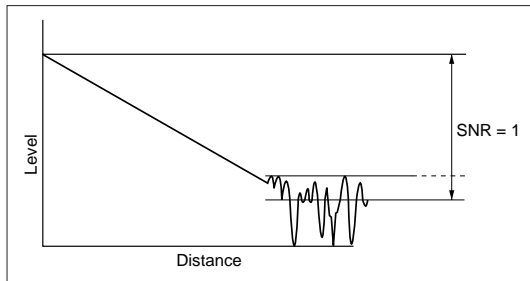
● Optical Time Domain Reflectometer (main frame)

Model	MW9076B	MW9076C	MW9076B1	MW9076J	MW9076K	MW9076D1
Wavelength	1310/1550 nm ±25 nm*1	1310/1550/1625 nm ±25 nm*1	1310/1550 nm ±25 nm*1	850 nm ±30 nm	850/1300 nm ±30 nm	1310/1450/1550/ 1625 nm ±3 nm*1
Measurable optical fiber	10/125 μm single-mode optical fiber (ITU-T G.652)			62.5/125 μm GI fiber*2		10/125 μm single-mode optical fiber (ITU-T G.652)
Optical connector	FC, SC, DIN, HMS-10/A, ST (replaceable, PC type)			FC, SC, DIN, ST (replaceable, PC type)		FC, SC, DIN, HMS-10/A, ST (replaceable, PC type)
Distance range	1, 2.5, 5, 10, 25, 50, 100, 200, 250, 400 km			1, 2.5, 5, 10, 25, 50, 100 km		1, 2.5, 5, 10, 25, 50, 100, 200, 250, 400 km
Pulse width	10, 20, 50, 100, 500, 1000, 2000, 4000, 10000, 20000 ns			10, 20, 50, 100 ns	10, 20, 50, 100 ns (0.85 μm) 10, 20, 50, 100, 500, 1000 ns (1.3 μm)	10, 20, 50, 100, 500, 1000, 2000, 4000, 10000, 20000 ns
Dynamic range*3, *4 (S/N = 1)	42.5 dB (1.31 μm) 40.5 dB (1.55 μm) *Typical value: 45 dB (1.31 μm) 43 dB (1.55 μm)	41.5 dB (1.31 μm) 39.5 dB (1.55 μm) 37 dB (1.625 μm)	38 dB (1.31 μm) 36 dB (1.55 μm) *Typical value: 40.5 dB (1.31 μm) 38.5 dB (1.55 μm)	21 dB	21 dB (0.85 μm) 25 dB (1.3 μm)	34.5 dB (1.31 μm) 33.5 dB (1.45 μm) 32.5 dB (1.55 μm) 30.0 dB (1.625 μm)
Dead zone (back-scattered light)*5	≤8 m (1.31 μm) ≤9 m (1.55 μm)	≤8 m (1.31 μm) ≤9 m (1.55 μm) ≤12 m (1.625 μm)	≤8 m (1.31 μm) ≤9 m (1.55 μm)	≤7 m (deviation: ±0.5 dB) ≤50 m (deviation: ±0.1 dB)	≤7 m (0.85 μm, deviation: ±0.5 dB) ≤10 m (1.3 μm, deviation: ±0.5 dB) ≤50 m (deviation: ±0.1 dB)	≤25 m
Dead zone (Fresnel reflection)*6	≤1.6 m			≤2 m		≤3 m
Marker resolution	0.05 to 800 m			0.05 to 200 m		0.05 to 800 m
Sampling resolution	0.05 to 80 m			0.05 to 20 m		0.05 to 80 m
Sampling points*7	Quick mode: 5001, 6251 Normal mode: 20001, 25001 High mode: 40001, 50001					
Y-axis scale	0.25, 0.5, 1, 2.5, 5, 10, 15 dB/div (15 dB/div is indicated only at Auto and Full Auto measurement.)					
IOR settings	1.400000 to 1.699999 (0.000001 steps)					
Distance measurement accuracy	±1 m ±3 x measurement distance x 10 ⁻⁵ ±marker resolution (excluding uncertainty caused by fiber IOR)					0.1 m ±3 x measurement distance x 10 ⁻⁵ ±marker resolution (excluding uncertainty caused by fiber IOR)
Loss measurement accuracy (linearity)	±0.05 dB/dB or ±0.1 dB (whichever is greater)					
Return loss measurement accuracy	±2 dB			±4 dB		±2 dB
Automatic measurement*8	Measurement items: Total loss, total return loss. Each event distance, connection loss, return loss, or reflection amount (displays in table format) Threshold values Connection loss: 0.01 to 9.99 dB (in 0.01 dB steps), Return loss: 20 to 60 dB (in 0.1 dB steps), Fiber-end: 1 to 99 dB (in 1 dB steps) Warning values Splice connection loss: 0.1 to 10 dB (in 0.01 dB steps), Connector connection loss: 0.1 to 10 dB (in 0.01 dB steps), Return loss: 10 to 50 dB (in 0.1 dB steps), Fiber loss: 0.01 to 10 dB (in 0.01 dB steps), Total loss: 0.1 to 60 dB (in 0.1 dB steps), Total return loss: 10 to 50 dB (in 0.1 dB steps), Average loss: 0.01 to 10 dB (in 0.01 dB steps) Number of detected events: Up to 99 Automatic setting: Distance range, pulse width, averaging count (time) Measurement time: ≤60 s (in full automatic measurement mode) Connection check: Automatic check of front panel connector connection quality Communication light check: Check for presence of communication light in optical fiber to be measured					
Manual measurement	Measurement items: Transmission loss and distance between 2 points, loss per unit length between 2 points, connection loss, return loss/reflection amount, total return loss, average loss Real-time sweep: 0.1 to 0.2 second or less*9					

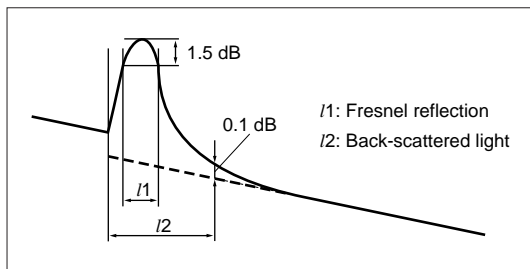
Model	MW9076B	MW9076C	MW9076B1	MW9076J	MW9076K	MW9076D1
Optical loss measurement light source function	<p>Applicable optical fibers: SM optical fiber (ITU-T G.652)</p> <p>Optical connectors: Shared with OTDR (same port)</p> <p>Light-emitting elements: FP-LD</p> <p>Center wavelength: 1310/1550 ±25 nm (MW9076B, CW, 25°C) 1310/1550/1625 ±25 nm (MW9076C, CW, 25°C)</p> <p>Spectrum width: ≤5/10 nm (MW9076B, CW, 25°C) ≤5/10/10 nm (MW9076C, CW, 25°C)</p> <p>Output level accuracy: −3 ±1.5 dBm (CW, 25°C, SM optical fiber: 2 m)</p> <p>Optical output short term stability: ≤0.1 dB [CW, at one point from −10° to +40°C (±1°C), Difference between maximum and minimum values in one min, SM optical fiber cable: 2 m]</p> <p>Output waveform CW, 270 Hz, 1 kHz, 2 kHz (Modulated waves are square waves.) Modulation frequency: 270 Hz/1 kHz/2 kHz ±1.5%</p> <p>Laser safety specification: 21CFR Class 1, IEC 60825-1 Class 1</p>					
Chromatic dispersion measurement	<p>—</p> <p>Wavelength range: 1300 to 1660 nm, Wavelength accuracy: ±0.5 nm*¹⁰ (typical), Zero-dispersion repeatability: ±0.6 nm (typical)*¹¹, Dispersion repeatability: ±0.05 ps/(nm*km)*¹¹ * Typical Dynamic range: 30 dB (4% Fresnel, typical)</p>					
Other functions	<p>Waveform storage [Bellcore. SOR (GR-196-CORE, SR-4731) or Anritsu. Dat format, user selectable], waveform comparing function, print output (Centronics), repeated measurement function (A series of operations such as wavelength switching, waveform storage, and printing can be executed by pressing a single key.), relative distance set (zero cursor set), calendar clock, distance unit set (km, m, kf, f, mi), title input (up to 32 characters), remaining battery power display</p>					
Laser safety specification	21CFR Class 1, IEC 60825-1 Class 1					
Power	≤35 W max. (at charging), 4 W (in standard state, MU250000A power consumption included.)					
Battery	Continuous operation: 6 h (typical value)* ¹²					
Dimensions and mass	<p>290 (W) × 194 (H) × 30 (D) mm (MW9076B/B1/C/J/K main frame) 290 (W) × 194 (H) × 75 (D) mm (MU250000A Display Unit included) ≤1.4 kg ≤4.0 kg (MU250000A display unit and battery pack included)</p> <p>290 (W) × 194 (H) × 77 (D) mm (MW9076D1 main frame) 290 (W) × 194 (H) × 122 (D) mm (with MU250000A Display Unit) ≤3.1 kg (MW9076D1 main frame only), ≤5.7 kg (with MU250000A Display Unit and battery pack included)</p>					

Model	MW9076B	MW9076C	MW9076B1	MW9076J	MW9076K	MW9076D1
Environmental condition	Operating temperature and humidity: -10° to 40°C , $\leq 85\%$ (no condensation) Storage temperature and humidity: -20° to 60°C , $\leq 85\%$ Vibration: Conforming to MIL-T-28800E Class 3 Shock: 76 cm height, 6 surfaces, 8 corners*12 Dust-proofing: MIL-T-28800E Drip-proofing: MIL-T-28800E					
EMC	EN61326: 1997/A2: 2001 (Class A) EN61000-3-2: 2000 (Class A) EN61326: 1997/A2: 2001 (Annex A)					
LVD	EN61010-1: 2001 (Pollution Degree 2)					

- *1 At 25°C , pulse width: 1 μs
- *2 For GI fiber (core diameter: $62.5 \mu\text{m} \pm 3.0 \text{ nm}$, NA: 0.275 ± 0.015 , transmission loss: $\leq 3.2/0.9 \text{ dB/km}$ (wavelength: $0.85/1.3 \mu\text{m}$). At measurement of $50/125 \mu\text{m}$ GI fiber, the dynamic range drops by about 3.0 dB.
- *3 At 25°C , pulse width: SM 20 μs , Average 360 sec., GI 100 ns ($0.85 \mu\text{m}$), 1 μs ($1.3 \mu\text{m}$), Average 180 sec.
- *4 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.



- *5 Pulse width: 10 ns, return loss: SM 40 dB, GI 30 dB, deviation: $\pm 0.1 \text{ dB}$ (Refer to the figure below.)
- *6 Pulse width: 10 ns (Refer to the figure below.)
- *7 Either value is automatically selected in each mode, depending on the distance range.
- *8 Automatic measurement is a supporting function which enables to operate easier, it doesn't assure results. As there is a case of miss detection, please check a waveform data, either.
- *9 At quick mode
- *10 Compared value with internal wavelength data at chromatic dispersion measurement
- *11 Measured with 25 km of $1.3 \mu\text{m}$ zero-dispersion fiber (ITU-T G.652) at 1550 nm.
Not an error from absolute value but repeatability of measured results. Contact Anritsu Corporation in case of measuring ITU-T G.655 fiber.
- *12 At back light low brightness, measurement not executed.
- *13 Dropped on the floor of plywood thickness 5 cm fixed by concrete. Not applicable to the MW9076D1.



Note: This product outputs the pulse light of a high peak power.
 When this product is used in the state where it connected with transmission system, attach a wavelength filter or attenuator to Receiver of transmission system.
 There is a possibility of damaging Receiver of transmission system because of high power pulse of OTDR.

● MU250000A Display Unit

Display	MU250000A Unit: 8.4 inch color, TFT-LCD (640 × 480 pixels, transparent type, with back light)
Interface	Serial interface: RS-232C-1 (115.2 kbps max.), with D-sub 9-pin connector RS-232C-2 (57.6 kbps max.), with mini-DIN 8-pin connector Printer interface: 8-bit parallel interface (Centronics), with D-sub 25-pin connector Keyboard interface: IBM US ENGLISH (101 keys) 106 keys compatible, with mini-DIN 6-pin connector VGA output connector: Mini-DIN 10-pin connector
FDD	Built-in 3.5 inch (1.44 MB/720 KB)
Power supply	10 to 26.4 Vdc 100 to 250 Vac (rated), 50/60 Hz, ≤50 VA max. (Specific AC adapter is used.) Battery: CGR-B/802D Lithium ion battery pack can be used. (Mounted in main frame)
Power	≤35 W
Dimensions and mass	290 (W) × 194 (H) × 45 (D) mm, ≤2.2 kg
Environmental conditions	Restricted by memory card specifications when a memory card is mounted. AC adapter: Depend on the conditions of AC adapter Operation temperature and humidity: -10° to +40°C, ≤85% (no condensation), +5° to +40°C, ≤80% (FDD is used.) Storage temperature and humidity: -20° to 60°C, ≤85% Vibration: Conform to MIL-T-28800E Class 3 Shock: 76 cm height, 6 surfaces, 8 corners*1 Dust proofing: Conform to MIL-T-28800E Drip proofing: Conform to MIL-T-28800E
EMC	Same as MW9076 series
LVD	Same as MW9076 series

*1: Dropped on the floor of plywood thickness 5 cm fixed by concrete

● Battery pack: CGR-B/802E

Battery	Lithium ion secondary battery
Voltage, capacity	14.4 V, 3440 mAh (49.53 Wh)
Continuous drive time	See the MW9076 series specifications
Charging time	≤3 h (Charge at the circumference temperature of 0° to 40°C)
Dimensions and mass	134.5 (W) × 89.5 (H) × 20.5 (D) mm, ≤420 g

● AC adapter: Z0695 (SA165A-2425V-3)

Rated AC input	100 to 240 Vac, 50/60 Hz
Rated DC output	24 Vdc, 2.5 A
Dimensions and mass	122 × 60 × 34 mm, ≤350 g
Safety specifications	UL, CSA, TÜV CB, CE, NORDIC, PSE
Environmental conditions	Operating temperature and humidity: 0° to +40°C, 80% Storage temperature and humidity: -20° to +80°C, 90%

● Visible LD: MW9076B/B1/C/D1/J/K-01

Central wavelength	635 ±15 nm (at 25°C)
Optical output	-3.0 ±1.5 dBm
Output optical fiber	10/125 μm, SM (ITU-T G.652)
Optical connector	FC, SC, ST, DIN, HMS-10/A *Replaceable
Optical safety	IEC 60825-1 Class 1M, 21CFR Class 2
Environmental conditions	Same as MW9076 series
EMC	Same as MW9076 series
LVD	Same as MW9076 series

Safety measures for laser products

This option complies with optical safety standards in Class 1M of the IEC 60825-1 and the FDA (21CFR1040.10, USA) in Class 2; the following descriptive labels are affixed to the product (FDA label is only affixed to product for export to the USA).



The maximum output is indicated under *1, and the wavelength under *2.

Caution: Do not look directly into the laser beam.

● Optical power meter: MW9076B/B1/C-02, MW0976B/B1/C-03

Applicable optical fiber	10/125 μm, SM (ITU-T G.652)
Optical connector	FC, SC, ST, DIN, HMS-10/A *Replaceable
Wavelength range	1.2 to 1.7 μm
Measurement range	Option 02: +3 to -70 dBm (continuous light) +0 to -73 dBm (modulated light) Option 03: +23 to -50 dBm (continuous light) +20 to -53 dBm (modulated light)
Measurement accuracy	Option 02: ±5% (-10 dBm, 1.31/1.55 μm, continuous light) Option 03: ±5% (-10 dBm, 1.31/1.55 μm, continuous light)
Return loss	≥36dB (1.55 ±0.02 μm)
Environmental conditions	Same as MW9076 series
EMC	Same as MW9076 series
LVD	Same as MW9076 series

● MU960001A Optical Channel Selector

Configuration	1 × 4
Wavelength range	1.2 to 1.65 μm (The specified wavelengths are 1.31/1.55 μm.)
Optical fiber	10/125 μm, SM (ITU-T G.652)
Optical connector	FC, SC, ST, DIN, HMS-10/A *Replaceable
Insertion loss	≤2.5 dB
Environmental conditions	Same as MW9076 series (not applicable to the shock)
Dimensions	290 (W) × 194 (H) × 47 (D) mm
Mass	≤1.5 kg
EMC	Same as MW9076 series
LVD	Same as MW9076 series

*: MU960001A can not be attached to MW9076D1.