/inritsu

MW9076 Series Optical Time Domain Reflectometer 1.31/1.41/1.55/1.625 µm (SM)



Tomorrows Technology, Today

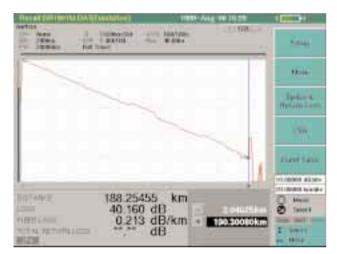
Highest Basic Performance and Measuring Speed

- 45 dB high dynamic range
- 8 m short dead zone
- Simple measurement of chromatic dispersion from one end of optical fiber
- Measurement in 10 s (Full-Auto mode), 0.15 s real-time sweep
- Automatic execution of functions such as wavelength/channel switching, file saving, printing, etc., just by pressing Start key in repeat measurement mode
- **5** cm high resolution, **50,000** sampling points
- 8.4 inch TFT-LCD color display
- 7.2 inch color STN-LCD display for easy viewing under direct sunlight
- Optional 4 or 8 optical channel selector unit
- 6-hour battery life with remaining-power display
- Data read/write in Bellcore GR196 file format

| | | | | | 1 |
|---------------|-----------------------------------|--|--|--|--|
| Mo | del | MW9076B1 | MW9076B | MW9076C | MW9076D |
| Optical fiber | | SM | SM | SM | SM |
| Wavelength | | 1.31/1.55 µm ± 25 nm | 1.31/1.55 µm ± 25 nm | 1.31/1.55/1.625 µm ± 25 nm | 1.31/1.41/1.55/1.625 µm ± 3 nm |
| Dy | namic range | 40.5/38.5 dB (typical value) | 45/43 dB (typical value) | 41.5/39.5/37 dB | 34/33/32/29.5 dB |
| Dea | ad zone (Fresnel, back-scatterd) | 1.6/8 m | 1.6/8 m | 1.6/8 m | 3/25 m |
| Ch | romatic dispersion | | | | ✓ |
| Lig | ht source function | | ✓ | ✓ | |
| | Visible light source | ✓ | ✓ | ✓ | ✓ |
| 0 | Optical power meter | | ✓ | ✓ | |
| Options | High power optical power meter | | ✓ | ✓ | |
| 0 | Optical channel selector unit | √ | <i>√</i> | 1 | |
| Explanation | | General purpose OTDR for mid-distance SM optical fiber installation and maintenance. Offering superior cost perfor- mance. | High performance OTDR: Ideal for users requiring long- distance optical fiber installa- tion and maintenance. | High performance three wavelength OTDR for testing at both the two standard SM window, but also the 1625 nm window used for fiber moni- toring. | A four wavelength OTDR with superb wavelength accuracy that can be used for conventional OTDR applications and chro- matic dispersion measure- ment of WDM transmission |

• High Dynamic Range

When using a wavelength of 1.55 $\mu\text{m},$ a point 190 km distant can be measured.



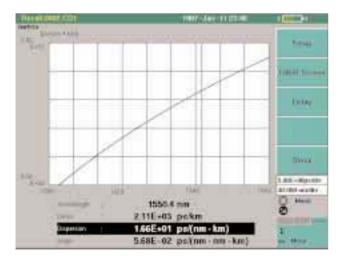
• Short Dead Zone

Clearly measure up to near end by 8 m dead zone (back-scatter)



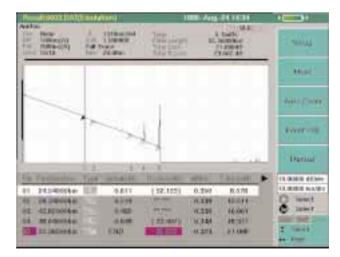
Chromatic Dispersion Measurement

World's first OTDR* with chromatic dispersion measurement. *For OTDRs marketed by September, 1999



High-Speed Measurement

Measurement results are displayed in 10 seconds (min.) after pressing the Start key (full-auto mode).



Compact, Lightweight, and Easy to Operate

Rotary encoder for easy moving markers 1 Measurement conditions œ can be changed at measurement screen 2 3 Large easy-to-read 8.4 inch TFT-LCD 4 はポリアリもの 10.010.00 14.5 1214 5 10.0 Simultaneous display of 18.63 122.14 1621 44150000 150 25 (14) 10.00 1216 measured results and 6 event table /innitsu Lithium ion battery mounted, with remaining power display -OTDR -(main frame) Display unit Connector for external CRT 12 1 13 14



One of two hold angles can be set with the tilt stand.









- 1 Status-indicating LED
- 2 Function keys
- 3 Menu key
- 4 Start key
- 5 Arrow key
- 6 Select key
- Ø Battery pack
- 8 Optical power meter connector9 Visible light source connector
- OTDR connector and light source connector for optical loss measurement
- 1 External monitor (VGA) connector
- 12 PC card slot (two PC cards con-
- nectable)
- 13 External keyboard connector
- 🚺 FDD
- Tilt stand

- 16 AC adapter connector
- Power switch
- Back light and contrast control
- RS-232C (COM1) connector
- ② Centronics connector
- AS-232C (COM2) connector Control of external optical channel selector



MW9076D is mounted.

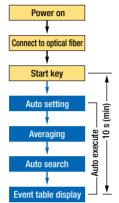


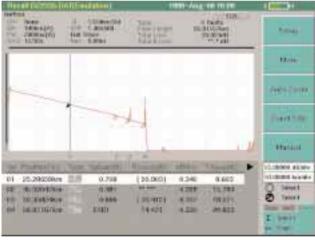


MU250000A1 Display Unit

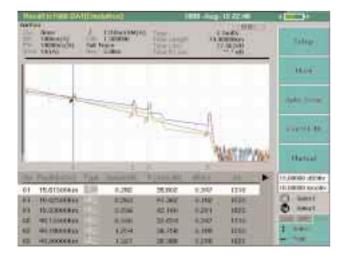
• Full Automatic Mode

Measurement results are displayed by simply pressing the Start key. All complicated settings of distance range, pulse width, attenuator, and maker can be automatically executed. Measurement speed in this mode was significantly increased. When the wavelengths are set to ALL, wavelengths are automatically changed.



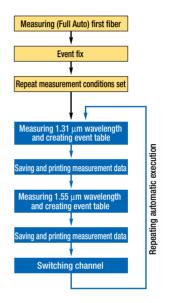


Event table



Repeated Measurement

A series of operations, such as measurement, wavelength switching, data saving, optical channel switching, and next optical fiber measurement, can be executed automatically under preset measurement conditions. This mode is ideal for measuring a multi-core optical fiber.



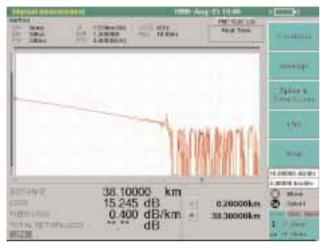
| Repeat Condition | | |
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Repeat task setting

Event table (wavelength: ALL)

High-Speed Real Time Sweeping

A market leading real-time sweep mode of 0.15 seconds, making it ideal for all multi-fiber testing and in particular realtime monitoring of fusion or mechanical splices.



Real time sweeping

Measurement Modes and Measurement Items

| Measure -ment item | Full automatic | Automatic | Manual | Repeated measurement | Real time |
|-----------------------------------|-------------------|-------------------------|-------------------------|-------------------------|-------------|
| Distance | √ *1 | √ *2 | √ *3 | ✓*5 | ✓*6 |
| Total loss | √ *1 | √ * ² | √ * ³ | √ * ⁵ | √ *6 |
| Connection loss | √ *1 | √ *2 | ✓*4 | √ *5 | ✓*6 |
| Return loss | √ *1 | √ *2 | √ *4 | √ * ⁵ | ✓*6 |
| Total return loss | √ *1 | √ * ² | √ * ³ | √ * ⁵ | |
| Chromatic dispersion values | | | √*7 | | |

*1: Measured results are displayed in table format by simply pressing the Start key. The wavelength can also be switched automatically. The fiber connection points are automatically detected. Measurement items at that points are displayed.

*2: Unlike full automatic mode, automatic mode enables the manual setting of pulse width, distance range, sampling point number and average. Measurement items are the same as them of the full automatic measurement.

*3: The distance and total loss are measured by setting a 2-point marker

*4: The distance and total loss are measured by setting a 6-point marker.

*5: A series of operations (e.g., measurement, wavelength switching, data saving, optical channel switching, next optical fiber measurement) can be executed automatically under preset measurement conditions. This mode is ideal for measuring multi-core optical fiber. This mode can be used from both full automatic mode, automatic mode, and manual mode.

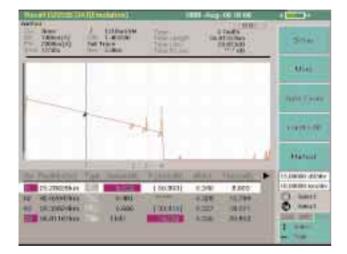
*6: The waveform at any point can be measured in real time (0.15 s/sweep) by setting the six markers.

*7: At chromatic measurement screen the group delay, dispersion values and dispersion slope of an optical fiber are automatically calculated by setting a marker at the end or connecting point of the optical fiber being measured. (Supported in MW9076D only)

Various Useful Functions

• Warning Level Setup Function

In automatic measurement mode, an event warning value can also be set in addition to a detection threshold value. For example, the threshold value can be set to the acceptance level, and warning value to a pass/rejection decision level. In this case, all events will be detected, and those exceeding the warning value are displayed in another color, therefore, enabling the operator to easily identify possible "borderline" events.



• Communication Light Check Function

Before measurement with the OTDR, a check can be made to determine if there is any communication light in the fiber to be measured. This function prevents erroneous measurement of the fiber to be measured or interference with the transmission equipment.

• Optical Channel Selector Control Function

In addition to using the built-in optical channel selector unit, the

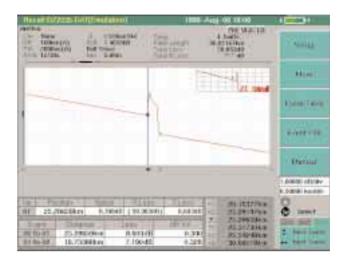
MN9662A, MN9664A, MN9672A or MN9674A Optical Channel Selector can be controlled via the RS-232C interface. By using these selectors, an optical fiber cable consisting of up to 16 cores can be measured automatically.





Full-View Window

A window for total waveform display is supported.



• Visible Light Source

A 635 nm visible light source option is available for the detection of breaks and loss points along the fiber to be measured.

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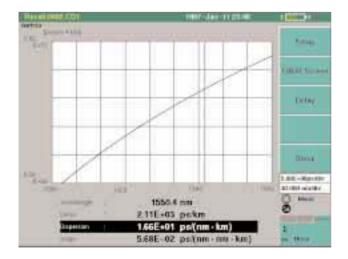
• OLTS Function

Optical fiber loss can be measured using the optical power meter function (option) and light source function (standard). Two types of optical power meters are supported: One is measurement range of -70 to +3 dBm (MW9076B/C-02 option), the other is measurement range of -50 to +23 dBm (MW9076B/C-03 option).



Chromatic Dispersion Measuring Function

The MW9076D 4-wavelength OTDR can measure chromatic dispersion values from one end of an optical fiber. The operator will be given measured figures for group delay, total dispersion figure, zero dispersion wavelength and dispersion slope for the fiber to be measred.



VGA Output Terminal

The VGA connector outputs the screen interface to a CRT monitor, which is very useful for production-line applications.

• Large Internal Memory

About 18 MB internal memory is provided as standard. The following table shows the number of waveforms which can be saved in each media.

| Media | GR196 | Analysis |
|-------------------------|-------|----------|
| FDD (1.4 MB) | 123 | 67 |
| PC-ATA card (40 MB) | 3560 | 1950 |
| PC-ATA card (160 MB) | 14200 | 7800 |
| Internal memory (18 MB) | 1600 | 870 |

Number of data points: 5,000

Specifications

• Optical Time Domain Reflectometer (main frame)

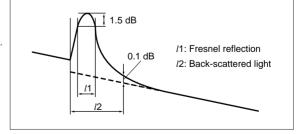
| Model | MW9076B | MW9076C | MW9076B1 | MW9076D | |
|---------------------------------------|--|--|---|--|--|
| Wavelength | 1310/1550 ±25 nm*1 | 1310/1550/1625 ±25 nm*1 | 1310/1550 ±25 nm*1 | 1310/1410/1550/1625 ±3 nm* | |
| Measurable optical fiber | 10/125 µm single-mode optical fiber (ITU-T G.652) | | | | |
| Optical connector | FC, SC, DIN, HMS-10/A, ST (replaceable, PC type) | | | | |
| Distance range | 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 | | | | |
| Dynamic range*2 (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) | 34.5 dB (1.31 μm) 33.5 dB (1.41 μm) 32.5 dB (1.55 μm) 30.0 dB (1.625 μm) | |
| Dead zone (back-scattered light)*3 | ≤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) | ≤25 m | |
| Dead zone (Fresnel reflection)*4 | ≤1.6 m | ≤1.6 m | ≤1.6 m | ≤3 m | |
| Marker resolution | 0.05 to 800 m | | | | |
| Sampling resolution | 0.05 to 80 m | | | | |
| Sampling points*5 | Quick mode: 5001, 6251 Normal mode: 20001, 25001 High mode: 40001, 50001 | | | | |
| Distance measurement accuracy | ±1 m ±3 x measurement distance x 10 ⁻⁵ ±marker resolution (excluding uncertainty caused by tance x 10 ⁻⁵ ±marker reso | | | 0.1 m \pm 3 x measurement dis- tance x 10 ⁻⁵ \pm marker resolu- tion (excluding uncertainty caused by fiber IOR) | |
| Loss measurement accuracy | ±0.05 dB/dB or ±0.1 dB (which | ever is greater) | | | |
| Return loss measurement accuracy | ±2 dB | | | | |
| Automatic measurement | 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 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 steps) Return loss: 10 to 50 dB (in 0.1 dB steps) Fiber loss: 0.1 to 10 dB (in 0.1 steps) Total loss: 0.1 to 60 dB (in 0.1 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 Real-time sweep: 0.1 to 0.2 second or less* ⁶ | | | | |

| Model | MW9076B | MW9076C | MW9076B1 | MW9076D |
|---|--|---|--|-----------------------------|
| Optical loss measurement light source function | Applicable optical fibers: SM optical fiber (ITU-T G.652 Optical connectors: Shared with OTDR (same po Light-emitting elements: FP-LD Center wavelength: 1310/1550 ±25 nm (MW9076 1310/1550/1625 ±25 nm (MW Spectrum width: ≤5/10 nm (MW9076B, CW, 2! ≤5/10/10 nm (MW9076C, CW Output level accuracy: -3 ±1.5 dBm (CW, 25°C, SM Optical output short term stabili ≤0.1 dB [CW, at one point fro Difference between maximum min, SM optical fiber cable: 2 Output waveform CW, 270 Hz, 1 kHz, 2 kHz (M square waves.) Modulation frequency: 270 H: Laser safety specification: 21CFR Class 1, IEC 60825-1 | <pre>// I</pre> | - | |
| Chromatic dispersion measurement function | | _ | · | Provided |
| Other functions | function (A series of operations | such as wavelength switching, set (zero cursor set), calendar | selectable), print output (Centro waveform storage, and printing clock, distance unit set (km, kf, i | can be executed by pressing |
| Laser safety specification | 21CFR Class 1, IEC Pub 825-1 | | | |
| Power | ≤35 W max. (at charging), 4 W | (in standard state, MU250000A | A power consumption included.) | |
| Battery | Continuous operation: 6 h (typic | cal value) | | |
| Dimensions and mass | $ 290 (W) \times 194 (H) \times 30 (D) mm (MW9076B/C main frame) \\ 290 (W) \times 194 (H) \times 75 (D) mm (MU250000A Display Unit included) \\ \leq 1.3 kg (MW9076B main frame only) \\ \leq 3.6 kg (MW9076B, MU250000A display unit and battery pack included) \\ \leq 1.4 kg (MW9076C main frame only) \\ \leq 3.7 kg (MW9076C, MU250000A display unit and battery pack included) $ | | 290 (W) \times 194 (H) \times 77 (D) mm (MW9076D main frame) 290 (W) \times 194 (H) \times 122 (D) mm (with MU250000A Display Unit) \leq 3.1 kg (MW9076D main frame only), \leq 5.4 kg (with MU250000A Display Unit and battery pack included) | |
| Environmental condition | Operating temperature and humidity: −10° to 40°C, ≤ 85% (no condensation) Storage temperature and humidity: −20° to 60°C, ≤ 85% Vibration: Conforming to MIL-T-28800E Class 3 Shock: 76 cm height, 6 surfaces, 8 corners*7 Dust-proofing: MIL-T-28800E Drip-proofing: MIL-T-28800E | | | |
| EMC | EN55011 (1991, Group 1, Class A), EN50082-1 (1992) Not applicable to EN61000-3.2 (1995) | | | |
| Safety | EN61010-1 (1993, Installation 0 | Category II, Pollution Degree II) | · | |
| 1 At 25°C, pulse width: 1 us | | | | |

*1 At 25°C, pulse width: 1 µs
*2 At 25°C, pulse width: 20 µs, averaging time: 180 s
*3 Pulse width: 10 ns, return loss: 40 dB (Refer to the figure right)
*4 Pulse width: 10 ns (Refer to the figure right)
*5 Either value is automatically selected in each mode, depending on the distance range.
*6 Distance range: 50 km, full scale, loss mode: 2PA, room temperature, 25 km optical fiber operational fiber operations. fiber connected

*7 Droped on the floor of plywood fixed by concrete. Not applicable to the MW9076D

Note: MW9076D can accept a special wavelength request. Please consult us.



MU250000A/A1 Display Unit

| Display | MU250000A Unit: 8.4 inch color, TFT-LCD (640 × 480 pixels, transparent type, with back light) MU250000A1 Unit: 7.2 inch color, STN-LCD (640 × 480 pixels, semi-transparent type, with back light on/off) |
|--|--|
| 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. |
| i ower suppry | (Specific AC adapter is used.) Battery: CGR-B/802 Lithium ion battery pack can be used. (Mounted in main frame) |
| Power | Battery: CGR-B/802 Lithium ion battery pack can be |
| | Battery: CGR-B/802 Lithium ion battery pack can be used. (Mounted in main frame) |
| Power Dimensions and | Battery: CGR-B/802 Lithium ion battery pack can be used. (Mounted in main frame) ≤35 W |
| Power Dimensions and mass Environmental | Battery: CGR-B/802 Lithium ion battery pack can be used. (Mounted in main frame) ≤35 W 290 (W) x 194 (H) x 45 (D) mm, ≤1.9 kg 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 Dust proofing: Conform to MIL-T-28800E |

• Battery pack

| Battery | Lithium ion secondary battery |
|--------------------------|--|
| Voltage, capacity | 14.4 V, 2550 mAh (36.72 Wh) |
| Continuous drive time | See the MW9076 series specifications |
| Charging time | ≤1.5 h |
| Dimensions and mass | 134.5 (W) × 89.5 (H) × 20.5 (D) mm, ≤390 g |

• AC adapter: ADP60WB24.0

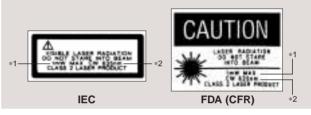
| Rated AC input | 100 to 240 Vac, 50/60 Hz |
|--------------------------|--|
| Rated DC output | 24 Vdc, 2.5 A |
| Dimensions and mass | 109.5 × 62.5 × 31 mm, ≤350 g |
| Safety specifications | UL, CSA, TUV, CE, AS |
| Environmental conditions | Operating temperature and humidity: 0° to +40°C, 80% Storage temperature and humidity: -20° to +80°C, 90% |

• Visible light source: MW9076B/B1/C/D-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, DIAMOND (HMS-10/A) *Replaceable |
| Optical safety | IEC Pub 825-1 Class 2, 21CFR Class 2 |
| Environmental conditions | Same as MW9076 series |
| EMC | Same as MW9076 series |
| Safety | Same as MW9076 series |

Safety measures for laser products

This option complies with optical safety standards in Class 2 of the IEC pub. 825-1 and the FDA (21CFR1040.10, USA); the following descriptive labels are affixed to the product (FDA labels 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/C-02, MW0976B/C-03

| Applicable optical fiber | 10/125 μm, SM (ITU-T G.652) |
|--------------------------|--|
| Optical connector | FC, SC, ST, DIN, DIAMOND (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% (–30 dBm, 1.31/1.55 μm, continuous light) Option 03: ±5% (–10 dBm, 1.31/1.55 μm, continuous light) |
| Environmental conditions | Same as MW9076 series |
| EMC | Same as MW9076 series |
| Safety | Same as MW9076 series |

MU960001A/960002A Optical Channel Selector Unit

| Model | MU960001A | MU960002A | |
|-----------------------------|---|-----------|--|
| Configuration | 1 × 4 1 × 8 | | |
| Wavelength range | 1.2 to 1.65 μm (The special wavelength are 1.31/1.55 μm.) | | |
| Optical fiber | 10/125 μm, SM (ITU-T G.652) | | |
| Optical connector | FC, SC, ST, DIN, DIAMOND (HMS-10/A) *Replaceable | | |
| Insertion loss | ≤2.5 dB | ≤4.5 dB | |
| Environmental conditions | Same as MW9076 series (not applicable to the shock) | | |
| Dimensions | 290 (W) x 194 (H) x 47 (D) mm | | |
| Mass | ≤1.5 kg | ≤2.0 kg | |
| EMC | Same as MW9076 series | | |
| Safety | Same as MW9076 series | | |

*MU960001A/MU960002A can not be attached to MW9076D.

Highest Basic Performance and Measuring Speed

| 15 | dR | high | d | ynamic | rando |
|----|----|------|---|--------|-------|
| 43 | uр | nıgn | u | ynamic | range |

- 8 m short dead zone
- Simple measurement of chromatic dispersion from one end of optical fiber
- Measurement in 10 s (Full-Auto mode), 0.15 s real-time sweep

Automatic execution of functions such as wavelength/channel switching, file saving, printing, etc., just by pressing Start key in repeat measurement mode

5 cm high resolution, **50,000** sampling points

8.4 inch TFT-LCD color display

■ 7.2 inch color STN-LCD display for easy viewing under direct sunlight

Optional 4 or 8 optical channel selector unit

■ 6-hour battery life with remaining-power display

Data read/write in Bellcore GR196 file format

| Model | | MW9076B1 | MW9076B | MW9076C | MW9076D |
|------------------------------------|-----------------------------------|--|--|--|--|
| Op | tical fiber | SM | SM | SM | SM |
| Wavelength | | 1.31/1.55 µm ± 25 nm | 1.31/1.55 μm ± 25 nm | 1.31/1.55/1.625 µm ± 25 nm | 1.31/1.41/1.55/1.625 µm ± 3 nm |
| Dynamic range | | 40.5/38.5 dB (typical value) | 45/43 dB (typical value) | 41.5/39.5/37 dB | 34/33/32/29.5 dB |
| Dead zone (Fresnel, back-scatterd) | | 1.6/8 m | 1.6/8 m | 1.6/8 m | 3/25 m |
| Chromatic dispersion | | | | | ✓ |
| Light source function | | | ✓ | ✓ | |
| Options | Visible light source | ✓ | ✓ | ✓ | ✓ |
| | Optical power meter | | ✓ | ✓ | |
| | High power optical power meter | | ✓ | ✓ | |
| | Optical channel selector unit | √ | ✓ | 1 | |
| Explanation | | General purpose OTDR for mid-distance SM optical fiber installation and maintenance. Offering superior cost perfor- mance. | High performance OTDR: Ideal for users requiring long- distance optical fiber installa- tion and maintenance. | High performance three wavelength OTDR for testing at both the two standard SM window, but also the 1625 nm window used for fiber moni- toring. | A four wavelength OTDR with superb wavelength accuracy that can be used for conventional OTDR applications and chro- matic dispersion measure- ment of WDM transmission |

| Model/order No. | Name | Remarks |
|---------------------|--|--|
| J0057 | Optical adapter FC type | |
| J0486 ^{*4} | Optical fiber cord | With FC-PC at both ends (SM) |
| B0442 | Soft carrying case | 440 (W) × 310 (H) × 110 (D) mm |
| Z0435 | Soft carrying case | 430 (W) × 300 (H) × 170 (D) mm |
| Z0436 | Hard carrying case | Holds main frame and thermal printer |
| J0617B | Replaceable optical connector (FC) | |
| J0618D | Replaceable optical connector (ST) | |
| J0618E | Replaceable optical connector (DIN) | |
| J0618F | Replaceable optical connector (HMS-10/A, HFS-13/A) | |
| J0619B | Replaceable optical connector (SC) | |
| J0654A | Serial interface cord | For remote control with IBM-PC/AT or J-310 (9pin-9pin) |
| J0655A | Serial interface cord | For PC-98 remote control (9pin-25pin) |
| J0977 | Serial interface cord | For connection with external optical channel selector |
| Z0434 | Mini-DIN conversion adapter | For keyboard (Z0301A) |
| J0978 | VGA conversion cable | For external monitor |
| | Peripherals | |
| DPU-414-31B | Thermal printer | 108 to 132 V, 60 Hz, 0° to +40°C, Seiko products |
| PW-4007-U1 | AC adapter | (printer cable: sold separately) |
| DPU-414-31B | Thermal printer | 207 to 253 V, 50Hz, 0° to +40°C, Seiko products |
| PW-4007-E1 | AC adapter | (printer cable: sold separately) |
| J0614 | Printer connection cable | For DPU-414 |
| | Supplies | |
| TP411-28CL | Printer paper | For DPU-414 Thermal printer (10 rolls/set) |

*1: Specify one of FC, ST, DIN, SC or DIAMOND. When the connector type is not specified, FC-PC is supplied.

*2: The optical power meter (option 02) and high-level-input optical power meter (option 03) cannot be mounted at the same time.

*3: The optional optical power meter and high-level-input optical power meter cannot be set for MW9076B1 or MW9076D.

*4: Specify one of A-2, B4, C7 or S3.



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