

# Optical fiber network Monitoring

## Suitable solution for all Optical fiber networks (PON network, Core Network and so on...)

MW9087 series  
Card OTDR



MW9087 series Card OTDR is a suitable solution for monitoring the optical fiber networks. Recently, the optical fiber monitoring business is expanding from Long distance fiber (Core network) to PON network (Access network). MW9087 series Card OTDR is supplied a solution for all kinds optical networks with “Small”, “High performance”.

### [Features]

- ✓ Suitable size to install to RFTS system (B5 size)
- ✓ High performance to test the PON Network (possible to test up to 1x128, High resolution, Short Dead zone)
- ✓ High performance to test the long fiber (High Dynamic Range up to 50dB)
- ✓ High speed data transfer (100BASE-T Ethernet I/F)
- ✓ Environment-Conscious Product (RoHS Compliance)

## Specifications

Model No.	MW9087B	MW9087D
Wavelength <sup>*1</sup>	1645 to 1655 nm <sup>*7</sup>	1550 ± 25 nm
Pulse peak power	<=+15dBm	-
Measurement fiber	10/125um SM fiber (ITU-T G.652)	
Optical connector	SC/PC replaceable	
Dynamic range <sup>*2, *3</sup>	41 dB	50 dB
Dead zone (Fresnel) <sup>*4</sup>	<=0.5m	<=1.0m
Dead zone (Back scatter) <sup>*5</sup>	<=6.5m	<=4.3m
LD type	DFB-LD	FP-LD
In-service cut filter	Mounted	Not mounted
Pulse width	3, 10, 20, 50, 100, 200, 500ns 1, 2, 4, 10, 20μs	
Distance range	1, 2.5, 5, 10, 25, 50, 100, 200, 300km (IOR=1.500000)	
Sampling resolution	0.05-60m (IOR=1.500000)	
Distance Measurement Accuracy	±1m ±3x Meas. distance x10 <sup>-5</sup> ±Sampling Resolution (Uncertainty with fiber's index of refraction is excluded.)	
Loss minimum unit	0.001dB	
Linearity (Loss measurement accuracy)	±0.05dB/dB or ±0.1dB (Whichever is greater)	
Sampling points	Coarse: 5,001 Medium: 20,001 or 25,001 Fine: 100,001, 125,001 or 150,001	
IOR setting	1.000000 - 1.999999 (0.000001 step)	
Averaging time (Averaging count)	1 to 9999 times or 1 to 9999 seconds (settable range)	
Auto measurement <sup>*6</sup>	<b>Measurement item:</b> Total loss, Distance of each event, Splice loss, Return loss, or Reflectance <b>Threshold:</b> Splice loss 0.01 to 9.99dB (0.01dB step), Reflectance -60 to -20dB (0.1dB step), Far end 1 to 99dB (1dB step) <b>Number of detected events:</b> Up to 99 events <b>Automatic setting:</b> Distance range, pulse width, and averaging count (period)	
Manual measurement	<b>Measurement item:</b> 2-point loss, 2-point LSA, dB/km loss, splice loss, return loss or level difference	
Other function	Partial sampling function, Remote control function, High dynamic range mode added (pulse width 50ns to 2us)	
Interface	<b>Ethernet:</b> RJ45 Ethernet 10Base-T/100Base-Tx Auto negotiation supported Ethernet Full Duplex/Half Duplex supported <b>USB 1.1:</b> Type Bx1 <sup>*8</sup>	
LED I/F	Option	
Power	12Vdc ± 10%	
Power consumption	<=20W	
Dimensions	165(H) x 50(W) x 270(D)mm (not including projection portion)	
Weight	<=1.5kg	
Temperature / Humidity	<b>Operating temperature and humidity:</b> 0 to 50°C, <=95% (no condensation) <b>Storage temperature and humidity:</b> -20 to 60°C, <=95%	
Laser safety <sup>*9</sup>	IEC 60825-1: 2007 Class 1 (MW9087B) IEC 60825-1: 2007 Class 1M (MW9087D)	

### Notes

\*1: Pulse width: 1μs at +25°C

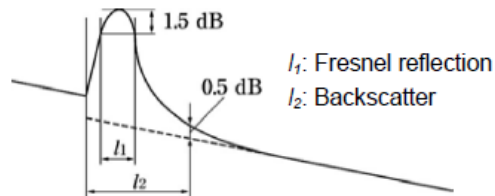
\*2: SNR=1, +25°C, Pulse width 20μs.

Distance range: 100km, Average: 180 seconds, +25°C. With background light, 1310/1550nm -19dBm Continuous light (MW9087B)

Standard/High dynamic range mode added (pulse width 50ns to 20μs)

\*3: Typical. Subtract 1dB for guarantee.

- \*4:  $I_1$  in the right figure. Return loss: 40dB.  
+25°C, IOR=1.500000, Pulse width 3ns.
- \*5:  $I_2$  in the right figure. Return loss: 55dB  
+25°C, IOR=1.500000, Pulse width 10ns.



- \*6: Automatic measurement is an auxiliary function to facilitate measurement operations, and does not assure any detected results. As there may be a case of miss detection, be sure to check waveform data as well for final judgment of measured results.
- \*7: Wavelength range at peak value [Spectrum peak value] -20dB
- \*8: Interface for IP address setup. The specified driver installation is required for connection.
- \*9: Safety measures for laser products  
This option complies with optical safety standards in Class 1, 1M of IEC 60825-1; the following descriptive labels are affixed to the product.



Front view (When installed LED Interface Option)

## 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
MW9087B MW9087D	– Mainframe – Card OTDR (1650nm, 40dB class DR) Card OTDR (1550nm, 50dB class DR)
W3543AE	– Standard accessories – MW9087 Series Card OTDR Operation Manual
MW9087B/D-001	– Options – LED Interface
MW9087B/D-037 MW9087B/D-038 MW9087B/D-039 MW9087B/D-040 MW9087B/D-043	– Options (Optical Connector) – FC Connector ST Connector DIN47256 Connector SC Connector HMS-10/A DIAMOND Connector

*Please Contact:*



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