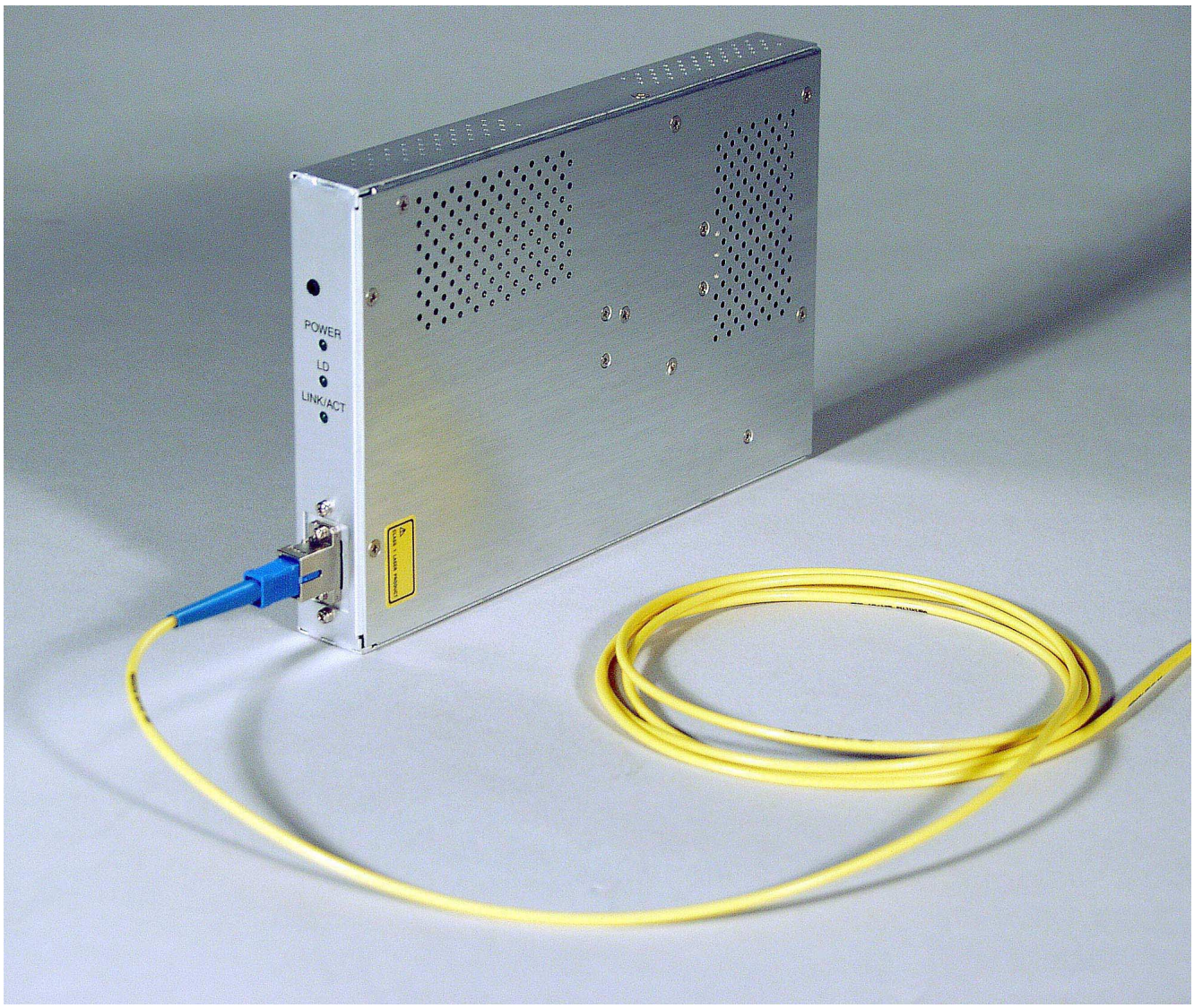
Discover What's Possible™

Anritsu

MW9077A/MW9077A1

OTDR Module

1.31 µm(SM)/1.55 µm(SM)



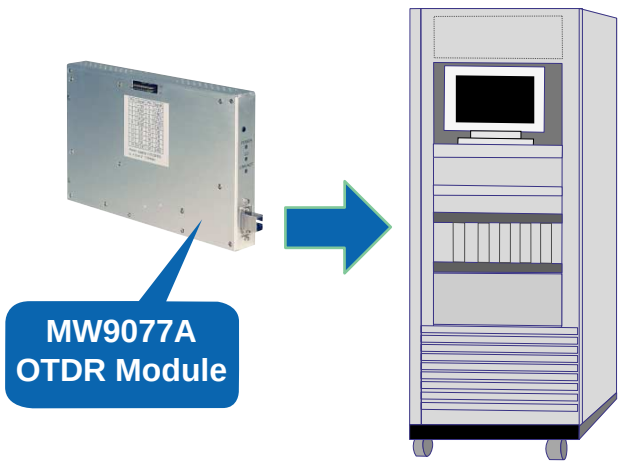
For Optical fiber monitor system, Compact and High performance OTDR Module

- ***A5 size Compact for Optical fiber monitor system***
- ***Extensive operating temperature range of -5º to +55ºC***
- ***High performance inherited from MW9076 Series***
- ***OTDR Quick Data transmit by Ethernet interface and RS-232C***

The MW9077A/A1 OTDR module is suitable OTDR module for optical fiber monitor system. In recent years, Monitor of an optical fiber is applied in many fields not only maintenance of optical-communications network system but also security sensor, flood sensor and prevention of disaster, etc. The MW9077A/A1 OTDR module offers a compact and highly performance OTDR solution in such an optical fiber application system.

A5 size Compact for Optical fiber monitor system

When designing a monitor system, the space factor is important. To satisfy the system requirement in the limited space, a system designer investigates a system configuration from various angles, such as functions, abilities, and module size. Therefore, it is effective to use a compact module for the achievement of a system requirements. Furthermore, using a compact module will miniaturize the whole monitor system, and it leads to a system-wide cost cut as a result. The MW9077A/A1 OTDR module is a compact module less than A5 size (200 mm x 130 mm x 25 mm). Even for strict system conditions, there will still be sufficient space to install the module.



Extensive operating temperature range of -5º to +55ºC

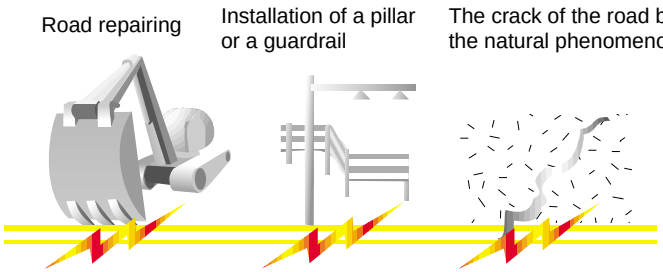
The operation temperature of system is influenced by various environmental conditions, such as the installation place, and the objects being monitored. Moreover, the heat which the system itself generates in fluents the operation temperature. Even such a operation temperature changes, it is necessary for each module that configured system be maintained the performance and the monitor system must be maintained the its reliability. The MW9077A/A1 OTDR module has a standardized dynamic range from -5º to +55ºC. The monitor system can be got a ability of wide range temperature. When the circumference temperature conditions are severe, The MW9077A/A1 OTDR module always works at stabilized performance.

High performance inherited from MW9076 Series OTDR

The MW9077A/A1 OTDR module inherits the technology of the MW9076 series Mini-OTDR. The event dead zone is 5 m and the back-scattered dead zone is 20 m. The dynamic ranges are 41dB (1310 nm) and 40 dB (1550 nm). The sampling resolution is a minimum of 5 cm. The MW9077A/A1 is compact, it has a high performance to use the optical fiber monitor.

Quick Data transmit by Ethernet interface and RS-232C

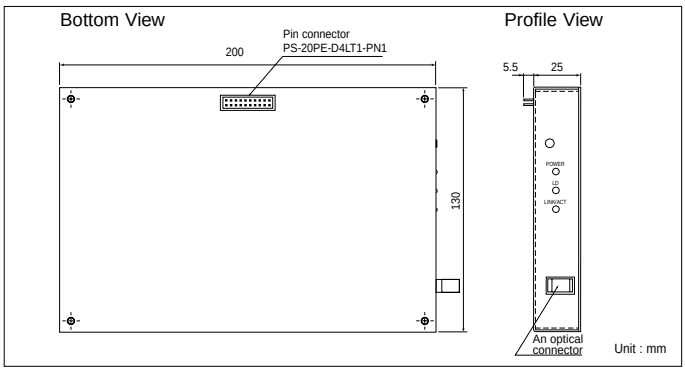
The situation of the optical fiber monitoring is various. For example, in the case of measuring long-term change of optical fiber, the system checks optical fiber once in several hours by OTDR. In other cases of fiber monitoring, when the communication network happens to be troubled, the system check optical fiber immediately to find a fiber break point by OTDR. On the other hand, the monitoring of the optical fiber is always carried out to detect change of an optical fiber loss quickly. The MW9077A/A1 OTDR module can carry out trace sweep at intervals of about 1 second or less as well as getting smooth trace by averaging. The MW9077A/A1 OTDR module has 10 Base Ethernet interface. It can transmit the waveform data to a control device at high speed. The MW9077A/A1 can carry out the monitor of an optical fiber without stress.

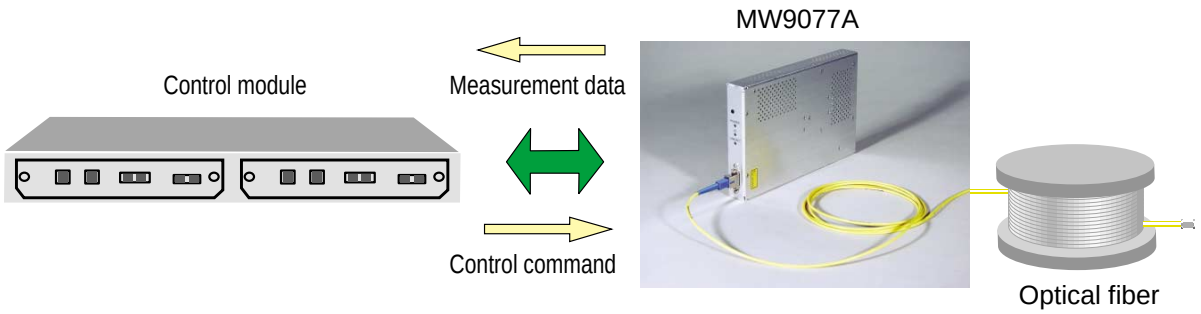


Fine operation from a control device

The MW9077A/A1 OTDR module has two types of interfaces, 10 Base Ethernet interface and RS-232C. From the control device, The MW9077A/A1 OTDR module is controlled by some useful control commands, such as the measurement conditions setup commands and Data transmission command to the control device. The fine setup is possible for each system.

Appearance of MW9077A





Specifications

Model	MW9077A	MW9077A1
Wavelength*1	1310 ±25 nm	1550 ±25 nm
Fiber under test	10/125 µm single-mode optical fiber (ITU-T G.652)	
Distance Range	5/10/25/50/100/200/250/400 km	
Pulse width	10 ns ±30%, 30 ns ±25%, 100 ns ±10%, 300 ns ±10%, 1 µs ±10%, 3 µs ±10%, 10 µs ±10%, 20 µs ±10%	
Dynamic range	41 dB (25˚C, Pulse width 20 µs) 39 dB at –5˚ to +55˚C (S/N=1)	40 dB (25˚C, Pulse width 20 µs) 38 dB at –5˚ to +55˚C (S/N=1)
Dead zone(back scattered light)*2	≤20 m	
Dead zone(Fresnel reflection)*3	≤5 m	
Sampling resolution*4	0.05 m to 80 m	
Number of sampling points	Normal : 5001 or 6251 Fine : 20001 or 25001	
IOR	1.400000 to 1.699999(in 0.000001 steps)	
Distance measurement accuracy	±1 m ±3 x Measurement distance x 10^{-5} ± Sampling resolution	
Loss Measurement accuracy (linearity)	±0.05 dB/dB or ±0.1 dB (whichever is greater)	
Return loss measurement accuracy	±2 dB	
Automatic measurement*5	Measurement items : Total loss, Each event distance, Connection loss, Return loss or reflectance Threshold values : Connection loss : 0.01 to 9.99 dB (in 0.01 dB steps) Reflectance : –14 to –70 dB (in 0.1 dB steps), Fiber end : 1 to 99 dB (in 1 dB steps) Number of detected events : Up to 99 Automatic setting : Distance range, Pulse width, Averaging count (time)	
Manual measurement	Measurement items : Transmission loss and distance between 2 points, Connection loss, Reflectance	
Other functions	Relative distance setting (Zero offset cursor), Calendar clock (without backup), Distance unit : m (Fixed)	
Laser safety specification	21CFR Class 1, IEC Pub60825-1 Class 1	
Power	+12 Vdc ±1 V, 1.5 A max	
Interface	Serial interface : RS-232C : 115.2 kbps Ethernet interface*6 : 10 Base with 20pin connector	
Dimensions and mass	200 x 130 x 25 mm, ≤0.6 kg	
Environmental conditions	Operating temperature and humidity : –5˚ to +55˚C, ≤95% (no condensation) Storage temperature : –40˚ to +70˚C	

*1: At 25˚C, Pulse width : 1 µs
*2: at pulse width10ns
*3: at pulse width10ns, Reflectance : –35 dB
*4: IOR=1.500000
*5: Automatic measurement is support function : Automatic measurement results are not guaranteed. There is a possibility to miss detection of event. Please check each result at on your own.
*6: Signal exchange with 10 Base-T

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 equipment, attaching a wavelength filter etc. should take care about the input of too much OTDR pulse light to Receiver.
There is a possibility of damaging Receiver of transmission equipment.

Ordering Information

Please specify the model/order number, name and quantity when ordering.

Model/Order No	Name	Remarks
	Main frame	
MW9077A*1	OTDR module	Wavelength 1.31 µm SC connector (Fixed)
MW9077A1*1	OTDR module	Wavelength 1.55 µm SC connector (Fixed)
	Standard accessories	
W2254AE	MW9077A/A1 Operation Manual	
	Options	
MW9077A-01	1550nm filter	Factory option. 1550nm cut filter inside
MW9077A-33	LC Connector	OTDR main frame + LC connector (Fixed)
MW9077A1-33	LC Connector	OTDR main frame + LC connector (Fixed)

*1 : In the case of purchase, Please concluded a sales contract.

Anritsu

Specifications are subject to change without notice.

ANRITSU CORPORATION
1800 Onna, Atsugi-shi, Kanagawa, 243-8555 Japan
Phone: +81-46-223-1111
Fax: +81-46-296-1264

● **U.S.A.**
ANRITSU COMPANY
TX OFFICE SALES AND SERVICE
1155 East Collins Blvd., Richardson, TX 75081, U.S.A.
Toll Free: 1-800-ANRITSU (267-4878)
Phone: +1-972-644-1777
Fax: +1-972-644-3416

● **Canada**
ANRITSU ELECTRONICS LTD.
700 Silver Seven Road, Suite 120, Kanata,
ON K2V 1C3, Canada
Phone: +1-613-591-2003
Fax: +1-613-591-1006

● **Brasil**
ANRITSU ELETRÔNICA LTDA.
Praca Amadeu Amaral, 27 - 1 andar
01327-010 - Paraiso, Sao Paulo, Brazil
Phone: +55-11-3283-2511
Fax: +55-11-3886940

● **U.K.**
ANRITSU LTD.
200 Capability Green, Luton, Bedfordshire LU1 3LU, U.K.
Phone: +44-1582-433280
Fax: +44-1582-731303

● **Germany**
ANRITSU GmbH
Grafenberger Allee 54-56, 40237 Düsseldorf, Germany
Phone: +49-211-96855-0
Fax: +49-211-96855-55

● **France**
ANRITSU S.A.
9, Avenue du Québec Z.A. de Courtabœuf 91951 Les Ulis Cedex, France
Phone: +33-1-60-92-15-50
Fax: +33-1-64-46-10-65

● **Italy**
ANRITSU S.p.A.
Via Elio Vittorini, 129, 00144 Roma EUR, Italy
Phone: +39-06-509-9711
Fax: +39-06-502-2425

● **Sweden**
ANRITSU AB
Fagelviksvagen 9E S145 84 Stockholm, Sweden
Phone: +46-853470700
Fax: +46-853470730

● **Singapore**
ANRITSU PTE LTD.
10, Hoe Chiang Road #07-01/02, Keppel Towers,
Singapore 089315
Phone: +65-6282-2400
Fax: +65-6282-2533

● **Hong Kong**
ANRITSU COMPANY LTD.
Suite 923, 9/F., Chinachem Golden Plaza, 77 Mody Road, Tsimshatsui East, Kowloon, Hong Kong, China
Phone: +852-2301-4980
Fax: +852-2301-3545

● **P. R. China**
ANRITSU COMPANY LTD.
Beijing Representative Office
Room 1515, Beijing Fortune Building, No. 5 North Road, the East 3rd Ring Road, Chao-Yang District
Beijing 100004, P.R. China
Phone: +86-10-6590-9230

● **Korea**
ANRITSU CORPORATION
8F Hyun Juk Bldg. 832-41, Yeoksam-dong,
Kangnam-ku, Seoul, 135-080, Korea
Phone: +82-2-553-6603
Fax: +82-2-553-6604

● **Australia**
ANRITSU PTY LTD.
Unit 3/170 Forster Road Mt. Waverley, Victoria, 3149, Australia
Phone: +61-3-9558-8177
Fax: +61-3-9558-8255

● **Taiwan**
ANRITSU COMPANY INC.
7F, No. 316, Sec. 1, NeiHu Rd., Taipei, Taiwan
Phone: +886-2-8751-1816
Fax: +886-2-8751-1817

031113

PRINTED WITH SOY INK Printed with environment-friendly vegetable soybean oil ink.

Printed on 100% Recycled Paper

Catalog No. MW9077A/A1-E-A-1-(1.00) Printed in Japan 2004-1 ddc/CDT