

# AE1000

## FTTx Multi-Function Meter

### Key Benefits

- Future-proof, all-in-one solution includes optical, cable TV analysis, and metallic testing for verifying the installation of FTTx, RFoG, and RF PON networks
- Lightweight and compact design for easy mobility throughout the network
- Long battery life enables the user to test all day without stopping to charge the test equipment
- Easy learning curve with simple GUI
- FiberPath™ and Auto Test features simplify testing, reducing the need for OTDR trace interpretation
- Validate proper levels for both optical and cable TV installation, minimizing repair truck rolls and increasing customer satisfaction



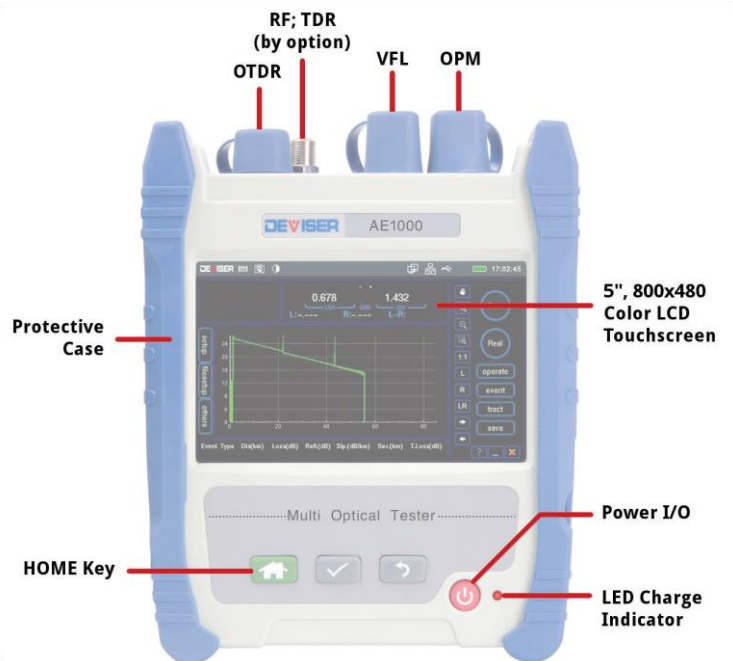
### Overview

As the demand for bandwidth continues to soar, with higher-than-ever smartphone and streaming video usage, cable operators must face the challenge of deploying fiber deeper into the network. And because efficiency, speed, accuracy, and reliability metrics are key for increasing workforce productivity, the natural conclusion is simple: communications service providers (CSP) require a high-performance, efficient, yet affordable test instrument for installing future networks such as FTTx, RFoG, and RF PON.

Brought to you by Deviser Instruments Inc, the AE1000 integrates cable TV analysis, metallic TDR testing and optical testing, including a fiberscope, OTDR, OPM, VFL and LS, future-proofing the investment in test equipment. The AE1000 enables faster, more efficient installations with only a single instrument, producing substantial savings to the CSP.

### Key Benefits

- OTDR performance specifications with up to 3 wavelengths, perfect for FTTx, RFoG, and RF PON installation
- FiberPath™ and Autotest. FiberPath™ analyzes OTDR traces to display a map of the fiber link while identifying possible faults, reducing the need for OTDR trace interpretation
- Digital QAM and analog measurements (plus constellation display) for Cable TV installation verification
- Combines optical and metallic tests: OTDR, VFL, OPM, LS, Cable TV (RF) Test, TDR, and Fiberscope
- Fiberscope integration with FiberSpot software for identifying contaminated connector endfaces
- Easy web-based back office integration



### FiberPath™ (by option)

FiberPath simplifies the interpretation of OTDR traces by identifying link elements and displaying the link map in an easy-to-understand format. Experienced and inexperienced technicians alike will appreciate the streamlined display.



### Fiber Inspection Probe (by option)

The majority of performance faults in fiber-optics are caused by contaminated connectors. Keep fiber endfaces and bulkheads free of dirt with the AE1000's built-in fiberscope application and automatic Pass/Fail analysis.



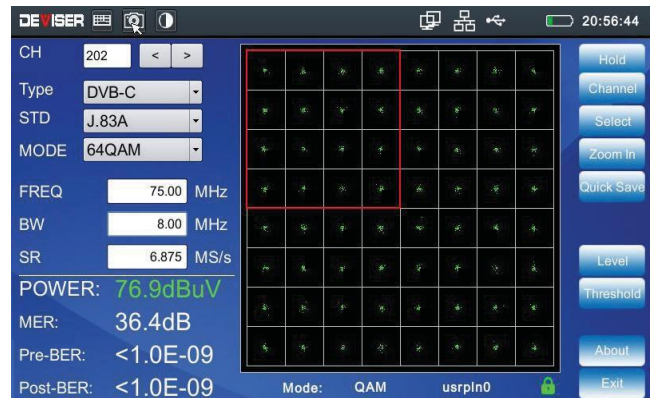
### OTDR

The AE1000's high-performing OTDR supports up to three wavelengths and is the ideal solution for testing the fiber in RFoG and FTTx applications. The OTDR can identify and locate link impairments and measure the insertion loss by LSA, 2Pt and 4Pt methods. The unit also measures optical return loss (ORL).



### Cable TV (RF) Measurements

The cable TV measurements included in the AE1000 include MER and Pre & Post BER testing for verifying proper installation of cable TV services.



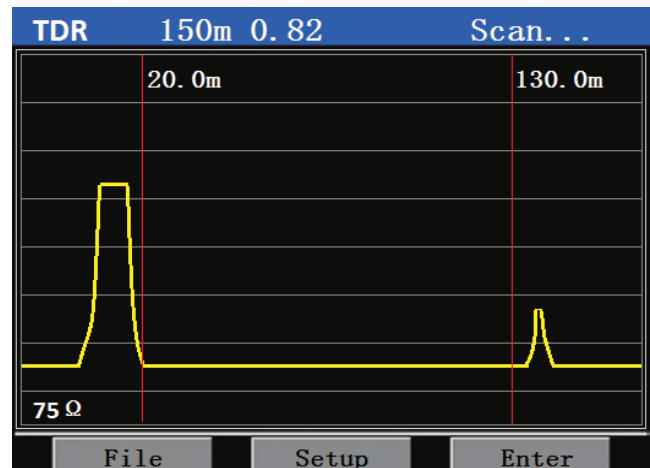
### Optical Measurements

The AE1000 includes a suite of optical measurement tools, including a power meter, laser source, and visual fault locator (VFL). The unit is available in numerous wavelength configurations for ensuring proper levels in networks such as RFoG and FTTx..



### TDR Measurements

The TDR can easily identify and locate possible impairments, helping to gauge the quality of coaxial cable used in a Cable TV network.



## Specifications

AE1000 Model		A	B	C	D	S-1625	S-1650	S-1490	P-1625	P-1650	P-1490
<b>OTDR - Key Parameters</b>											
Dynamic Range* (typical)	1310nm ±20nm	≥ 29dB	≥ 33dB	≥ 36dB	≥ 36dB	-	-	-	≥ 34dB	≥ 34dB	≥ 34dB
	1550nm ±20nm	≥ 27dB	≥ 31dB	≥ 34dB	≥ 34dB	-	-	-	≥ 32dB	≥ 32dB	≥ 32dB
	1625nm ±20nm	-	-	-	-	≥ 35dB	-	-	≥ 32dB	-	-
	1650nm ±20nm	-	-	-	-	-	≥ 35dB	-	-	≥ 32dB	-
	1490nm ±20nm	-	-	-	-	-	-	≥ 35dB	-	-	≥ 32dB
Deadzone**	Event	≤ 2m	≤ 1.5m	≤ 0.8m							
	Attenuation	≤ 7m	≤ 6m	≤ 4m							
<b>OTDR - Other Parameters</b>											
Pulse Width	3ns, 5ns, 10ns, 30ns, 50ns, 100ns, 200ns, 500ns, 1μs, 2μs, 5μs, 10μs, 20μs										
Measurement Time	5 secs. to 5 mins., real-time										
Refresh Rate	4 times/sec										
<b>Distance</b>											
Range	100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km, 100km, 200km										
Sampling Resolution	5cm ~ 12.8m										
Max Sampling Points	256,000										
Group Reflection Rate	1.00000 ~ 2.00000										
Uncertainty (except fiber group reflection)	± (0.75m + 0.005% × Fiber Length + Sampling Resolution)			± (0.75m + 0.001% × Fiber Length + Sampling Resolution)							
<b>Attenuation</b>											
Linearity	0.05 dB/dB			0.03 dB/dB							
Threshold	0.01 dB										
Resolution	0.001 dB										
Reflection Accuracy	±2 dB										
<b>Performance (1)</b>		<b>Performance (2)</b>			<b>Performance (3)</b>						
Measurement mode	Manual; Auto	SOR file format		Bellcore GR 192 v1.1	Dual-Wavelength test		✓				
Threshold settings	Manual; Auto	Loss measurement		LSA, 2pt, 4pt	Trace comparison		✓				
Custom limit profiles	8	Screenshot		✓	Macro Bend test		✓				
Distance offset	✓	Touchscreen keyboard		✓	Real time measurements		✓				
Automatic correction	✓	Web browser		✓	FiberPath™ Link Mapper		✓				
Online help	✓	Auto-shutdown / sleep		✓	Language support		English, Chinese, Spanish, Portuguese, French, Russian, Italian, German, Korean, Arabic				

\* Conditions: 25°C ±5°C, 20μs pulse width, avg. time: 3min, SNR = 1.

\*\* Conditions: 25°C ±5°C, 5ns pulse width, non-saturated Event, distance resolution 5cm.

## Options

Optical Power Meter (OPM)				
Measurement Range	-70 ~ +10dBm	-50 ~ +27dBm	-60 ~ +3dBm	
Accuracy	± 0.17dB	± 0.23dB		
Calibrated Wavelength	1310 / 1490 / 1550 / 1610nm		850 / 1300nm	
Working Wavelength	850 ~ 1700nm			
Optical Laser Source (OLS)				
AE1000 Model	A/B/C/D	P-1625	P-1650	P-1490
Wavelength (nm)	1310 1550	1310 1550 1625	1310 1550 1650	1310 1490 1550
Output Power	> -11dBm	> -4dBm		
Output Frequency	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash			
LighTel DI-1000 Fiber Inspection Probe (optional accessory)				
Pass/Fail Auto Test	✓			
Magnification	400x			
Resolution	0.5 μm			
Visible Range	425 μm x 320 μm			
Interface	USB 2.0			
Tips	<ul style="list-style-type: none"> <li>• PT2-U2.5 / APC / M</li> <li>• DII-CASE-S</li> <li>• PT2-FS / APC / F</li> <li>• CVF-CD</li> </ul>			
Dimensions	175mm x Φ3500 (probe without cap)			
Light Source	Blue LED			
Operating Temperature	0 ~ 50°C			
Storage Temperature	-20 ~ +70°C			

TDR Module		
Interface	50Ω or 75Ω coaxial	
Range	5m ~ 1600m	
Accuracy	±1% of distance	
Resolution	< 1% of distance	
Digital Cable TV Module		
Frequency	Range	5 ~ 1050 MHz
	Accuracy	± 50×10 <sup>-6</sup> (20°C ±5°C)
	Bandwidth	280 kHz
Analog TV	Power Level	30 ~ 120dBμV
	Accuracy	±1.5dB
	Chan. Scan	Up to 150 channels
Digital TV	Power Level	30 ~ 110dBμV
	Accuracy	± 2dB
	SymbolRate	4 ~ 7 MS/s
	MER	39 ± 2dB (typical)
	BER	1E-3 ~ 1E-9 pre/post
Visual Fault Locator (VFL)		
Wavelength	650 ± 10nm	
Output Power	≥ 10mW	
Distance	> 10km	
Safety Standard	IEC 60825-1: 2007	

General Specifications		
Display	5" 800x480 TFT LCD touchscreen	
Interface	1x USB 2.0 port; 1GB internal hard drive; 8GB SD card	
Battery	7.4V/5Ah battery, 37 Wh; ~10 hrs on full charge	
Power Consumption	< 2.0 W	
Power Supply	AC	100 ~ 240V, 0.5A, 50 ~ 60Hz
	DC	12V / 2A max
	Power	24W max
Operating Temperature	-14°F to +122°F (-10°C to +50°C)	
Storage Temperature	-40°F to +158°F (-40°C to +70°C)	
Relative Humidity	0 ~ 95%, non-condensation	
Dimensions (LxWxH)	7.0" x 5.7" x 2.1" (179mm x 145mm x 54mm)	
Weight	< 2.2lbs (1kg)	

## Model Guide

FTTx Application									
Feature	OPM	VFL	OLS	1625nm	1650nm	PC/APC	Fiber Probe	FiberPath™	Remote
AE1000A	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Optional	Optional
AE1000B	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Optional	Optional
AE1000C	Standard	Standard	Standard	N/A	N/A	Selectable	Optional	Standard	Optional
AE1000P	Standard	Standard	Standard	Standard	Selectable	Selectable	Optional	Standard	Optional
RFoG Application									
Feature	OPM, VFL, OLS, FiberPath, Remote			1625nm	1650nm	PC/APC	Fiber Probe	FiberPath™	Remote
AE1000D	Standard			N/A	N/A	Selectable	Optional	Standard	Optional
AE1000S	Standard			Selectable	Selectable	Selectable	Optional	Standard	Optional

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