

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 simplifies testing and reduces the need for OTDR trace interpretation
- Validate proper levels for both optical and cable TV installation, minimizing repair truck rolls and increasing customer satisfaction



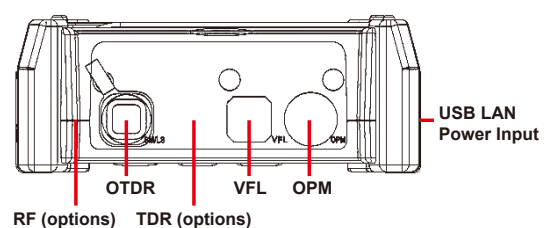
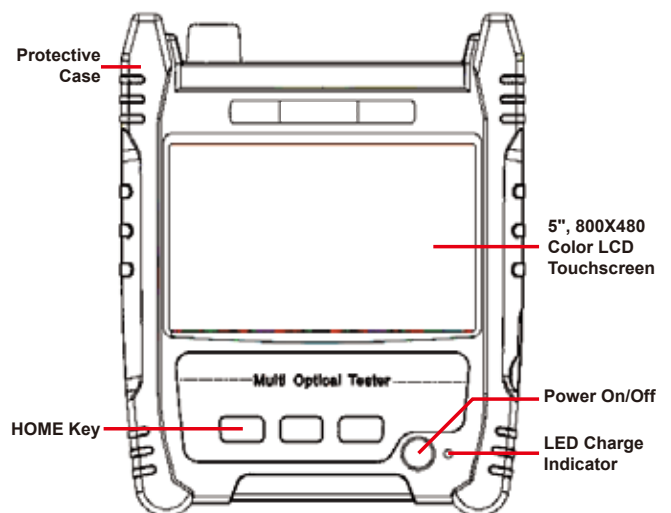
Overview

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 Features

- OTDR performance specifications with up to 2 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



AE1000 Series FTTx Multi-Function Meter

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.



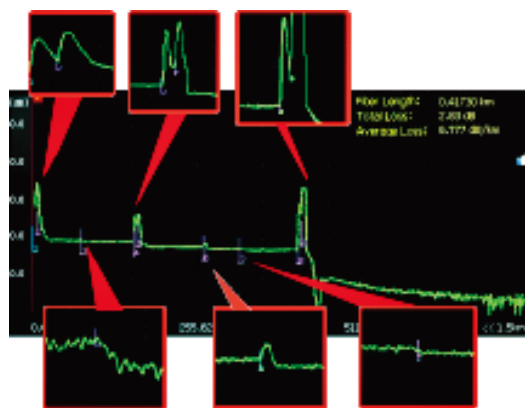
Fiber Inspection Probe (by option)

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).



Optical Measurements

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



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.



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.



AE1000 Series FTtx Multi-Function Meter

Specifications

AE1000 Model		A	B	C	S-1625	S-1650	S-1490
OTDR - Key Parameters							
Dynamic Range* (typical)	1310nm ±20nm	≥ 29dB	≥ 33dB	≥ 36dB	-	-	-
	1550nm ±20nm	≥ 27dB	≥ 31dB	≥ 34dB	-	-	-
	1625nm ±20nm	-	-	-	≥ 35dB	-	-
	1650nm ±20nm	-	-	-	-	≥ 35dB	-
	1490nm ±20nm	-	-	-	-	-	≥ 35dB
Deadzone**	Event	≤ 2m	≤ 1.5m	≤ 0.8m			
	Attenuation	≤ 7m	≤ 6m	≤ 4m			
OTDR - Other Parameters							
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					
Distance							
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)			
Attenuation							
Linearity		0.05 dB/dB		0.03 dB/dB			
Threshold		0.01 dB					
Resolution		0.001 dB					
Reflection Accuracy		±2 dB					
Performance (1)		Performance (2)		Performance (3)			
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.

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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	S-1625	S-1650	S-1490
Wavelength (nm)	1310 / 1550	1625	1650	1490
Output Power	> -11dBm	> -4dBm		
Output Frequency	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash			
AFEI400 Auto Fiber Endface Inspector				
Field of View	425 x 360 μm			
Magnification	400x			
Resolution	< 1.5 μm			
Fault Size Detection	0.75 μm			
Focus Range	±1mm (max ±3mm), auto-focus			
Interface	USB 2.0; use with AE1000, AE3100, or Windows PC			
Camera	1.3 million megapixel, 1/2" CMOS			
Measurement Speed	< 1s			
Light Source	Blue LED			
Dimensions (HxWxL)	1.9" x 1.0" x 7.1" (47mm x 24.5mm x 181mm)			
Weight	5.4oz (152g)			

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	± 50×10-6 (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
	Symbol Rate	4 ~ 7 MS/s
	MER	39 ± 2dB (typical)
	BER	1E-3 ~ 1E-9 pre/post
Visual Fault Locator (VFL)		
Wavelength	650 ± 10nm	
Output Power	1mW	
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
	Total Power	24W max
Operating Temperature	-10°C ~ +50°C	
Storage Temperature	-40°C ~ +70°C	
Relative Humidity	0 ~ 95%, non-condensing	
Dimensions (LxWxH)	7.0" x 5.7" x 2.1" (179mm x 145mm x 54mm)	
Weight	< 2.2lbs (1kg)	

AE1000 Series FTTx Multi-Function Meter

Ordering Information

Included with all AE1000 FTTx Multi-Function Meter Models:

- Visual Fault Locator, 650nm (1mW)
- Optical Light Source
- Li-Ion Battery & AC/DC Adapter
- Carrying Case & Stylus
- Optical Power Meter (select either [-70 ~ +10dBm] or [-50 ~ +26dBm])
- Calibration & Quality Certificates
- Quick Reference Guide
- Cleaning Swab
- CD with Instruction Manual
- PC Management Software
- FC/PC or APC Connectors

SKU No.	Wavelengths	Dynamic Range	Event Deadzone	Attenuation Deadzone
AE1000A	1310 / 1550nm	29 / 27dB	≤ 2.0m	≤ 7.0m
AE1000B	1310 / 1550nm	33 / 31dB	≤ 1.5m	≤ 6.0m
AE1000C	1310 / 1550nm	36 / 34dB	≤ 0.8m	≤ 4.0m
AE1000S-1625	1625nm	35dB	≤ 0.8m	≤ 4.0m
AE1000S-1650	1650nm	35dB	≤ 0.8m	≤ 4.0m
AE1000S-1490	1490nm	35dB	≤ 0.8m	≤ 4.0m
FC/PC	FC Connector and PC Physical Type			
SC/APC	SC Connector and APC Physical Type			
APEI400	Auto Fiber Endface Inspector & FiberSpot™ Inspection Software			
AE1000-802	FiberPath™ Link Mapper			
AE1000-204	TDR Module			
AE1000-205	Digital Cable TV Module			
AE1000-009	150 Mbps USB Wi-fi Dongle		AE4000-737P	Fiber Cleaning Pen
AE1000-820	Remote Measurement		DS2400-703	2-Prong Power Cord plus Ground (Europe except UK)
AE4000-750	FC Connector		308-0022-01	3-Prong Power Cord plus Ground (US)
AE4000-753	SC Connector		DS2400-704	3-Prong Power Cord plus Ground (Australia)
AE4000-751	LC Connector		DS2400-705	3-Prong Power Cord plus Ground (UK)
AE4000-752	ST Connector			