

AE3100A~F Series 2-Wavelength Handheld OTDR

Key Features

- High performance OTDR for FTTx and RFoG networks
- 7", 800x480 LCD touchscreen places power and convenience at your fingertips
- Excellent short-distance performance with 0.8m event deadzone and 4m attenuation deadzone
- Dual-wavelength testing with broad dynamic range coverage (28 - 45dB)
- Minimum 5cm resolution
- Intelligent event analysis
- Excellent stability and repeatability
- "FiberPath" fiber link mapping mode
- Multiple options for your measurement needs, including: VFL, power meter, light source, and optical fiber microscope
- Complete user data ports: supports LAN, USB, SD, & more



Overview

From Deviser Instruments' 4th generation of OTDR, the field-portable AE3100 marks a giant leap forward in fiber-optic measurement performance and utility. Models A through F can test the 1310nm and 1550nm wavelengths with dynamic range up to 45dB. Input signals that contain both 1310nm & 1550nm wavelengths are automatically filtered.

Featuring intuitive touchscreen controls and real-time data analysis, the AE3100 is the ideal test instrument for constructing, deploying, maintaining, and authenticating FTTx networks - as well as verifying access networks. Multiple models and configuration options ensure your unique measurement needs are covered.

Applications

Construction, deployment, maintenance, and authentication of the following networks:

- FTTx
- Long Haul Networks
- Passive Optical Networks (PON)
- Local Area Networks (LAN)
- Metropolitan Area Networks (MAN)

Also see AE3100 models CP, DP, EP, and G for triple- and quadruple-wavelength measurements with dynamic range up to 43dB, and models M, CM, DM, and EM for multi-mode testing.

Model Guide

Model	Wavelengths (nm)	Dynamic Range (dB)	Event Deadzone* (m)	Att. Deadzone* (m)
A	1310 / 1550 (± 20)	≥ 32 / 30	≤ 1.5	≤ 5.0
B		≥ 34 / 32	≤ 1.0	
C		≥ 36 / 34	≤ 0.8	≤ 4.0
D		≥ 40 / 38		≤ 3.0
E		≥ 43 / 41		
F		≥ 45 / 43		

* At 25°C ± 5°C; 5ns pulse width; non-saturated reflective event; 5cm distance resolution.

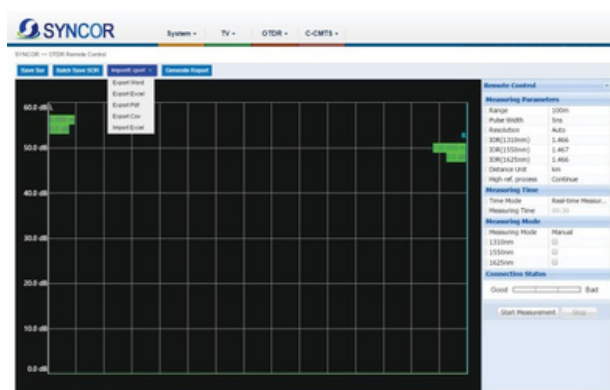
FiberPath

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 simplified display.



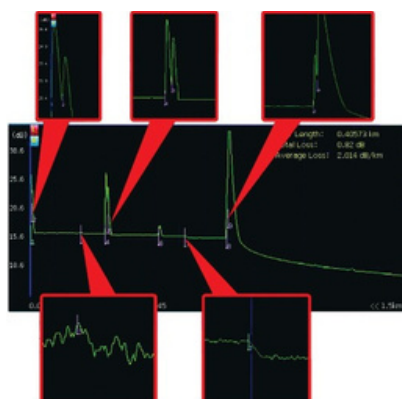
Remote Control

In conjunction with the SYNCOR PC-based asset and test data management system, users can issue test orders and collect measurement data remotely from AE3100 units deployed to the field.



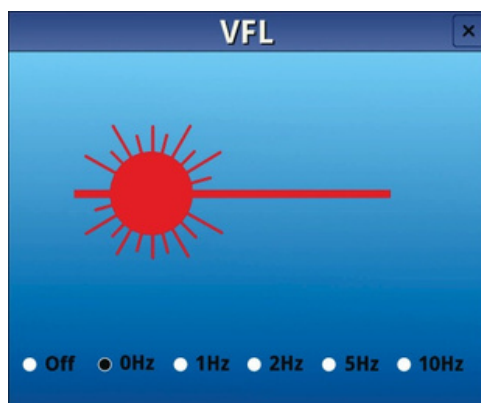
OTDR

This high-performing OTDR is the ideal solution for testing optical fiber in RFoG and FTX 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 AE3100 includes a suite of optical measurement tools, including a power meter, laser source, and visual fault locator (shown below). The unit is available in numerous wavelength configurations for ensuring proper levels in networks such as RFoG and FTX.



Pictured: Visual Fault Locator (VFL) beam illuminates bends, splices, and faults in optical fibers, with an effective range of up to 10km.

Specifications

AE3100 model	A		D		E	F
General						
Wavelength Accuracy	± 20nm					
Event Deadzone	≤ 1.5m	≤ 1.0m	≤ 0.8m			
Attenuation Deadzone	≤ 5.0m		≤ 4.0m	≤ 3.0m		
Measurement Range	100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km, 100km, 200km, 400km					
Pulse Width	3ns, 5ns, 10 ns, 30 ns, 50 ns, 100 ns, 200 ns, 500 ns, 1μs, 2μs, 5μs, 10μs, 20μs					
Sampling Resolution	10cm ~ 12.8m		5cm ~ 12.8m			
Sampling Points	Up to 256,000					
Distance Accuracy (m)	± (0.75m + 0.005% x Distance + Sampling Res.)		± (0.75m + 0.001% x Distance + Sampling Resolution)			
Group Refractive Index	1.30000 ~ 1.70000					
Linearity	0.05 dB/dB		0.03 dB/dB			
Loss Threshold	0.001dB					
Loss Resolution	0.001 dB					
Refresh Rate	4 fields/second					
Reflectance Accuracy	± 2dB					
Measurement Time Range	5s ~ 5min, real time					
Data Storage	Holds >80,000 OTDR traces, exportable to USB / SD card / computer					
Functions & Accessories						
Test Modes	Manual; Auto		File Format	Compatible with Bellcore GR 196 v1.1 (*.SOR)		
Limit Settings	Manual; Auto		Loss Test Type	LSA, 2pt, 4pt		
Limit Profiles	8 customizable profiles		UI Style	4 styles available		
Distance Shift	Yes; display negative events		FiberPath Linear View	✓		
Real-Time Testing	✓		Touchscreen Keyboard	✓		
Self-Correcting	✓		Web Browser	✓		
Online Help	✓		Auto Shutdown/Sleep	✓		
Factory Reset	✓		Macrobending Test	✓		
Multi-Lingual File Naming	✓		Dual/Quad-λ Testing	✓		
Screenshots	✓		Multi-Trace Comparison	✓		

Specifications (cont'd)

AE3100 model		A		D E F	
Functions Accessories cont'd					
Optical Power Meter	Calibration λ	1310 / 1550nm			
	Operating λ	850 / 980 / 1300 / 1310 / 1490 / 1550 / 1610nm			
	Range	Select from [-70 ~ +10dBm] or [-50 ~ +26dBm]			
	Resolution	± 0.17 dB			
Laser	Wavelength	1310 / 1550nm			
	Output Power	> -11dBm		> -4dBm	
	Modes	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash			
VFL	Wavelength	650 $\pm$ 10nm			
	Power	1mW			
	Compliance	Laser Safety Class II			
USB FiberSpot Mode		Available by option only			
FiberPath		Available by option only			
Fiber Cleaning Pen		Up to 200 uses			
Remote Testing		Requires SYNCOR software configuration			
Cloud Asset Management		Requires SYNCOR software configuration			
Optical Port Type		PC (default); APC (optional)			
Optical Adapter Type		FC (default); SC, ST, LC, SC/APC (optional)			
AFEI400 Auto Fiber Endface Inspector					
Field of View		425 x 360 μ m		Compatibility	Use with AE3100, AE1000, or Windows PC
Resolution		< 1.5 μ m		Magnification	400x
Fault Size Detection		0.75 μ m		Camera	1.3 million megapixel, 1/2" CMOS
Focus Range		± 1 mm (max ± 3 mm), auto-focus		Live Image	800 x 800, JPEG
Light Source		Blue LED		Storage Temp.	-20 ~ +70°C
Power Source		USB 2.0 port		Measure speed	< 1s
Dimensions (HxWxL)		1.9" $\times$ 1.0" $\times$ 7.1" (47mm $\times$ 24.5mm $\times$ 181mm)		Weight	5.4oz (152g)
General Specifications					
Display		7" 800x480 dot matrix TFT LCD touchscreen			
Interface		2x USB 2.0; 1x RJ45 LAN (10M/100M); 1x SD card slot (64GB max)			
Power	Supply	100 ~ 240V, 1.5A, 50~60Hz (AC); max 12V / 2Ah (DC); total max power 24 W			
	Consumption	< 3.5W			
Battery		7.4V / 5300mAh Li-ion battery, 39.22 Wh			
Operating Time		~ 11 hrs on full charge			
Languages		Chinese, English, Spanish, Portuguese, French, Russian, Italian (German, Korean, Arabic optional)			
Operating Temperature		-10°C ~ +50°C			
Storage Temperature		-40°C ~ +70°C			
Relative Humidity		0 ~ 95%, non-condensing			
Dimensions (LxWxH)		8.1" x 6.7" x 3.0" (206mm x 171mm x 75mm)			
Weight		< 4.4 lbs (< 2kg)			

Ordering Information

Included with all AE3100 Handheld OTDR Models:

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

S o.	Wavelengths	D namic Range	Event Dead one	Attenuation Dead one
AE3100A	1310 / 1550nm	≥ 32 / 30dB	< 1.5m	< 5.0m
AE3100B	1310 / 1550nm	≥ 34 / 32dB	< 1.0m	< 5.0m
AE3100C	1310 / 1550nm	≥ 36 / 34dB	< 0.8m	< 4.0m
AE3100D	1310 / 1550nm	≥ 40 / 38dB	< 0.8m	< 3.0m
AE3100E	1310 / 1550nm	≥ 43 / 41dB	< 0.8m	< 3.0m
AE3100F	1310 / 1550nm	≥ 45 / 43dB	< 0.8m	< 3.0m
FC/PC	FC Connector and PC Physical Type			
SC/APC	SC Connector and APC Physical Type			
AFEI400	Auto Fiber Endface Inspector & FiberSpot™ Inspection Software			
AE4000-801	FiberPath□ Link Mapper			
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			

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