AE3100A~F Series

Dual-Wavelength Handheld OTDR

Key Benefits

- 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 dead zone and 4m attenuation dead zone
- Dual wavelength testing with broad dynamic range coverage (28 - 45 dB)
- 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

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)

The fieldportable 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.

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.

Model Guide

Model	Wavelengths (nm)	Dynamic Range (dB)	Event Deadzone* (m)	Attenuation Deadzone* (m)
A	1310 / 1550 (± 20)	30 / 28	≤ 1.5	≤ 5.0
B	1310 / 1550 (± 20)	34 / 32	≤ 1.0	≤ 5.0
C	1310 / 1550 (± 20)	36 / 34	≤ 0.8	≤ 4.0
D	1310 / 1550 (± 20)	40 / 38	≤ 0.8	≤ 3.0
E	1310 / 1550 (± 20)	43 / 41	≤ 0.8	≤ 3.0
F	1310 / 1550 (± 20)	45 / 43	≤ 0.8	≤ 3.0

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

AE3100A~F Series 2-Wavelength Handheld OTDR

Specifications

AE3100 Model	A	B	C	D	E	F
General						
Wavelength Accuracy	± 20nm					
Event Dead Zone	≤1.5m	≤1.0m	≤0.8m			
Attenuation Dead Zone	≤5m		≤4m	≤3m		
Distance Range	100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km, 100km, 200km, 400km					
Sampling Resolution	10cm ~ 12.8m		5cm ~ 12.8m			
Sampling Points	256,000 max					
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					
Pulse Width	3ns, 5ns, 10 ns, 30 ns, 50 ns, 100 ns, 200 ns, 500 ns, 1μs, 2μs, 5μs, 10μs, 20μs					
Measurement Time Range	5s ~ 5min, real time					
Data Storage	>80,000 OTDR traces, exportable to USB or Computer					

Functions & Accessories			
Test Modes	Manual; Auto	File Formats	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 Wavelength Test	✓
Screenshots	✓	Multi-Trace Comparison	✓

AE3100A~F Series 2-Wavelength Handheld OTDR

AE3100 Model		A / B	C / 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	± 0.17dB	
Laser	Wavelength	1310 / 1550nm	
	Output Power	> -11dBm	> -4dBm
	Modes	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash	
VFL	Wavelength	650 ± 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 360μm	Compatibility	Use with AE3100, AE1000, or Windows PC
Resolution	< 1.5μm	Magnification	400x
Fault Size Detection	0.75μm	Camera	1.3 million megapixel, 1/2" CMOS
Focus Range	±1mm (max ±3mm), 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" × 1.0" × 7.1" (47mm × 24.5mm × 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)

AE3100A~F Series 2-Wavelength Handheld OTDR

Ordering Information

Included with all AE3100 Handheld OTDR 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
AE3100A	1310 / 1550nm	30 / 28dB	< 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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FiberPath™

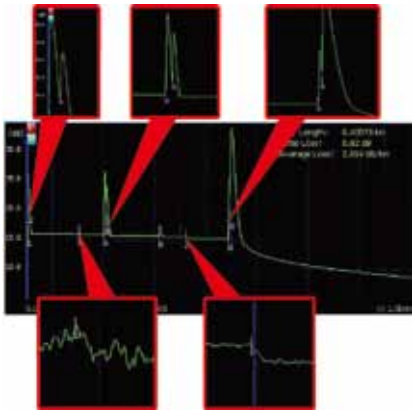
FiberPath simplifies the interpretation of OTDR traces by identifying link elements and displaying the link map in an easy-to-understand format. Experienced and inexperienced technicians alike will appreciate the simplified display.

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 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 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 FTTx.

Pictured: Visual Fault Locator (VFL) beam illuminates bends, splices, and faults in optical fibers.