

# AE3100 Series 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 3m attenuation dead zone
- Dual wavelength testing with broad dynamic range coverage (SM:30-46dB, MM:25/27dB)
- Minimum 4cm 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.

Featuring intuitive touchscreen controls, real-time data analysis, and more, 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. Dual or multiple wavelengths and a choice of dynamic ranges (spanning from 30 to 46dB) are also available.

## Applications

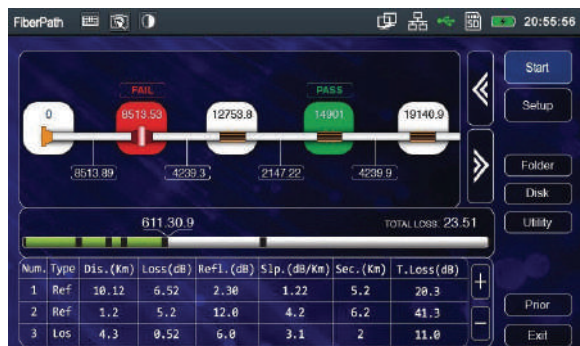
Construction, deployment, maintenance, and authentication of the following networks:

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

## Main Functions

### FiberPath™

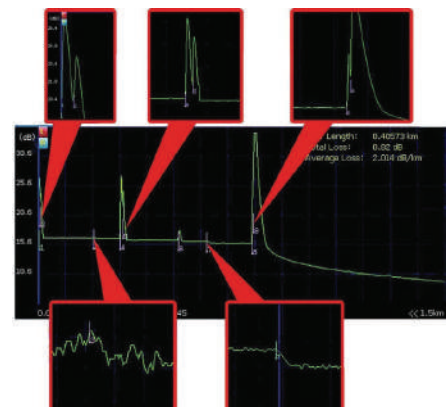
FiberPath simplifies the interpretation of OTDR traces by identifying link elements and displaying the link map in an easy-to-understand format. Experienced and inexperienced technicians alike will appreciate the simplified display.



### 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).

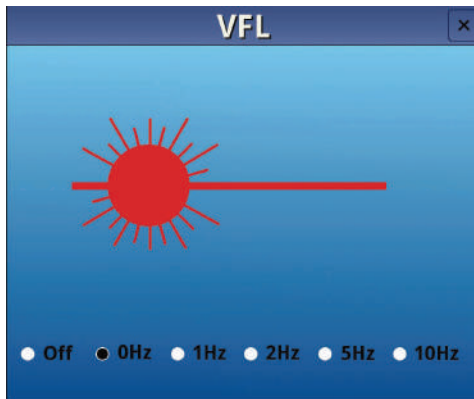
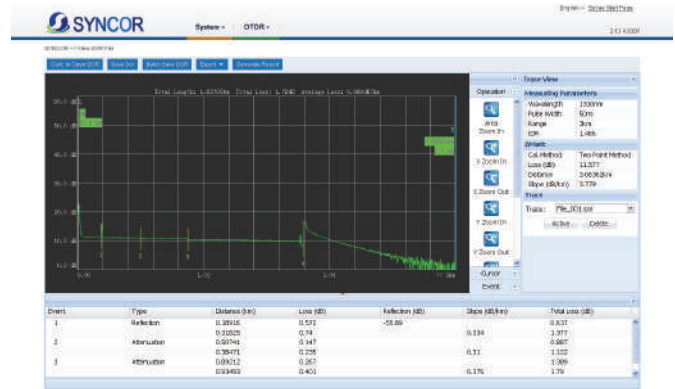


**Optical Measurements**

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.

**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.



**Specifications**

OTDR Technical Parameters	
Wavelength (nm)	Multi-mode: 850/1300, Single-mode: 1310/1490/1550/1625/1650
Wavelength Accuracy	± 20nm
Dynamic Range	Refer to ordering guide
Event Dead Zone	Refer to ordering guide
Attenuation Dead Zone	Refer to ordering guide
Distance Range	Single-mode: 100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km, 100km, 200km, 400km (only AE3100D/E/F/H series )
	Multi-mode: 100m, 400m, 1.5km, 3km, 6km, 12km, 25km, 50km
Distance Unit	km, mile feet, mile, meter
Sample Resolution	AE3100A/B/C: 10cm to 6.4m, other models: 4cm to 12.8m
Sampling Points	AE3100A/B/C: 128000, other models: 256000
Distance Accuracy (m)	AE3100A/B/C/M/AM/BM/CM: ±(0.75m+0.005%×fiber length + sample resolution)
	Other models:± (0.75m + 0.001% x Distance + Sampling Resolution)
Group Refractive Index	1.000000 to 2.000000
Linearity	AE3100 A/B/C/M/AM/BM/CM:0.05dB/dB, other models:0.03dB/dB

Loss Threshold	0.001dB
Loss Resolution	0.001dB
Reflectance Accuracy	AE3100 A/B/C/M/AM/BM/CM:±4dB Other models:±2dB
Refresh Rate	8 fields/second
Pulse Width	Single-model: 3ns, 5ns, 10 ns, 30 ns, 50 ns, 100 ns, 200 ns, 500 ns, 1µs, 2µs, 5µs, 10µs, 20µs
	Multi-mode: 5ns, 10 ns, 20 ns, 30ns, 50 ns, 100 ns, 200 ns, 500 ns, 1µs
Measurement Time Range	5s ~ 5min, real time
Data Storage	>300,000 OTDR traces, exportable to USB or Computer

**Functions & Accessories**

Test Modes	Manual; Auto	File Formats	Compatible with Bellcore GR 196 v1.1 (*.SOR) and *.PDF
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	√
Optical Power Meter	Operation Wavelength	850nm-1700nm	
	Power Measuring Range	Select either [-70 to +10dBm] or [-50 to +26dBm]	
	Accuracy	±0.17dB/±0.23dB	
	Calibration wavelength	1310 nm/1550nm/1490/1610nm and 850nm/1300nm (only M series)	
Light Source	Wavelength	Same as OTDR; see model guide	
	Output Power	>-4dBm or >-11dBm	
	Modes	CW / 1kHz / 2kHz / 1kHz + Flash / 2kHz + Flash	
Visual Fault Locator	Wavelength	650 nm±10 nm	
	Output Power	≥1mW/10mW/30mW	
	Laser Safety	IEC 60825 -1: 2007	
USB FiberSpot Mode	Available by option only		
FiberPath	Available by option only		
Worker	Available by option only		
Seeker	Available by option only		
Wi-Fi, Bluetooth	Available by option only		
Remote Testing	Requires SYNCOR software configuration		
Cloud Asset Management	Requires SYNCOR software configuration		
Optical Port Type	UPC (default); APC (optional)		
Optical Adapter Type	FC/UPC (default); FC/APC, SC/UPC, SC/APC, LC/UPC, LC/APC, ST (optional)		

General Specifications		
Display	7inch, 800x480 dot matrix TFT LCD touchscreen	
Interface	2xUSB 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	< 6W
Battery	7.4V / 5300mAh Li-ion battery, 39.22 Wh (Default); 7.4V 10000mAh Li-ion battery, 74Wh(Optional)	
Operating time	>6 hours on full charge(Default); >12 hours on full charge (Optional)	
Languages	Chinese, English, Spanish, Russian, Italian, Portuguese, French, German, Japanese, Korean, Czech, Swedish, Polish	
Operating temperature	-10°C to +50°C	
Storage temperature	-20°C to +60°C	
Relative Humidity	0%-95% non-coagulate	
Dimensions (LxWxH)	8.1" x 6.7" x 3.0" (206mm x 171mm x 75mm)	
Weight	<4.4lbs (< 2kg)	

## Ordering Information

### Model Guide

Model	Wavelengths(nm)	Dynamic Range (dB)	Event Deadzone (m)	Attenuation Deadzone (m)
AE3100A	1310 / 1550	32/30	≤1.5	≤5.0
AE3100B	1310 / 1550	34/32	≤1.0	≤5.0
AE3100C	1310 / 1550	36/34	≤0.8	≤4.0
AE3100D	1310 / 1550	40/38	≤0.8	≤3.0
AE3100E	1310 / 1550	43/41	≤0.8	≤3.0
AE3100F	1310 / 1550	45/43	≤0.8	≤3.0
AE3100H	1310 / 1550	46/45	≤0.8	≤3.0
AE3100AP-1	1310/1550/1625	32/30/29	≤1.5	≤5.0
AE3100AP-2	1310/1550/1650	32/30/28	≤1.5	≤5.0
AE3100AP-3	1310/1550/1490	32/30/29	≤1.5	≤5.0
AE3100CP-1	1310/1550/1625	36/34/34	≤0.8	≤4.0
AE3100CP-2	1310/1550/1650	36/34/33	≤0.8	≤4.0
AE3100CP-3	1310/1550/1490	36/34/34	≤0.8	≤4.0
AE3100DP-1	1310/1550/1625	40/38/37	≤0.8	≤3.0
AE3100DP-2	1310/1550/1650	40/38/36	≤0.8	≤3.0
AE3100DP-3	1310/1550/1490	40/38/37	≤0.8	≤3.0
AE3100EP-1	1310/1550/1625	43/41/40	≤0.8	≤3.0
AE3100EP-2	1310/1550/1650	43/41/39	≤0.8	≤3.0
AE3100EP-3	1310/1550/1490	43/41/40	≤0.8	≤3.0
AE3100FP-1	1310/1550/1625	45/43/41	≤0.8	≤3.0
AE3100FP-2	1310/1550/1650	45/43/40	≤0.8	≤3.0
AE3100FP-3	1310/1550/1490	45/43/41	≤0.8	≤3.0

Model	Wavelengths(nm)	Dynamic Range (dB)	Event Deadzone (m)	Attenuation Deadzone (m)
AE3100HP-1	1310/1550/1625	46/45/41	≤0.8	≤3.0
AE3100HP-2	1310/1550/1650	46/45/40	≤0.8	≤3.0
AE3100HP-3	1310/1550/1490	46/45/41	≤0.8	≤3.0
AE3100G	1310/1490/1550 /select either 1625 or 1650	Optional	Optional	Optional
AE3100M	850/1300	25/27	≤1.5m (MM, no SM)	≤5.0m (MM; no SM)
AE3100AM	850/1300/1310/1550	25/27/32/30	≤1.5m (MM,SM)	≤5.0m (MM,SM)
AE3100BM	850/1300/1310/1550	25/27/34/32	SM:≤1.0m MM:≤1.5m	≤5.0m (MM,SM)
AE3100CM	850/1300/1310/1550	25/27/36/34	SM:≤0.8m MM:≤1.5m	SM:≤4.0m MM:≤5.0m
AE3100DM	850/1300/1310/1550	25/27/40/38	SM:≤0.8m MM:≤1.5m	SM:≤3.0m MM:≤5.0m
AE3100EM	850/1300/1310/1550	25/27/43/41	SM:≤0.8m MM:≤1.5m	SM:≤3.0m MM:≤5.0m

**Standard Configuration and Accessories (included with instrument)**

Description	Part No.	Order No.
Portable OTDR	AE3100	0250.3100.09
AE3100 Disk (User Manual + Toolbox)	AE3100-001	6250.0600.03
AE3100 Quick Operation Guide	AE3100-003	6250.0600.05
Calibration and Compliance Certificate	DS1001-001	6190.0600.05
AE3100 Soft Carrying Case	AE3100-018	6250.0600.21
Touch Pen	AE3100A.6.604	6250.0300.47
Cleaning Swab	AE4000-731	6290.0900.02
Kongston SD Card 32G	TC712-007	6270.0600.21
Power Adapter 12V 2A	UE24WCP-120200SPA	6250.0700.00
Visual Fault Locator (VFL, 650nm, 10mw)	AE3100-845	2250.3100.00
Optical power meter (for telecommunication) (SC/PC)	OPM-T(SC/PC)	2250.3100.24
Light Source (LS)	AE3100-703	2250.3100.12

**Options**

Optional Features		
Description	Part No.	Order No.
Worker	Worker	2251.3100.26
FiberPath	FiberPath	2251.3100.27
Seeker	Seeker	2251.3100.28
Integrated GPS Module	GPS	2251.3100.29
Integrated Bluetooth Module	Bluetooth	2251.3100.30
Integrated WiFi Module	WiFi	2251.3100.31
Fiberspot software	AE3100-807	2250.3100.10
Remote measurement	AE1000-820	2250.1000.22
+27~-40 dBm Optical Power Meter APC	OPM1	2251.3100.20
+10~-70 dBm Optical Power Meter APC	OPM2	2251.3100.21

+27~-40 dBm Optical Power Meter PC	OPM3	2251.3100.35
+10~-70 dBm Optical Power Meter PC	OPM4	2251.3100.36
1mW 650nm VFL	VFL10	2251.3100.22
10mW 650nm VFL	VFL11	2251.3100.23
30mW 650nm VFL	VFL12	2251.3100.24
<b>Optional Accessories</b>		
Fiber Microscope LKS-100U	LKS-100U	6250.0400.04
Fiber Microscope DI-1000	DI-1000	6250.0900.11
AE3100 Inspection Certificate (with Data)	AE3100-007	6250.0600.09
APC Adapter	FC-APC	1290.0000.02
SC/APC light source adapter (En He) (OTDR-SC-APC-XHJ-003)	SC/APC	6210.0400.22
SC/PC light source adapter (En He) (OTDR-SC-PC-XHJ-002)	SC/PC	6210.0400.21
ST Optical Fiber Adapter	AE4000-752	5290.0000.01
LC Optical Fiber Adapter	AE4000-751	5290.0000.03
Easy to clean FC adapter (SYA4-1009 1.1)	SYA4-1009 1.1	6260.0500.00
LC-FC adapter (LC/UPC-FC/UPC SM)	LC/UPC-FC/UPC SM	6210.0400.06
LC-FC adapter	LC-FC	6250.0500.07
LC-SC adapter	LC-SC	6250.0500.08
SC-FC adapter	SC-FC	6250.0500.09
SK110 line finder	AE919-201	2250.0919.27
Optical Fiber Cleaner	AE4000-737	6290.0900.06
Adaptor UL Plug(US)	308-0022-01-00300300122000	6190.0700.02
Adaptor UL Plug(EU)	DS2400-703	6190.0700.03
Adaptor UL Plug(AU)	DS2400-704	6190.0700.04
Adaptor UL Plug(UK)	DS2400-705	6190.0700.05