

Data Sheet

# VIAVI

## SmartOTDR Handheld Fiber Tester

The affordable, easy-to-use handheld tester for techs at any level

The lightweight and compact SmartOTDR speeds and optimizes field testing of metro and access networks—with a tailored OTDR interface and automatic analysis that any technician can understand.

With SmartOTDR, generic or user-defined setup configurations eliminate setup errors and maintain results consistency. One-touch operation and a single results window ensure fast and easy measurements, while robust wireless connectivity options increase productivity anywhere.



Microscope



VFL



Source



Powermeter



PON Powermeter



SmartTEST OTDR



Expert OTDR

### Benefits

- Combines all essential fiber tests in one handheld with visual fault locator (VFL), optical power meter (OPM), and P5000i microscope options
- Simplifies OTDR analysis with Smart Link Mapper (SLM) result view
- Upgrades easily in the field
- Automates testing with objective, pass/fail results
- Enhances productivity anywhere with powerful network connectivity options

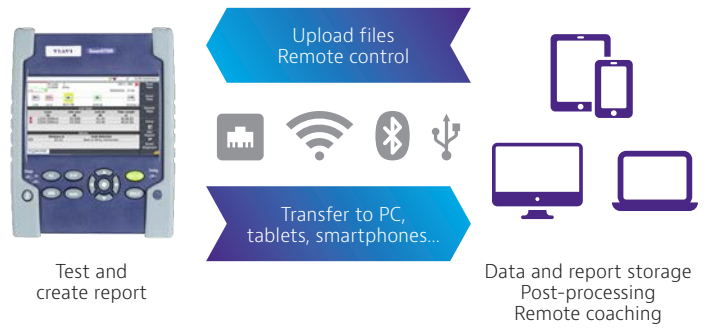
### Features

- Single-/dual-/tri-wavelength versions with 1310/1550 nm and in-service 1625 or 1650 nm wavelengths
- Light, compact, hands-free design includes 5" high-visibility outdoor touch screen
- Integrated CW light source
- PON optimized to test through 1x128 splitter ratio with FTTH-SLM
- Built-in PON/XG-PON power meter (1490/1550/1578 nm)
- Automated fiber inspection and macrobend detection with pass/fail analysis software
- 3G/4G connectivity via USB, Bluetooth®/WiFi options
- 3-year warranty
- All-day battery life

## Powerful Connectivity

Several connectivity options (3G/4G smartphones via USB and optional Bluetooth/WiFi) enable remote control as well as data and work-order transfers to-and-from tablets, smartphones, and computers. The SmartOTDR quickly resolves field issues in real time, and optional SmartAccess Anywhere (SAA) can open a tunnel in the cloud so a technician can remotely access and operate the instrument. Compatible with a wide range of cloud servers (WebDAV service providers), the SmartOTDR can also instantly share measurement reports using onboard FastReport pdf report generation.

SmartOTDR includes a one-year trial of cloud-based StrataSync™ for asset, configuration, and test-data management, and to ensure that all instruments have the latest software and options installed.



Connectivity features and options enhance workflows



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| <ul style="list-style-type: none"> <li>1. 5-inch high-visibility capacitive touch screen</li> <li>2. Charge indicator</li> <li>3. On indicator</li> <li>4. File menu</li> <li>5. Setup menu</li> <li>6. Start/Stop</li> <li>7. Testing indicator</li> <li>8. On/Off</li> <li>9. Home page</li> <li>10. Cancel (switch off functions)</li> </ul> | <ul style="list-style-type: none"> <li>11. Direction and validation keys</li> <li>12. Results page</li> <li>13. Loudspeaker</li> <li>14. AC/DC input</li> <li>15. Slave mini USB port</li> <li>16. Visual fault locator (VFL)</li> <li>17. Master USB ports</li> <li>18. OTDR port/continuous light source/power meter</li> <li>19. OTDR live port (in-service test)/PON/XG-PON power meter</li> <li>20. WiFi or Bluetooth options</li> </ul> |
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## Specifications (typical at 25°C)

General		
Display	5-inch capacitive color touch screen (12.5 cm)	
Display resolution	800 x 480 W VGA	
Interfaces	2x USB 2.0 ports, 1x mini-USB 2.0 port, built-in Bluetooth and WiFi (optional, dongles also available)	
Storage	10,000 OTDR traces typical	
Battery	Rechargeable Lithium-polymer battery, up to 20 hours of operation <sup>1</sup>	
Power supply	AC/DC adapter, input 100-250 V AC, 50-60 Hz; 2.5 A max, output 12 V DC, 25 W	
Electrical safety	EN60950 compliant	
Size (HxWxD)	175 x 138 x 57 mm (6.9 x 5.4 x 2.24 in)	
Weight (battery included)	Approx. 0.9 kg (1.98 lb)	
Operating/storage temperature	Operating: -20 to +50°C; storage: -20 to +60°C	
Humidity (noncondensing)	95%	
OTDR		
Laser safety class (21 CFR)	Class 1	
Number of data points	Up to 256,000 data points	
Display range	0.1 km to 260 km	
Sampling resolution	4 cm	
Distance accuracy	$(\pm 1 \text{ m}) \pm (\text{sampling resolution}) \pm (1.10^{-5} \times \text{distance})$ , excluding group index uncertainties	
Attenuation resolution	0.001 dB	
Attenuation linearity	$\pm 0.04 \text{ dB/dB}$	
	SmartOTDR 100A	SmartOTDR 100B
Central wavelength <sup>2</sup>	1310/1550/1650 nm $\pm 20 \text{ nm}$	1310/1550/1625/1650 nm $\pm 20 \text{ nm}$
RMS dynamic range <sup>3</sup>	37/35/32 dB	40/40/41/41 dB
Pulse widths	5 ns to 20 $\mu\text{s}$	3 ns to 20 $\mu\text{s}$
Event dead zone <sup>4</sup>	1.35 m	0.9 m
Attenuation dead zone <sup>5</sup>	4 m	2.5 m
Splitter attenuation dead zone	Not available	45 m after 15 dB splitter loss
CW Light Source		
Output power level <sup>6</sup>	-3.5 dBm	
Stability long term (8 hr) <sup>7</sup>	$\pm 0.05 \text{ dB}$	
Built-in Power Meter (optional)		
Operating mode	270, 330, 1 kHz, 2 kHz, and TWINTest	
Power level range	0 to -55 dBm	
Calibrated wavelengths	1310, 1490, 1550, 1625, and 1650 nm	
Measurement accuracy <sup>8</sup>	$\pm 0.5 \text{ dB}$	
Built-in Visual Fault Locator (optional)		
Wavelength	650 nm	
Emission mode	CW, 1 Hz	
Laser class	Class 2 per EN60825-1 and FDA21 CFR Part 1040.10 standards	
Built-in PON/XG-PON Power Meter (E118FA65PPM version)		
Wavelengths	1490/1550 nm; 1490/1578 nm	
Measurement ranges	1490 nm: -35 to +5 dBm; 1550/1578 nm: -35 to +23 dBm	
Measurement accuracy	$\pm 0.5 \text{ dB}$	

1. Per Telcordia GR-196-CORE.

2. Laser at 25°C and measured at 10  $\mu\text{s}$ .

3. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS (SNR=1) noise level, after 3 minutes of averaging using the largest pulsewidth.

4. Measured at  $\pm 1.5 \text{ dB}$  below the peak of an unsaturated reflective event using the shortest pulse width.

5. Measured at  $\pm 0.5 \text{ dB}$  from the linear regression using a FC/UPC-type reflectance and the shortest pulse width.

6.  $\pm 1 \text{ dB}$ .

7. After light source stabilization, warm-up time of 20 min.

8. At calibrated wavelengths and at -30 dBm.

## Ordering Information

SmartOTDR Configurations	Part Number
<b>All configurations include a hands-free soft case with neck strap, a stylus for capacitive touch screen, a Lithium-Polymer battery and SC/PC or SC/APC connector(s).</b>	
SmartOTDR 1550nm A-range handheld tester	E100A-PC/-APC
SmartOTDR filtered 1650 nm A-range handheld tester	E118FA65-APC
SmartOTDR filtered 1650 nm A-range handheld tester with broadband and PON-XGPON (1490/1550/1578 nm) power meters	E118FA65PPM-APC
SmartOTDR 1310/1550 nm A-range handheld tester	E126A-PC/-APC
SmartOTDR 1310/1550/filtered 1650 nm A-range handheld tester	E138FA65-PC/-APC
SmartOTDR 1310/1550 nm B-range handheld tester	E126B-PC/-APC
SmartOTDR 1310/1550/filtered 1625nm B-range handheld tester	E136FB-PC/-APC
SmartOTDR 1310/1550/filtered 1650 nm B-range handheld tester	E138FB65-APC
<b>Additional OTDR Connector Adapters</b>	
SC universal adapter	EUSCADS
FC universal adapter	EUFCADS
LC universal adapter	EULCADS
<b>Accessories</b>	
Additional Lithium Polymer battery	E10LIPO
Additional hands-free soft case with neck strap	E10GLOVE
Additional stylus for capacitive touch screen	EHVT-STYLUS
Large soft carrying case (optional)	E40SCASE1
12 V car lighter adapter (optional)	E40LIGHTER
EU/US-to-India type D power adapter (optional)	EINDIADPLUG
USB GPS receiver	EUSBGPSRECEIVER
<b>Optional Tools</b>	
VFL with 2.5 mm UPP adapter	E10VFL
Optical power meter option (same port as OTDR)	E10PM
MP-60 USB optical power meter with 2.5 and 1.25 mm UPP adapters	MP-60A
MP-80 USB high-power optical power meter with 2.5 and 1.25 mm UPP adapters	MP-80A
P5000i digital microscope kit with 7 tips	ESDFSCOPE5KI
Built-in WiFi / Built-in Bluetooth	E10WIFI / E10BLUE
External WiFi USB dongle / External Bluetooth USB dongle	E60EWIFI / E60EBLUE
<b>Software Options</b>	
FTTH-SLM Base - Tailored OTDR App. for FTTH Networks (Basic PON Architectures)	ESMARTFTTH-100-BASE
FTTH-SLM Premium - Tailored OTDR App. for FTTH Networks (Advanced PON Architectures, including Unbalanced/tapered Splitters)	ESMARTFTTH-100
FTTH-SLM Assistant - Simplified Set-up Mode for FTTH-SLM Base or FTTH-SLM Premium Apps	EFTTHSLM-ASSIST-100
FTTA-SLM - Tailored OTDR App. for FTTA Networks	ESMARTFTTA-100
Enterprise-SLM - Tailored OTDR App. for Enterprise & Datacenter Networks	ENTERPRISE-100
CABLE-SLM - Management & Automation of High Count Fiber Cables OTDR Measurements	ESMARTCABL-100
SMARTACQ - Automatic Multi-Pulses OTDR Measurements	ESMARTACQ-100
SmartAccess Anywhere - Remote Access & Control from Anywhere	SAA-100-L2
GPS - Embedded GPS Coordinates into Test Files and Reports	EGPS




## VIAMI Care Support Plans

Increase your productivity for up to 5 years with optional VIAMI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

### Features

\*5-year plans only

Plan	Objective	Technical Assistance	Factory Repair	Priority Service	Self-paced Training	5 Year Battery and Bag Coverage	Factory Calibration	Accessory Coverage	Express Loaner
 BronzeCare	Technician Efficiency	Premium	✓	✓	✓				
 SilverCare	Maintenance & Measurement Accuracy	Premium	✓	✓	✓	✓*	✓		
 MaxCare	High Availability	Premium	✓	✓	✓	✓*	✓	✓	✓

MaxCare not available for SmartOTDR E100AS models



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