

Data Sheet

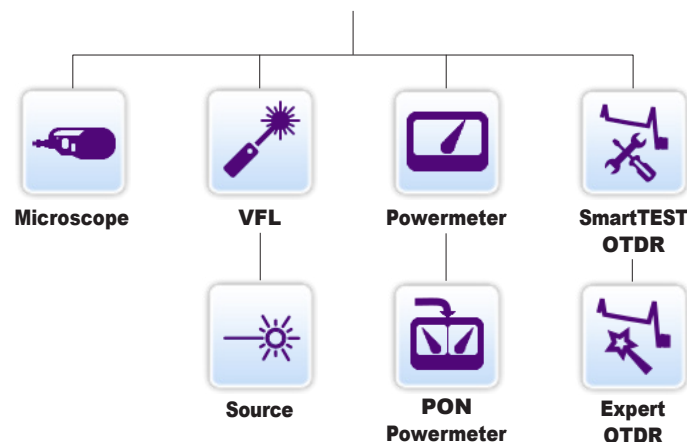
**VIAVI**

**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.



**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

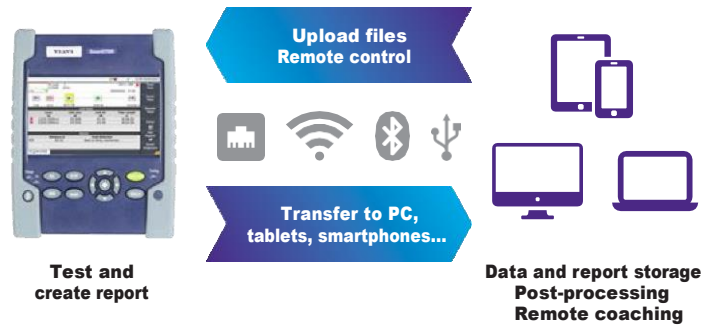
**Features**

- ☒ 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 splitters 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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|---|---|
| <ol 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> </ol> | <ol 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> </ol> |
|---|---|

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

## VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI 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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