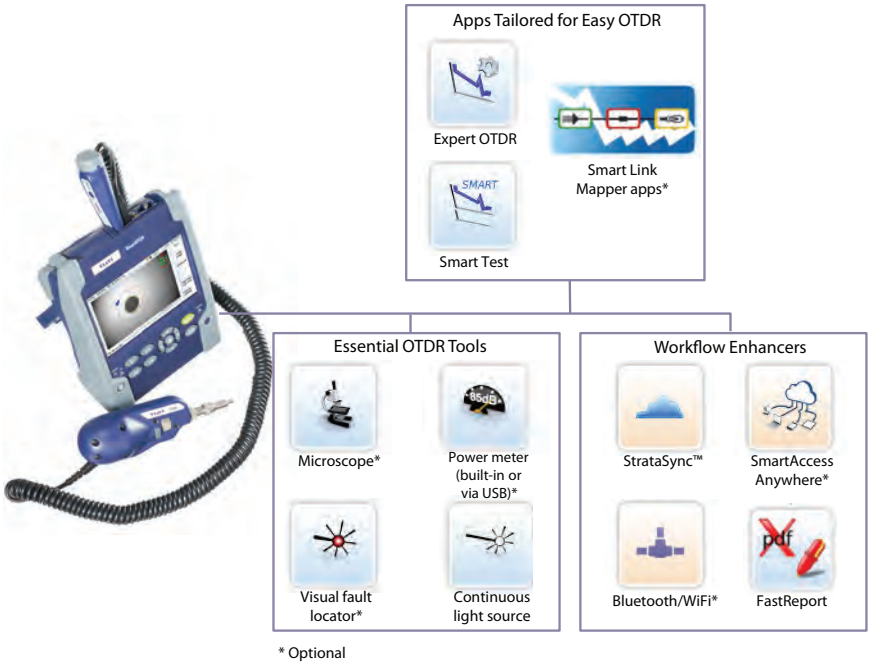
SmartOTDR™ 100A/B Series

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.



* Optional

Key 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) option
- Upgrades easily in the field
- Automates testing with objective, pass/fail results
- Enhances productivity anywhere with powerful network connectivity options

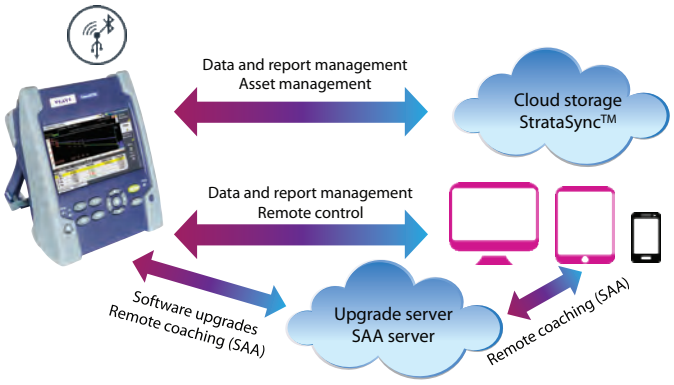
Key Features

- 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 a 1x128 splitter
- 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

1. 5-inch high-visibility capacitive touch screen
2. Charge indicator
3. On indicator
4. File menu
5. Setup menu
6. Start/Stop
7. Testing indicator
8. On/Off
9. Home page
10. Cancel (switch off functions)
11. Direction and validation keys
12. Results page
13. Loudspeaker
14. AC/DC input
15. Slave mini USB port
16. Visual fault locator (VFL)
17. Master USB ports
18. OTDR port/continuous light source/power meter
19. OTDR live port (in-service test)/PON/XG-PON power meter
20. WiFi or Bluetooth options

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[1]	
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	(±1 m) ± (sampling resolution) ±(1.10^{-5} x distance), excluding group index uncertainties	
Attenuation resolution	0.001 dB	
Attenuation linearity	±0.04 dB/dB	
	SmartOTDR 100A	**SmartOTDR 100B**
Central wavelength[2]	1310/1550/1650 nm ±20 nm	1310/1550/1625 nm ±20 nm
RMS dynamic range[3]	37/35/32 dB	40/40/41 dB
Pulse widths	5 ns to 20 µs	3 ns to 20 µs
Event dead zone[4]	1.35 m	0.9 m
Attenuation dead zone[5]	4 m	2.5 m
Splitter attenuation dead zone	Not available	45 m after 15 dB splitter loss
CW Light Source		
Output power level[6]	–3.5 dBm	
Stability long term (8 hr)[7]	±0.05 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[8]	±0.5 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	±0.5 dB	

1. Per Telcordia GR-196-CORE.
2. Laser at 25°C and measured at 10 µs.
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 ±1.5 dB below the peak of an unsaturated reflective event using the shortest pulse width.
5. Measured at ±0.5 dB from the linear regression using a FC/UPC-type reflectance and the shortest pulse width.
6. ±1 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 and a stylus for the capacitive touch screen.	
SmartOTDR filtered 1650 nm A-range handheld tester with APC connector	E118FA65-APC
SmartOTDR filtered 1650 nm A-range handheld tester with PON-XGPON (1490/1550/1578 nm) power meter and APC connector	E118FA65PPM-APC
SmartOTDR 1310/1550 nm A-range handheld tester with PC or APC connector	E126A-PC/-APC
SmartOTDR 1310/1550/filtered 1650 nm A-range handheld tester with PC or APC connector*	E138FA65-PC/-APC
SmartOTDR 1310/1550 nm B-range handheld tester with PC or APC connector	E126B-PC/-APC
SmartOTDR 1310/1550 nm and filtered 1625 nm B-range handheld tester with PC or APC connector*	E136FB-PC/-APC
OTDR Connector Adapters	
SC universal adapter	EUSCADS
FC universal adapter	EUFCADS
LC universal adapter	EULCADS
Batteries	
AA battery pack (tray + batteries)	E10DRYBAT
Lithium polymer battery	E10LIPO
Accessories	
Hands-free soft case with neck strap	E10GLOVE
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
Optional Tools and Firmware Apps	
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	E10WIFI
Built-in Bluetooth	E10BLUE
External WiFi USB dongle	E60EWIFI
External Bluetooth USB dongle	E60EBLUE
FTTA-SLM	ESMARTFTTA-100
FTTH-SLM	ESMARTFTTH-100
SLM	ESMARTLINK-100
CABLE-SLM	ESMARTCABL-100
SmartAccess Anywhere	SAA-100-L2

* Available with SC OTDR connector adapter (EUSCADS) only.

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