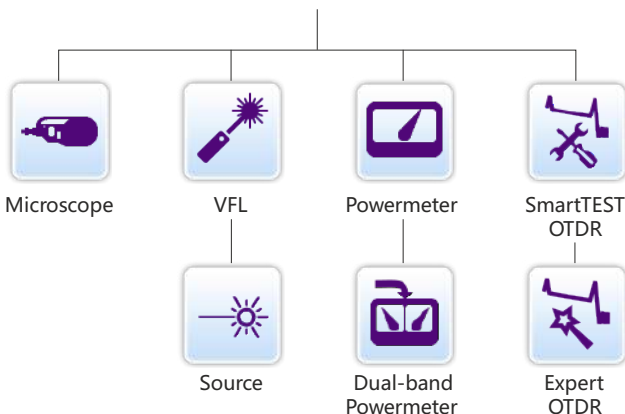# SmartOTDR™ 100A/B Series

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.

| Microscope | VFL | Powermeter | SmartTEST OTDR |
| | Source | Dual-band Powermeter | 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) option
- Upgrades easily in the field
- Automates testing with objective, pass/fail results
- Enhances productivity anywhere with powerful network connectivity options
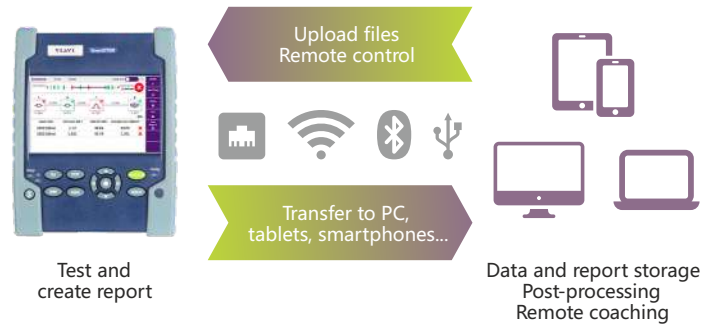
KEY FEATURES

- 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
- 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.

Upload files
Remote control

Transfer to PC, tablets, smartphones...

Test and create report

Data and report storage
Post-processing
Remote coaching

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

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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	1 GB (20,000 OTDR traces typical)
Battery	Rechargeable Lithium-polymer battery, up to 20 hours of operation[1]
Power supply	AC/DC adapter, input 100-240 V AC, 50-60 Hz; 2 A max, output 12 V DC, 24 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)	5 to 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) $\pm$ (sampling resolution) $\pm(1.10^{-5}$ 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	1310/1550/1625/1650 nm ±20 nm
RMS dynamic range[3]	37/35/34 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	40 m after 12 dB splitter loss	45 m after 15 dB splitter loss

CW Light Source[9]	
Output power level[6]	−3.5 dBm
Stability long term (8 hr)[7]	±0.05 dB

Built-in Broadband 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 dB m ; 1 550/1578 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
Additional OTDR Connector Adapters	
SC universal adapter	EUSCADS
FC universal adapter	EUFCADS
LC universal adapter	EULCADS
Accessories	
Additional AC Adapter/Charger	E20PWMC
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
Optional Tools	
VFL with 2.5 mm UPP adapter	E10VFL
Optical power meter option (same port as OTDR)	E10PM
P5000i digital microscope kit with 7 tips	ESDFSCOPE5KI
Built-in WiFi/Bluetooth (BLE)	E10WIFIBLUE
External WiFi USB dongle/Bluetooth (BLE)	EWIFIBLUE
Software Options	
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 and Datacenter Networks	ENTERPRISE-100
CABLE-SLM - Management and Automation of High Count Fiber Cables OTDR Measurements	ESMARTCABL-100
SmartAccess Anywhere - Remote Access and Control from Anywhere	SAA-100-L2
GPS - Embedded GPS Coordinates into Test Files and Reports	EGPS
Additional Software Options	
Addition of 1310 nm wavelength (E100A and E100AS versions only)	E113-UPG
SmartLink Mapper/SLM view (E100AS version only)	ESMARTLINK100UP
Increased Dynamic Range - 37/35 dB at 1310/1550 nm (E100AS version only)	EXTRANGE100UP

* For ordering in the USA replace E for F in the part number, e.g. E100AS-PC becomes F100AS-PC

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