Data Sheet

VIAVI
SmartOTDR™ SL Fiber Test Solution

The OTDR of premises technicians for last mile
FTTx networks installation and maintenance

The SmartOTDR SL is a lightweight optical time domain reflectometer (OTDR) that can be controlled with a smartphone, a tablet or a VIAVI OneExpert (ONX) test platform. It has been specifically designed with FTTx/FTTH technician's on-site operations in mind, to validate the proper installation of the last mile and troubleshoot physical layer fiber issues. Using a 1650nm filtered wavelength, it allows in-service measurement without disturbing services to other subscribers.

Simplified applications (SmartAccessAnywhere or OneCheck Fiber) assist the technicians with the basic settings and the measurement process, requiring minimal training.

The summary view of results gives a clear pass/fail status of the optical link, while the Smart Link Mapper (SLM) icon-based representation provides in-depth information about each passive optical network element.

SmartAccessAnywhere Result
view on a smartphone

OneCheck Fiber Result
view on ONX

Benefits

- Simple, guided and step-by-step operation via easy-to-use applications
- Clear OTDR results representation
- Instantaneous and automatic test results storage and report creation (.pdf)

Features

- Lightweight, compact device with up to 20 hours of operation
- Smartphone/tablet-controlled via SmartAccessAnywhere application
- ONX-controlled via OneCheck Fiber application
- Built-in PON/XGS-PON power meter available

Applications

- Measure and validate characteristics of optical elements in a fiber link with pre-defined pass/fail thresholds per the IEC/TIA standards
- Provide a clear diagnostic of faulty optical elements (splice, connector...)
- Locate fiber cuts and breaks

**Download
SmartAccessAnywhere app from
Google Play and App Store**

Specifications (typical at 25°C)

General	
Interfaces	2x USB 2.0 ports, 1x mini-USB 2.0 port, Built-in WiFi
Battery	Rechargeable Lithium-polymer battery, up to 20 hours of operation per Telcordia GR-196-CORE
Power supply	AC/DC adapter, input 100-250 V AC, 50-60 Hz; 2.5 A max, output 12 V DC, 25W
Electrical safety	EN60950-compliant
Size (HxWxD)	175x138x57 mm (6.9x5.4x2.24 in)
Weight (battery included)	Approx. 0.9 kg (1.98 lb)

OTDR Optical Interfaces	
Optical interface	SC/APC

OTDR Optical Characteristics		
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 linearity	+/- 0.04 dB/dB	
	ESL18FA65-APC	**ESL18FA65PPMAPC**
Central wavelength[1]	1650 nm +/- 20 nm	1650 nm +/- 20 nm
RMS dynamic range[2]	32 dB	32 dB
Pulse widths	5 ns to 20μs	5ns to 20μs
Event dead zone[3]	1.35 m	1.35 m
Attenuation dead zone[4]	4 m	4 m

Built-in PON/XGS-PON power meter		
Wavelengths		1490/1550 nm; 1490/1578 nm
Measurement ranges	N/A	1490 nm: -35 to +5 dBm
		1550/1578 nm: -35 to +23 dBm
Measurement accuracy		+/- 0.5 dB

[1] Laser at 25°C and measured at 10μs

[2] 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 averaging using the largest pulse width

[3] Measured at +/-1.5dB below the peak of an unsaturated reflective event using the shortest pulse width

[4] Measured at +/-0.5dB from the linear regression using a FC/UPC-type reflectance and the shortest pulse width

Ordering Information

SmartOTDR SL Configurations	Part Number
All configurations include a Lithium-Polymer battery, a WiFi access point and a hands-free soft case with neck strap	
SmartOTDR SL filtered 1650nm A-range with SC/APC connector	ESL18FA65-APC
SmartOTDR SL filtered 1650nm A-range with PON/XGS-PON (1490/1550/1578nm) power meter and SC/APC connector	ESL18FA65PPMAPC

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