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VIAVI Solutions

Data Sheet

VIAVI
SmartOTU

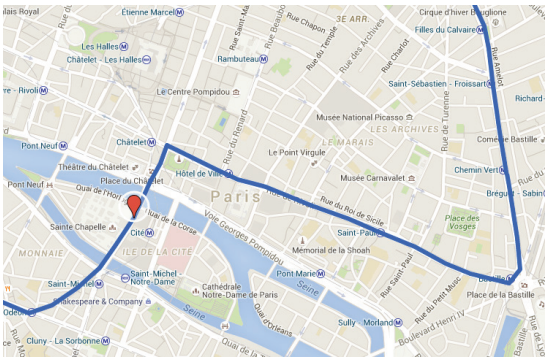
A plug-and-play fiber monitoring solution

SmartOTU is an easy-to-deploy, scalable solution that monitors fibers used in all types of optical networks.

Maintaining fiber integrity is critical, yet outages are still one of the major causes of network disruption, incurring millions of dollars of lost revenue. And, incidents of accidental dig-ups, vehicle collisions, and sabotage multiply as fiber moves deeper into data centers and storage area networks.

Combining a VIAVI Solutions® optical time domain reflectometer (OTDR) with advanced optical-switch technology, SmartOTU™ monitors fibers longer than 150 km in all directions.Modular in design, it monitors both dark and lit fiber and it is ideal for network security protection, pinpointing events such as fiber tapping to a few tenths of a decibel. SmartOTU is a standalone remote fiber test solution that can be deployed right out of the box with no training or IT configuration required.

SmartOTU does not require any additional server or software applications — a simple web browser is enough to access all functionality including mapping. SmartOTU displays the exact GPS location of a fault on widely-available, cloud-based mapping such as Google, Bing, or legacy GIS. SmartOTU is fully compatible with the VIAVI optical network monitoring system (ONMSi) and can be upgraded to be a comprehensive remote fiber test system as the network grows.



Fiber fault location displayed with Google Maps

Key Benefits

- Reduce mean-time-to-repair — locate faults in minutes instead of hours
- Reduce OpEx — eliminate erroneous dispatches
- Anticipate service disruptions — detect degradation before it affects service
- Quickly detects and locates fiber intrusion for 24/7 network protection

Key Features

- Easy-to-use interface with Web browser access
- E-mail and SMS notifications
- SNMP interface
- Secure communication (HTTPS) on request
- Solid-state disk, dual power feed, low power consumption
- Instantaneous view of current OTDR measurement
- Deploy right out of the box — no server or local PC required
- Fault localization on cloud-based apps or legacy GIS
- Auto pulse adjustment for near-end fiber faults
- Compatible with the VIAVI optical network monitoring system (ONMSi)

Applications

- Optical fiber monitoring
- Proactive maintenance
- Fiber security — tap detection
- Plant optimization

Specifications (typical at 25°C)

Base Unit			
Height	2 RU		
Width	19, 21 (ETSI), or 23"		
Depth	260 mm (ETSI) 280 mm (19 or 23")		
Operating temperature	–20 to 50°C		
Storage temperature	–20 to 60°C		
Humidity	95% without condensing		
EMI/ESD	CE compliant		
Interfaces	2 RJ45 Ethernet 10/100/1000BaseT ports, GSM modem (optional)		
Media	Solid-state disk		
Optical Switch			
Number of ports	4, 8, 12, 16, 24, 36, 48		
Insertion loss (excluding connectors)	0.6 dB		
Backreflection	–60 dB		
Repeatability	±0.01 dB		
Wavelength range	1260 –1670 nm		
Lifetime	100 million cycles		
OTDR (general)			
Laser safety	Class 1		
Number of data points	Up to 512,000		
Sampling resolution	From 4 cm		
Distance range	Up to 360 km		
Distance accuracy	±0.75 m ±sampling resolution ±distance x 10^{-5}		
OTDR	**Module B**	**Module C**	**Module D**
Wavelength[1] (nm)	1550/1625/1650	1550/1625/1650	1550/1625/1650
Wavelength accuracy[1] (nm)	±20/±20/+15, –5	±20/±10/±1	±20/±10/±1
Dynamic range[2] (dB)	40/40/43	45/44/43	50/50/48
Pulse width	5 ns to 20 µs	2 ns to 20 µs	2 ns to 20 µs
Event dead zone[3] (m)	0.65	0.6	0.5
Attenuation dead zone[4] (m)	2	2	2.5

1. Laser at 25°C and measured at 10 µs. 1650 nm ±1 nm for the E81165C module.
2. The one way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging and using the largest pulsewidth.
3. Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulsewidth.
4. Measured at ±0.5 dB from the linear regression using a FC/PC reflectance and using the shortest pulsewidth.

Ordering Information

Description	Part Number
Base Unit	
OTU-8000 base unit 48 VDC, 2 RU	E98OTU-FP-RF
SmartOTU software	E98SmartOTU
Base Unit Options	
Internal GSM modem for alarm notification by SMS	E98EGSM
Security pack software package (HTTPS)	E98SECPACK
Relay for external alarm reporting device	E98RELAYS
23" rack-mounting kit for OTU-8000	E98KIT23
21" rack-mounting kit for OTU-8000	E98KIT21
19" rack-mounting kit for OTU8000	E98KIT19
AC/DC converter (external unit)	E98ACDC
Optical Switch Plug-In Modules	
Optical switch 1x4 plug-in module (SC/APC)	E98X04
Optical switch 1x8 plug-in module (SC/APC)	E98X08
Optical switch 1x12 plug-in module (SC/APC)	E98X12
Optical switch 1x16 plug-in module (SC/APC)	E98X16
Optical switch 1x24 plug-in module (SC/APC)	E98X24
Optical switch 1x36 plug-in module (LC/APC)	E98X36LCAPC
Optical switch 1x48 plug-in module (LC/APC)	E98X48LCAPC
OTDR Plug-In Modules	
OTDR module B with 1650 nm filtered wavelength	E81165B
OTDR module B 1550 nm	E8115B
OTDR module B 1310/1550/1625 nm	E8136B
OTDR module C with 1550 nm wavelength	E8115C
OTDR module C with 1625 nm filtered wavelength	E81162C
OTDR module D 1550 nm	E8115D

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