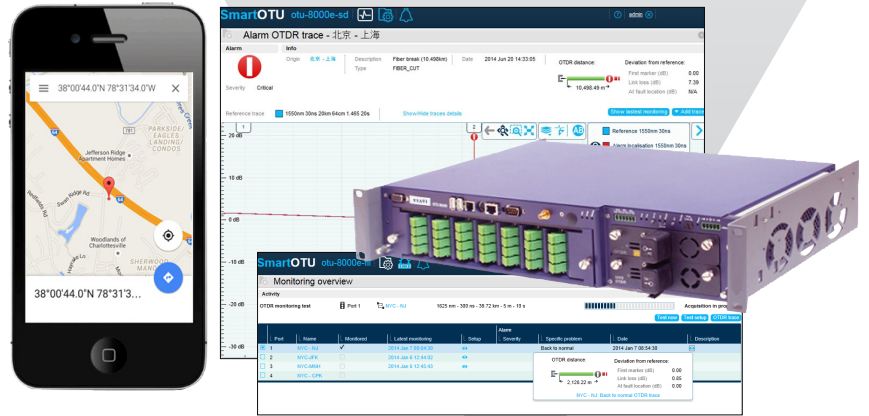




SmartOTU™

A plug-and-play fiber monitoring solution

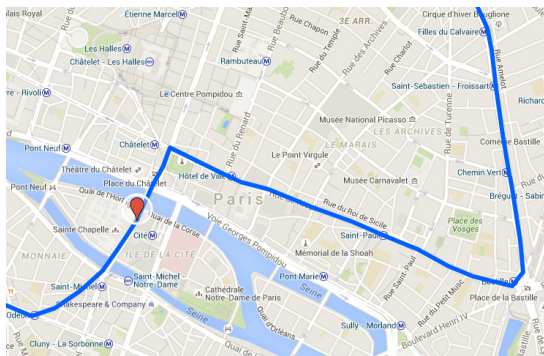


SmartOTU is an easy-to-deploy, scalable solution that monitors fibers used in all types of optical networks.

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 |

- Laser at 25°C and measured at 10 µs. 1650 nm ±1 nm for the E81165C module.
- 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.
- Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulsewidth.
- 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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