Data Sheet

VIAVI
FTH-7000
Adaptive Fiber Test Head

Rack-mounted FTH for ONMSi remote fiber test system (RFTS): Diagnose and map your core, metro, and access fiber networks for high quality construction, service activation, monitoring, and assurance.

The FTH can assure a single critical link or an entire fiber network.

Simplify PON lifecycle management: As part of an ONMSi system, the FTH-7000 accelerates FTTH construction certification, service deployment, and troubleshooting and assurance. It can sectionalize the network to determine the cause of a fault or identify optical budget problems. Trend network health changes over time to monetize valuable links and assure service.

Enhance network security: Detect and locate fiber tapping with extreme precision down to tenths of a decibel of loss.

FTH-7000 with the 48 MPO + 4 switch with an OTDR module

Configure your FTH to scale to your network with a variety of switches, port connection types, OTDRs and software applications. This unit is optimized to work with our high resolution OTDR with our ruggedized LINUX Operating System for robust 24 by 7 usage.

Key Use Cases:

- FTTx construction, provisioning, and maintenance tests
- Fiber-tapping detection for security assurance
- Fiber monitoring

Benefits

- Reduce construction costs by accelerating test processes and empowering test staff
- Reduce MTTR by locating fiber optic faults in minutes instead of hours
- Reduce operational costs by eliminating erroneous dispatches to the wrong location through accurate, remote location
- Avoid service disruptions by detecting fiber degradation before it affects service
- Protect your investment by measuring the long-term performance KPIs of your deployed fibers (IL, slope, strain, etc.)
- Protect network integrity by quickly detecting and locating fiber intrusion

Key Features

- Ultra high resolution OTDR for precision fault location
- High density, extensible switch (48MPO+4 ports) with Pay As You Grow model
- Scalable up to 816 ports in 2 RU or up to 2304 ports using additional external switches
- IP communication channels, plus an additional local LAN access
- Secured Web-browser access
- 2/3 1RU high with dual power feeds (front and rear panel) with power failure indicator and alarm, low power consumption
- Implement as a plug and play standalone monitoring tool or in a network wide centralized management system using ONMSi
- High accuracy trace for the whole fiber including the near end
- Fiber monitoring for service providers, utilities, and dark-fiber providers

Technical Specifications

Base Unit - Technical Specifications (typical at 25°C)	
Height	1 RU
Width	2/3 rack width 19", or 21 (ETSI), or 23"
Depth	232 mm
Operating temperature	−20 to 50°C
Storage temperature	−20 to 60°C
Humidity	5% to 95% without condensing
EMI/ESD	CE Compliant - Class A (EN61326)
	FCC Part 15 Compliant
Interfaces	1 RJ45 Ethernet 10/100/1000BaseT ports
Media	Solid State Disk, 16GB or higher
Power Supply (with internal switch and 8100 OTDR module):	
DC	–20 to -60V
AC	100-240 V, 50/60 Hz (AC/DC Converter)
Power consumption	35W
Internal Optical Switch - Technical Specifications (typical at 25°C)	
Number of ports Internal ports are available in:	
LC/APC	4, 8, 12
MPO-12 (male) + LC/APC for extension ports	48 + 4 extension ports
Insertion loss (excluding connectors):	
4, 8, 12 LC/APC ports	< 1.2 dB
48 MPO-12 male + 4 LC/APC ports	< 1.2 dB (< 0.6 dB for extension ports)
Return Loss with connectors	> 50 dB
Repeatability	± 0.02 dB
Wavelength range	1480-1670 nm
Lifetime	> 2,5 Billion cycles
Housing:	
Up to 48 ports	Integrated in the FTH-7000
Higher port counts	External (1 RU for 3 external switches)
Internal OTDR Modules - Technical Specifications (typical at 25°C)	
Compatible with VIAVI single mode ultra-high resolution plug-in module (E81165C-HR-APC)	
Laser safety	Class 1
Central Wavelength[1]	1650 ± 5 nm
Spacing of measurement points	from 4 cm, with up to 512 000 acquisition points
RMS Dynamic Range[2]	43 dB

Technical Specifications continued

Distance range	Up to 360 km
Pulse width	1 ns to 20 µs
Event Dead Zone[3]	0.3 m[4]
Attenuation Dead Zone[5]	2 m
Distance accuracy	± 1 m ±sampling resolution ±distance x 1.10^{-5}

[1] Guaranteed with laser at 10 µs

[2] Value corresponding to the difference (in dB) between the backscattered level extrapolated at the origin of fiber and the RMS noise level , after 3 minutes of averaging, with the largest pulsewidth.

[3] EDZ measured at 1.5 dB below the peak of a non-saturated reflecting event at shortest pulsewidth.

[4] Up to 40 km, including Chromatic Dispersion of the Laser.

5. ADZ measured at ±0.5 dB on the basis of a linear regression from a reflectance type FC/UPC (-55 dB) at shortest pulsewidth.

Ordering information

Part	Description
Mainframe reference	
E97-FTH-TP7K-MOD	Mainframe FTH-7000 1RU 19" for Type 7000 OTDR Module and extended 1/3 slot
E97-FTH-TPA-MOD	Mainframe FTH-7000 1RU 19" for Type A OTDR Module and extended 1/3 slot
E97-FTH-KIT19	19 Inches Rack Mounting Kit
E97-FTH-SHELF	19 Inches Rack Mounting Kit with Additional 1/3 Shelf
E9E-FP-ACC	Front Panel accessories, including Plexi and Fiber Tray
E9E-1SLOT-FP	Single Shelf Front Panel for Unused Slot
E9ADAPTER19-21	19/21 Inches Rack Mounting Adapter 1RU
E9ADAPTER19-23	19/23 Inches Rack Mounting Adapter 1RU
Power Supply references	
E9H-A-ACDC	FTH-7000 AC/DC converter 90-264V to 48V without power cord (input C14)
E9H-A-ACDC-TRAY	1U Power Supply Tray
E9H-A-ACDC-DUAL	FTH-7000 DUAL AC/DC converter 90-264V to 48V without power cord (input C14)
E9H-A-PC-C13-EU	Power Cord 3C L2.5m STR Black EURO to C13 (power supply input type C14)
E9H-A-PC-C13-UK	Power Cord 3C L2m STR Black UK to C13 (power supply input type C14)
E9H-A-PC-C13-US	Power Cord 3C L2m STR Black USA to C13 (power supply input type C14)
Optical switch references	
E97-X01	FTH-7000 No Internal Optical Switch Front Panel
E97-X04	Optical Switch 1X4 Plug In Module (LC/APC)
E97-X08	Optical Switch 1X8 Plug In Module (LC/APC)
E97-X12	Optical Switch 1X12 Plug In Module (LC/APC)
E97-X48MPO	Optical Switch 1X48 Plug In Module (MPO-12) with 4 Extended Ports (LC/APC)
E97-MPO48-LOCK	MPO Connector Lock for FTH-7000 48 Ports MPO

Ordering Information continued

External optical switch references

E9E-EXTX-24	24 Ports external switch (OSX5000)
E9E-EXTX-36	36 Ports external switch (OSX5000)
E98OSX144	Optical Switch of 144 ports
E9ADAPTER19-23	19/23 Inches Rack Mounting Adapter
E9ADAPTER19-21	19/21 Inches Rack Mounting Adapter
E9H-X48MPO	High Density Optical switch 48 ports MPO-12 Connectors
E9H-MPO48-LOCK	MPO Connector locker for UOS 48 ports MPO bloc
E9H-X96MPO	High Density Optical switch 96 ports MPO-12 Connectors
E9H-MPO96-LOCK	MPO Connector locker for UOS 96 ports MPO bloc
E9H-X144MPO	High Density Optical switch 144 ports MPO-12 Connectors
E9H-X192MPO	High Density Optical switch 192 ports MPO-12 Connectors
E9H-X96MPO-PAYG	Initial Config. with 48 ports for 96 ports High Density Optical switch
E9H-X144MPO-PAYG	Initial Config. with 72 ports for 144 ports High Density Optical switch
E9H-X192MPO-PAYG	Initial Config. with 96 ports for 192 ports High Density Optical switch
E9H-XMOD12-PAYG	Additional 12 ports switch for 96/144/192 ports High Density Optical switch
E98OSXXOSX	Connection Kit to cascade OSX
E9EOSXXOSX-LG1	Long connection cable to cascade OSX
E9OSXXOSX-XS	Short cable - 75 mm - for External Switch
EPCSM1M-LCA-LCA	1M SM Patchcord LC/APC to LC/APC

OTDR plug-in modules

E81165C-HR-APC	OTDR Module C 1650 nm High Resolution Filtered

Firmware license

E97-SMARTOTU	FTH-7000 SmartOTU Software
E97-ONMSILINUX	FTH-7000 Software for ONMSI under LINUX
E9-ONMSILXFTHLC	Software for ONMSi under LINUX for the PER FTH License Model
E97-SMART-OEM	FTH-7000 SMART OEM SOFTWARE - NO MONITORING -

Accessories and spares

E9E-USB-ETH	Ethernet/USB Converter for FTH-7000 Local Configuration
E97-SP-FAN	Spare Fan for FTH-7000
E9H-A-SP-RCKKIT-QTY10	Spare Sets Rack Assembly Kit (4xM6X16 Screw+ 4xWasher + 4xNut) (Qty = 10)
E9H-A-SP-CONKIT-QTY10	Spare Sets of electrical connectors Kit (DC input connector, Grounding kit) (Qty = 10)