

T-BERD/MTS-4000 V2 Optical Test Platform

Modular Test Platform designed for the installation, turn-up and maintenance of fiber optic networks



Telecommunication network topologies and technologies are evolving rapidly to respond to increased bandwidth requirements. Installers and service providers must equip technicians with scalable and easy-to-use test tools that addresses a wide range of up-to-date optical test applications quickly and accurately under all field conditions.



The VIAVI T-BERD®/MTS-4000 V2 is the optical test platform engineers, technicians, installers and contractors can rely on, providing:

- An easy-to-use solution with intuitive icon-based graphical user interface (GUI) and multi-touch screen requiring minimal training.
- A compact platform with field-replaceable modules covering multiple optical test functions (OTDRs, optical power & loss testing, Optical Spectrum Analyzer (OSA), etc...) that enable complete optical network qualification.
- Optimum workflow and operation within the platform or through the cloud with VIAVI StrataSync and SmartAccess Anywhere.

BENEFITS

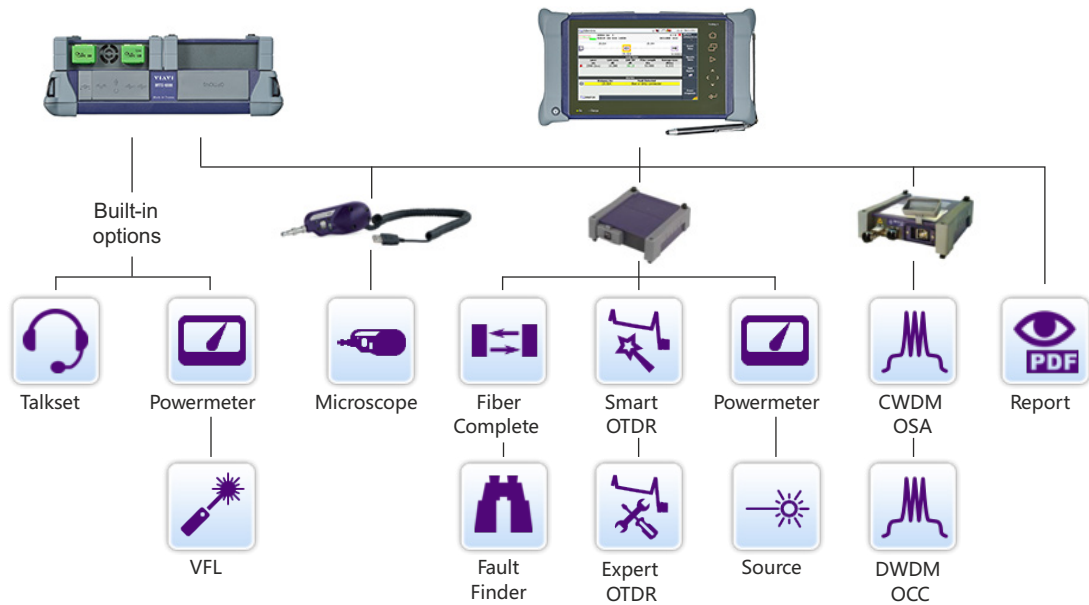
- Certify the fiber physical layer of FTTx/PON, access, metro and enterprise networks
- Two field-replaceable modules increase flexibility
- Smarter and faster field testing with tablet user interface
- Advanced cloud support and remote connectivity

FEATURES

- Dual-modular handheld platform
- Large 9-inch high visibility touchscreen with permanent function keys
- Essential tools integrated and supported in the platform (visual fault locator, optical power meter, optical microscope and talkset)
- Flexible connectivity; Ethernet, WiFi, Bluetooth
- Smart Access Anywhere (SAA) for remote control & field tech support
- StrataSync enabled — centralized cloud based asset, configuration, test data and workflow management

APPLICATIONS

- Fiber optic test, qualification, certification and reporting



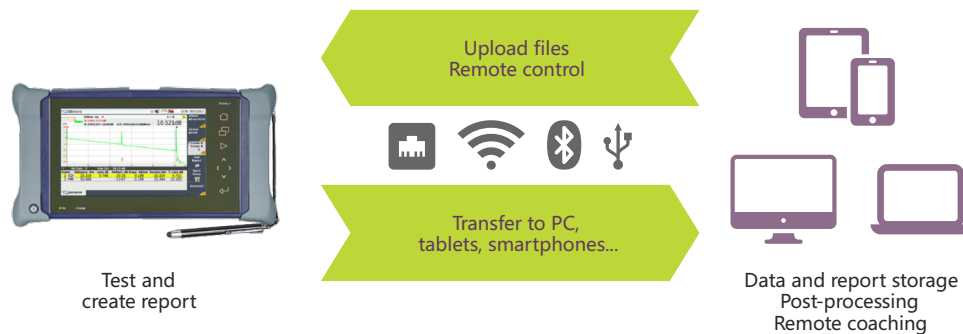
DUAL SLOT MODULAR PLATFORM FOR MAXIMUM SCALABILITY AND USABILITY

The T-BERD/MTS-4000 V2 platform is a highly integrated optical test platform with two module bays, a large 9-inch color touchscreen with multi-touch capability, enabling the use of many optical test functions.

It supports the range of VIAVI fiber analysis tools including OSA, OTDR, bidirectional insertion loss/ORL, light source, power meter, and connector inspection.

The dual module slot design delivers an all-in-one optical network test solution with a combination of key optical functions, for example:

- For MPO fiber qualification: integrated OTDR and MPO switch test platform
- For CWDM/DWDM network deployment: integrated CWDM/DWDM OTDRs and OSA test platform
- For full CWDM network deployment: full 18 CWDM wavelengths OTDR test platform

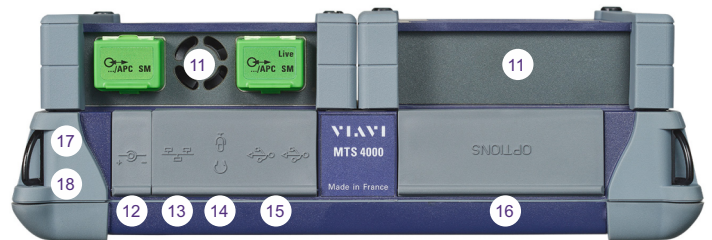


ADVANCED CONNECTIVITY, WORKFLOW AND REPORTING CAPABILITIES

The T-BERD/MTS-4000 V2 supports advanced connectivity via wireline, wireless and the cloud. Test workflow, reporting and asset management is made easier with StrataSync while SmartAccess Anywhere (SAA) enables remote control, from a PC browser or smartphone/tablet app, for launching tests or providing support to techs on site. Instruments and techs can also talk to each other using the fiber under test or separate comms fiber via the optical module in use or talkset.

T-BERD/MTS-4000 DUAL-SLOT MODULAR PLATFORM OVERVIEW

- 1 9-inch high visibility touchscreen
- 2 On/off button
- 3 On indicator
- 4 Charge indicator
- 5 Home button
- 6 Result/Setup/File button
- 7 Start/Stop
- 8 Direction keys
- 9 Validation/Enter key
- 10 Testing indicator
- 11 Two interchangeable module fields
- 12 AC/DC input
- 13 High-speed Ethernet
- 14 Headset
- 15 Two USB 2.0 ports
- 16 Optical (VLF, Power meter, Talkset)
- 17 Battery
- 18 Wifi/Bluetooth





STRATASYNC — EMPOWER YOUR ASSETS

StrataSync Core capabilities are included when you purchase any StrataSync-enabled instrument from VIAVI, there is nothing to buy to take advantage of these benefits. StrataSync Core includes asset and configuration management, test data management with 35 day limit, and even instrument self-management for techs via the Tech Portal. StrataSync Plus extends test data storage for up to 6 years and provides access to seasoned VIAVI StrataSync experts for assistance with setup, config, usage, reporting – just about anything that you desire.

SPECIFICATIONS (TYPICAL AT 25°C)

General Description	
Display	9-inch touchscreen with high visibility LCD 800x480
Storage and I/O Interfaces	
Internal memory	1 Gb
WiFi/Bluetooth	Standard IEEE 802.11 b/g and Bluetooth Class 2
Ethernet	10/100/1000 MHz
USB	2x USB 2.0 ports
Power Supply	
Battery type	Standard removable Lilon
AC/DC adapter	Input 100-250V, 50-60Hz Output 12-15 V DC/3.7A
Electrical Safety	EN 60950 Compliant
Operation time	Up to 16 hours Telcordia GR-196-CORE
Size and Weight	
Mainframe with two modules and battery (WxHxD)	282x153x97 mm (11.1x6.02x3.8 in)
Mainframe only (with battery)	1.4 kg (3 lb)
Mainframe with one module (with battery)	2.3 kg (5.1 lb)
Environmental	
Operating temperature range (no option)	-20 to +50°C (-4 to 122°F)
Operating temperature range (all options)	0 to 40°C (32 to 104°F)
Storage temperature range	-20 to +60°C (-4 to 140°F)
Humidity, non condensing	95%
EMC	EMC EN61326-1 / FCC 47-1 Part 15

Platform Optical Interface	
Power meter	
Power level	+10 to -60 dBm
Calibrated wavelengths	850, 1310, 1550nm ...
Connector type	Universal push/pull (UPP)
Visual Fault Locator	
Wavelength	635nm ±15 nm
Output power level	< 1mW
Laser safety	Class 2 laser
TalkSet	
Dynamic range	32 dB typical

ORDERING INFORMATION

Platform	
Part Number	Description
ETB4000HVT EM4000HVT	T-BERD/MTS-4000 V2 Platform
E40PWx	Power supply (x: E, UK, US...)
E40VFL, E40PM, E40TSPM	VFL, Optical power meter, talkset/power meter
E40WIFIBLU2	Built-in WiFi/Bluetooth
Accessories	
ELIION6C	Additional 6 cell Li-Ion standard rechargeable battery
ELIION9C	Additional 9 cell Li-Ion long life rechargeable battery
E40GLOVE	Wrap-around Glove soft case for 4000
E40SCASE1	Large soft case for 4000
EHCASE6	Hard case
EHCASE4X2	Hard case for two 4000 platforms

4100 Series OTDR A, B and C Modules

For T-BERD/MTS-2000 V2, -4000 V2, -5800 and OneAdvisor platforms

VIAVI Solutions 4100-Series OTDR modules let field technicians rapidly, reliably, and cost-effectively install, turn up, and troubleshoot any optical network architecture: data center interconnection, metro, long-haul and FTTx/access for wireless/5G x-haul, point-to-point or point-to-multipoint passive optical networks (PONs).

Fiber infrastructure is the foundation of the network performance and the quality of delivered services. An OTDR is the only tool that verifies the condition of installed cables and passive components to ensure fiber links meet design specifications and contractor's workmanship meets the required quality.

Module portability allows migration of fiber test capabilities between different VIAVI platforms, offering the flexibility to move existing fiber certification tools to different technologies such as coax and RF, active xWDM, MPO/ribbon cables or network layer tests such as Ethernet, BERT, CPRI, etc.



T-BERD/MTS-2000 V2
one-slot handheld modular platform for testing fiber networks



T-BERD/MTS-4000 V2
Two-slot handheld modular platform for testing fiber networks



T-BERD/MTS-5800
Handheld test instrument for testing 10 G Ethernet and fiber networks



OneAdvisor-800
All-in-One Cell-site Installation and Maintenance Test Solution

BENEFITS

- Up to 46 dB dynamic range and 256,000 acquisition points
- PON-optimized for next generation architectures, up to 1x256 split ratio and unbalanced splitters
- Dual/tri-wavelength versions with 1310/1550/1625 or 1650 nm, quad(850/1300/1310/1550)nm
- Single test port connection for standard and filtered wavelengths – faster, error free testing avoiding customer services disruption
- Consolidated reporting for all wavelengths tested reduces volume of test results to manage by 50%
- Test port condition check to prevent poor launch conditions and inaccurate event detection
- Supports SLM application tailored for various network applications (FTTA, FTTH, Enterprise, High fiber count cables)
- Field upgradeable for FiberComplete PRO applications - OTDR loopback, bi-directional OTDR analysis (TrueBIDIR), high fiber count (MPO)



Standard feature benefits include:

- Standard multi-pulses acquisition (**SmartAcq**) – improves event detection (splices, connectors, bends, ...) and removes the need for expensive and heavy launch cables.
- Icon-based map view (**Smart Link Mapper** – SLM) – eliminates OTDR interpretation errors and speeds up the results analysis with instant identification of faults and impairments
- The **SmartTEST** mode assists the fiber technicians (new or experienced) throughout the steps of OTDR testing. It is eliminating the complex OTDR tasks (setup configuration, analysis and reporting) and guiding the user through an easy and clear test process.
- For more information, please refer to the OTDR Features brochure.

SPECIFICATIONS (TYPICAL AT 25°C)

General	
Weight	0.35 kg (0.77 lb)
Optical interfaces	
Interchangeable optical connectors	FC, SC and LC
Technical characteristics	
Laser safety class (21CFR)	Class 1
Group index range	1.30000 to 1.70000 in 0.00001 steps
Sampling points	Up to 256,000
Pulse width	From 3ns ¹ /5ns to 20µs
Distance measurement	
Modes	Automatic or dual cursor
Display range	0.1 up to 260 (A and B module), 400 km for C module
Cursor resolution	1 cm
Sampling resolution	4 cm
Accuracy ²	±0.5 m ±sampling resolution ±+0.001% x distance
Attenuation measurement	
Modes	Automatic, manual, 2-point, 5-point, and LSA
Display resolution	0.001 dB
Linearity	±0.03 dB/dB
Reflectance/ORL measurement	
Reflectance accuracy	±2 dB
Display resolution	0.01 dB
Threshold	-11 to -99 dB in 1 dB steps
Optical light source (standard)	
Wavelengths	Same as OTDR port ³
Output power level	-3.5 dBm in CW mode
Tone generation	270Hz, 330Hz, 1 kHz, 2kHz
Auto λ mode	Yes (with VIAVI power meters)
Stability (8h)	<±0.1 dB
Power meter (optional)	
Input power range	-3 to -55 dBm
Calibrated wavelengths	1310/1490/1550/1625/1650 nm
Power level accuracy ⁴	±0.5 dB

OTDR specifications (Typical at 25°C)						
	Central wavelengths ⁵	Pulse width	RMS dynamic range ⁶	Event dead zone ⁷	Attenuation dead zone ⁸	Splitter attenuation dead zone ⁹
E4146A	850/1300 ±30 nm 1310/1550 ±20 nm	5 ns to 1 µs 5 ns to 20 µs	26/24 dB 37/35 dB	0.55 m 0.65 m	3 m 3 m	-
4100 A	1310±20 nm 1550±20 nm 1625±15 nm	5ns to 20 µs	37 dB ¹¹ 36 dB ¹¹ 36 dB ¹¹	0.65 m	2.5 m	-
4100 B	1310±20 nm 1550±20 nm 1625±10 nm 1650+10/-5 nm	5ns to 20 µs	43 dB 41 dB 41 dB 40 dB	0.60 m	2.5 m	45 m ⁹
4100 C	1310±20 nm 1550±20 nm 1625±10 nm 1650±15 nm	3ns to 20 µs	46 dB 45 dB 45 dB 43 dB	0.50 m	2.5 m	20 m ¹⁰

¹With 4100 C OTDR modules and EPULSE3NS software

²Excluding group index uncertainties

³Except filtered wavelengths

⁴At calibrated wavelengths, at -30 dBm excluding connection uncertainty

⁵Laser at 25°C and measured at 10 µs

⁶The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging

⁷Measured at ±1.5 dB down from the peak of an unsaturated reflective event, using 5ns pulsewidth at 1310 nm

⁸Measured at ±0.5 dB down from the linear regression using a FC/UPC-type reflectance, using 5 ns pulsewidth at 1310 nm

⁹Measured on a 16 dB loss (typical 1x32 split ratio) non-reflective splitter at 1310nm, using 200 ns pulsewidth

¹⁰Measured on a 16 dB loss (typical 1x32 split ratio) non-reflective splitter at 1310nm, using 100 ns pulsewidth

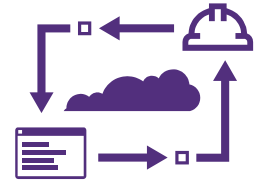
¹¹RMS dynamic range extended to 40/38/38 dB with EXTRANGE or EXTRANGE-UPG license

ORDERING INFORMATION

Description	Part number
Multi-mode/single-mode -850/1300/1310/1550 nm – PC	E4146A-PC
Multi-mode/single-mode -850/1300/1310/1550 nm – APC	E4146A-APC
4100 Module A OTDR - 1310/1500 nm - PC/APC	E4126A-PC/-APC
4100 Module A OTDR - 1310/1625 nm - PC/APC	E4106A-PC/-APC
4100 Module A OTDR - 1310/1550/1625 nm - PC/APC	E4136A-PC/-APC
4100 MODULE B OTDR - 1310/1550 nm – PC/APC	E4126B-PC/-APC
4100 Module B OTDR - 1310/1550/1625 nm – PC/APC	E4136B-PC/-APC
4100 MODULE B OTDR - 1310/1550/Filtered 1650 NM – APC	E4138FB65-APC
4100 MODULE B OTDR - Filtered 1650 nm – APC	E4118FB65-APC
4100 MODULE C OTDR - 1310/1550 nm – PC/APC	E4126C-PC/-APC
4100 MODULE C OTDR - 1310/1550/1625 nm – PC/APC	E4136C-PC/-APC
4100 MODULE C OTDR - 1310/1550/Filtered 1625 nm – APC	E4136FC-APC
4100 MODULE C OTDR - 1310/1550/Filtered 1650 nm – APC	E4138FC65-APC
Universal PC connector adapters	EUSCADS, EULCADS, EUFCADS
Universal APC connector adapters	EUSCADS-APC, EULCADS-APC, EUFCADS
Optical power meter option	E41OTDRPM

TEST PROCESS AUTOMATION (TPA)

Allows your team to deliver expert-level test results and close projects on the first try, every time. TPA is a closed loop test system that optimizes workflows, eliminates manual, error prone work and automates immediate data reporting for job close out, team progress updates and network health analytics. Execute jobs efficiently to ensure high quality network builds, rapid turn-up/activation and enhanced operational visibility.



INSPECT BEFORE YOU CONNECT (IBYC)

Contamination is the number 1 reason for troubleshooting optical networks. Proactive inspection and cleaning of fiber connectors can prevent poor signal performance, equipment damage, and network downtime.

