Manufacturer:
Viavi

Product Name:
Viavi T-BERD SM OTDR Module

Manufacturer Part Number:
E4126LA

Click here for more details on the Viavi T-BERD SM OTDR Module

Data Sheet

VIAVI

4100 Series OTDR A, B and C Modules

For T-BERD/MTS-2000, –4000 V2, –5800, CellAdvisor 5G, OneAdvisor 800 and FTH-9000

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-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

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

OneAdvisor 800
All-in-One wireline and wireless network Installation and Maintenance Test Solution

Key Features

- Up to 46 dB dynamic range and 256,000 acquisition points
- PON-optimized for next generation architectures, up to 1x256 split ratio and unbalanced and indexed splitters
- Dual/tri-wavelength versions with 1310/1550/1625 or 1650 nm
- Single test port connection for standard and filtered wavelengths – faster, error free testing avoiding customer services disruption
- Instant bi-directional OTDR event loss analysis "TrueBIDIR" (patented)
- 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)

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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 3 ns[1]/5 ns to 20 µs
Distance measurement	
Modes	Automatic or dual cursor
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

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OTDR specifications (Typical at 25°C)						
	Central wavelengths[5]	RMS dynamic range[6]	Event dead zone[7]	Attenuation dead zone[8]	Splitter attenuation dead zone[9]	Distance display range
4100 A	1310±20 nm 1550±20 nm 1625±15 nm	37 dB[11] 36 dB[11] 36 dB[11]	0.65 m	2.5 m	—	0.1 up to 260 km
4100 B	1310±20 nm 1550±20 nm 1625±10 nm 1650+10/-5 nm	43 dB 41 dB 41 dB 40 dB	0.60 m	2.5 m	45 m[9]	0.1 up to 260 km
4100 C	1310±20 nm 1550±20 nm 1625±10 nm 1650±15 nm	46 dB 45 dB 45 dB 43 dB	0.50 m	2.5 m	20 m[10]	0.1 up to 400 km

[1] With 4100 C OTDR modules and EPULSE3NS software
[2]Excluding group index uncertainties
[3]Except filtered wavelengths
[4]At calibrated wavelengths, at -30 dBm excluding connection uncertainty
[5]Laser at 25°C and measured at 10 µs
[6]The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS noise level, after 3 minutes averaging
[7]Measured at ±1.5 dB down from the peak of an unsaturated reflective event, using 5ns pulsewidth at 1310 nm
[8]Measured at ±0.5 dB down from the linear regression using a FC/UPC-type reflectance, using 5 ns pulsewidth at 1310 nm
[9]Measured on a 16 dB loss (typical 1x32 split ratio) non-reflective splitter at 1310nm, using 200 ns pulsewidth
[10]Measured on a 16 dB loss (typical 1x32 split ratio) non-reflective splitter at 1310nm, using 100 ns pulsewidth
[11]RMS dynamic range extended to 40/38/38 dB with EXTRANGE or EXTRANGE-UPG license

Ordering Information

Description	Part number
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
Add 1550 nm Wavelength to 4100 Module A OTDR	E4115-UPG
Extend dynamic range to 4100 Module A OTDR	EXTRANGE/EXTRANGE-UPG
3 ns pulse width option for 4100 Module C OTDR	EPULSE3NS
TrueBIDIR – Bi-directional OTDR analysis	TRUEBIDIR-FCOMP-PRO
FiberComplete PRO – Loopback Bi-Directional OTDR Mode	ELOOPBACK-FCOMP-PRO

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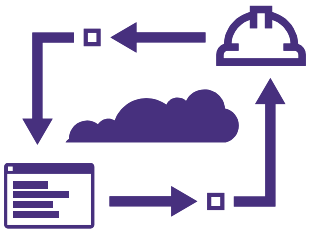
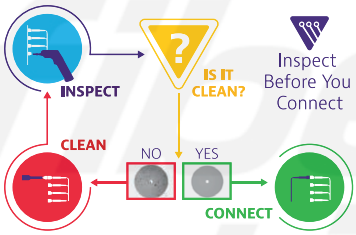
Test Process Automation (TPA)

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.



Contact the professionals at Fiber Optic Center for a quote or to get more details.

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