

VIAVI T-BERD/MTS 8100-Series OTDR EVO Modules

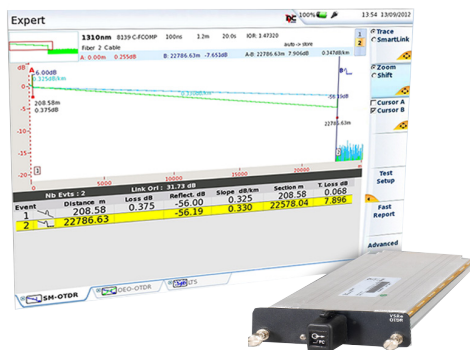
For T-BERD/MTS-6000A/-8000 Platforms

The Viavi Solutions® 8100-Series OTDR EVO family transforms fiber testing. Connect the OTDR EVO family anywhere on the fiber to characterize single-mode and multimode fibers for commissioning, network upgrades, and troubleshooting with the added insurance of workflow optimization and accurate fiber-link fingerprinting.

The OTDR EVO family’s optical performance combined with the T-BERD/MTS platform’s complete suite of testing features ensures that testing jobs are performed right—the first time.

Standard testing features include:

- Automatic macrobend detection
- Summary results table with pass/fail analysis
- Bidirectional OTDR analysis
- FastReport onboard report generation



Applications

- Metro and ultra-long-haul fiber network characterization
- Advanced FTTH PON network qualification and troubleshooting
- Upgrading core fiber networks to 40 and 100 G
- Remotely monitoring fiber while in or out of service
- Advanced Tier-2 certification for enterprise and data center networks

Key Benefits

- Industry-leading dead zone performance for full element event characterization on fiber links 2 m apart
- Includes an integrated power meter, light source, and OTDR in a one-port tool for added flexibility
- Instantaneous, automatic traffic detection avoids risking live signal interference or optical transmitter damage during an OTDR test
- Eliminates OTDR interpretation errors with Smart Link Mapper (SLM) without compromising on test time
- Reduces event loss measurement uncertainty and improves measurement repeatability

Key Features

- Up to 50 dB dynamic range
- Integrated CW light source and broadband power meter (single-mode wavelengths)
- PON-optimized to test through a 1x128 splitter
- Single connector port for 1310, 1550, and in-service 1650 nm wavelengths
- FiberComplete™ version available for automated bidirectional OTDR, IL, and ORL measurements
- Built-in encircled flux multimode source compliant with IEC 61280-1-4 and TIA-526-14-B

Platform Compatibility

T-BERD/MTS-6000A



Compact multilayer platform for network installation and maintenance

T-BERD/MTS-8000 V2



Scalable platform for multiple-layer and multiple-protocol testing

Specifications (Typical at 25°C)

| General | |
|-------------------------------------|---|
| Weight | approx. 500 g (1.1 lb) |
| Dimensions (W x H x D) | 213 x 124 x 32 mm (8.38 x 4.88 x 1.26 in) |
| Laser safety class (21 CFR) | Class 1 |
| Distance units | Kilometer, meter, feet, and miles |
| Group index range | 1.30000 to 1.70000 in 0.00001 steps |
| Number of data points | Up to 256,000 data points |
| Distance Measurements | |
| Mode | Automatic or dual cursor |
| Display range | Single-mode: 0.1 – 400 km Multimode: 0.05 – 10 km |
| Display resolution | 1 cm |
| Cursor resolution | From 1 cm |
| Sampling resolution | From 4 cm |
| Accuracy | Single-mode: $\pm 0.75 \text{ m} \pm \text{sampling resolution} \pm 1.10^{-5} \times \text{distance}$ (excluding group index uncertainties) |
| Attenuation Measurements | |
| Mode | Automatic, manual, 2-point, 5-point, and LSA |
| Display resolution | 0.001 dB |
| Linearity | Single-mode: $\pm 0.03 \text{ dB/dB}$ Multimode: $\pm 0.05 \text{ dB/dB}$ |
| Threshold | 0.01 to 4.99 dB in 0.01 dB steps |
| Reflectance/ORL Measurements | |
| Mode | Automatic or manual |
| Reflectance accuracy | $\pm 2 \text{ dB}$ |
| Display resolution | 0.01 dB |
| Threshold | -11 to -99 dB in 1 dB steps |

| OTDR Modules | 8100A | 8100B | 8100C | 8100D |
|---|--|---|--|---|
| Central wavelength ¹ | 850 +10/-30 nm; 1300 ±20 nm; 1310 ±20 nm; 1550 ±20 nm; 1625 ±20 nm | 1310 ±20 nm; 1550 ±20 nm; 1625 ±20 nm | 1310 ±20 nm; 1490 ±20 nm; 1550 ±20 nm; 1625 ±10 nm; 1650 +15/-5 nm | 1310 ±20 nm; 1550 ±20 nm; 1625 +15/-5 nm; 1650 ±1 nm |
| Dynamic range ² | Multimode: 24/24 Single-mode: 40/40/40 dB | 41/40/40 dB | 47.5/46/47/47.5/46 dB | 50/50/50/48 dB |
| Pulse width | Multimode: 1 ns to 20 µs Single-mode: 3 ns to 20 µs | 5 ns to 20 µs | 2 ns to 20 µs | 2 ns to 20 µs |
| Event dead zone ³ | Multimode: 0.25 m Single-mode: 0.60 m | 0.65 m | 0.6 m | 0.5 m |
| Attenuation dead zone ⁴ | 2 m | 2 m | 2 m | 2.5 m |
| Splitter attenuation dead zone | 25 m after a 15 dB splitter loss (single-mode only) | 25 m after a 15 dB splitter loss | 25 m after a 15 dB splitter loss/60 m after a 18 dB splitter loss | 15 m after a 15 dB splitter loss |
| Power meter | | | | |
| Calibrated wavelengths ⁵ | N/A | 1310/1490/1550/1625 nm | 1310/1490/1550/1625 nm | 1310/1490/1550/1625 nm |
| Power range | | -3 to -55 dBm | -3 to -55 dBm | -5 to -55 dBm |
| Accuracy ⁶ | | ±0.5 dB at -30 dBm | ±0.5 dB at -30 dBm | ±0.5 dB at -30 dBm |
| Continuous wave light source⁷ | | | | |
| Wavelengths | 850/1300/1310/1550/1625 nm | 1310/1550/1625 nm | 1310/1490/1550/1625 nm | 1310/1550/1625 nm |
| Output power | 0 dBm | -3.5 dBm | -3.5 dBm | 0 dBm |
| Stability | ±0.2 dB @25°C over 1 hr | ±0.1 dB at 25°C over 1 hour | ±0.1 dB at 25°C over 1 hour | ±0.1 dB at 25°C over 1 hour |
| Operating modes ⁸ | CW (single-mode only), 270 Hz, 330 Hz, 1 kHz, 2 kHz, Twintest | CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest | CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest | 270 Hz, 330 Hz, 1 kHz, 2 kHz, TWINtest |

1. Laser at 25°C and measured at 10 µs.

2. The one-way difference between the extrapolated backscattering level at the start of the fiber and the RMS (SNR=1) noise level, after 3 minutes averaging using the largest pulse width.

3. Measured at ±1.5 dB below the peak of an unsaturated reflective event using the shortest pulse width.

4. Measured ±0.5 dB from the linear regression using an FC/UPC reflectance and the shortest pulse width.

5. 1625 nm is not available on the 8138C-65 version.

6. At calibrated wavelengths.

7. At calibrated wavelengths; multimode source (850 nm) is compliant to the IEC 61280-1-4 standard related to the encircled flux.

8. Subtract 3 dB when in modulation mode (270 Hz/330 Hz/1 kHz/2 KHz).

Ordering Information

| Description | Part Number |
|---|--|
| 8100A Modules | |
| 850/1300/1310/1550 nm OTDR module ² | E8146A |
| 850/1300/1310/1550/1625 nm OTDR module ² | E8156A |
| 8100B Modules | |
| 1310/1550 nm OTDR module | E8126B |
| 1310/1550/1625 nm OTDR module | E8136B |
| 8100C Modules | |
| 1550 nm OTDR module ¹ | E8115C |
| In-service 1625 nm OTDR module ¹ | E81162C |
| In-service 1650 nm OTDR module ¹ | E81165C |
| 1310/1550 nm OTDR module | E8126C |
| 1310/1550/1625 nm OTDR module | E8136C |
| 1310/1490/1550 nm OTDR module | E8139C |
| 1310/1550 and in-service 1650 nm OTDR module | E8138C-65 |
| 8100D Modules | |
| 1550 nm OTDR module ¹ | E8115D |
| In-service 1625 nm OTDR module ¹ | E81162D |
| In-service 1650 nm OTDR module ¹ | E81165D |
| 1310/1550 nm OTDR module | E8126D |
| 1550/1625 nm OTDR module ¹ | E8129D-62 |
| 1310/1550/1625 nm OTDR module | E8136D |
| Universal Optical Connectors | |
| Straight connectors | EUNIPCFC, EUNIPCSC, EUNIPCST, EUNIPCDIN |
| 8° angled connectors | EUNIAPCFC, EUNIAPCSC, EUNIAPCDIN |

1. Source and power meter not available on these versions.

2. APC connector not available on these versions.

For more information about the T-BERD/MTS-6000A and -8000 test platforms, refer to their respective data sheets.

VIAVI Care Support Plans

Increase your productivity for up to 5 years with optional VIAVI Care Support Plans:

- Maximize your time with on-demand training, priority technical application support and rapid service.
- Maintain your equipment for peak performance at a low, predictable cost.

For more Information: go to viavisolutions.com/viavicareplan

Features

*5-year plans only

| Plan | Objective | Technical Assistance | Factory Repair | Priority Service | Self-paced Training | 5 Year Battery and Bag Coverage | Factory Calibration |
|--|------------------------------------|----------------------|----------------|------------------|---------------------|---------------------------------|---------------------|
|  BronzeCare | Technician Efficiency | Premium | ✓ | ✓ | ✓ | | |
|  SilverCare | Maintenance & Measurement Accuracy | Premium | ✓ | ✓ | ✓ | ✓* | ✓ |



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