

T-BERD®/MTS-2000/-4000 Platforms

4100-Series OTDR Modules



Key Benefits

- Ideal OTDR test solution for use in installing, turning up, and maintaining FTTx/PON, access, metro, and enterprise networks
- Accurately troubleshoots in-service PON networks using dedicated wavelengths
- Comes standard with integrated power meter, light source, and OTDR in one tool from one port for added flexibility
- Avoids risking live signal interference or optical transmitter damage during OTDR tests and automatically detects traffic instantaneously

Key Features

- Up to 42 dB dynamic range and 256,000 acquisition points
- PON-optimized to test through a 1x128 splitter
- Combined single-mode/multimode into one (Quad)
- Single-/dual-/tri-wavelength versions with 1310, 1490, 1550, 1625, and 1650 nm
- Single connector port for 1310, 1550, and in-service 1625 or 1650 nm wavelengths
- Integrated CW light source and broadband power meter

JDSU 4100-Series OTDR modules enable field technicians to rapidly, reliably, and cost-effectively install, turn up, and troubleshoot any optical network architecture—enterprise, metro, and FTTx/access point-to-point or point-to-multipoint passive optical networks (PONs).

The 4100-series OTDR modules' optical performance combined with the complete suite of T-BERD/MTS platforms testing features ensures that testing is done 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

Platform Compatibility

T-BERD/MTS-2000



One-slot handheld modular platform for fiber network testing

T-BERD/MTS-4000



Two-slot handheld modular platform for fiber/copper and multiple services testing

Specifications (Typical at 25°C)
General

Weight	0.35 kg (0.77 lb)
Dimensions (w × h × d)	128x134x40 mm (5x5.28x1.58 in)

Optical Interfaces

Interchangeable optical connectors ¹	FC, SC, DIN, LC (PC or APC) and ST (PC)
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Technical Characteristics

Laser safety class (21 CFR)	Class 1
Distance units	Kilometers, feet, and miles
Group index range	1.300000 to 1.700000 in 0.00001 steps
Number of data points	Up to 128,000 or 256,000 data points

Distance Measurement

Mode	Automatic or dual cursor
Display range	0.5 km up to 260 km
Cursor resolution	1 cm
Sampling resolution	4 cm
Accuracy	±1 m ±sampling resolution ±1.10 ⁵ x distance (Excluding group index uncertainties)

Attenuation Measurement

Mode	Automatic, manual, 2-point, 5-point, and LSA
Display range	1.25 dB to 55 dB
Display resolution	0.001 dB
Cursor resolution	0.001 dB
Linearity	±0.03 dB/dB/±0.04 for LM/±0.05 for LA
Threshold	0.01 to 5.99 dB in 0.01 dB steps

Reflectance/ORL Measurements

Reflectance accuracy	±2 dB
Display resolution	0.01 dB
Threshold	-11 to -99 dB in 1 dB steps

Source and Broadband Power Meter (optional)²

CW Source output power level	-3.5 dBm
Power level range (MM/SM) ³	-3 to -30 / 0 to -55 dBm
Calibrated wavelengths (SM) ⁴	1310, 1490, 1550, 1625, and 1650 nm
Calibrated wavelengths (MM) ⁵	850, 1300 nm
Measurement accuracy (SM)	±0.5 dB
Measurement accuracy (MM) ⁶	±1 dB

(1) FC and SC for LA module

(2) Broadband power meter unavailable for the LA module

(3) -2 to -50 dBm for LM and Quad

(4) Available on LM, MA, MP, and Quad modules

(5) Available on MM and Quad modules

(6) Using a mode conditioner

OTDR Modules (Typical at 25°C)

	Central Wavelength ⁷	RMS Dynamic Range ⁸	Event Dead Zone ⁹	Attenuation Dead Zone ¹⁰	Network Type	Applications/Key Benefits
MM	850/1300±30 nm	26/24 dB	0.8 m	4 m	Enterprise/FTTA	Multimode network qualification
Quad	850/1300 ± 30 nm	26/24 dB	0.8 m	4 m	Enterprise/FTTA Access/ Metro	Universal test solution for both multimode and single-mode networks
	1310/1550 ±20 nm	37/35 dB	0.9 m	4 m		
LA	1310/1550 ±20 nm	33/31 dB	1.5 m	6 m	FTTA/FTTH/Access	Short-haul qualification FTTH drop-cable qualification
LM	1310 ±20 nm	34 dB	1 m	4 m	FTTA/FTTH/Access	Short-haul qualification FTTH drop-cable qualification
	1550 ±20 nm	32 dB				
	1625 ±10 nm	32 dB				
	1650 ±20 nm	30 dB				
MA	1310 ±20 nm	37 dB	0.9 m	4 m	FTTH/Access/ Metro	Short-/Medium-haul qualification FTTH test up to 1x32 splitter
	1550 ±20 nm	35 dB				
	1625 ±10 nm	35 dB				
	1650 ±20 nm	34 dB				
MP	1310 ±20 nm	42 dB	0.8 m	4 m	FTTH/Access/ Metro/Long Haul	Short-/Medium-/Long-haul qualification FTTH test up to 1x128 splitter
	1490 ±20 nm	40 dB				
	1550 ±20 nm	40 dB				
	1625 ±10 nm	40 dB				
	1650 +10/-5 nm	40 dB				

(7) Laser at 25°C and measured at 10 μs.

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

(9) Measured at ±1.5 dB down from the peak of an unsaturated reflective event.

(10) Measured at 1310 nm and ± 0.5 dB from the linear regression using a FC/PC-type reflectance.

Note: These are standard specifications that represent only a few JDSU offerings. For specific requirements, contact your local JDSU representative.

Ordering information (contact JDSU for additional references)

Part Number	Description
E4123MM	Multimode 850/1300 OTDR Module
E4146QUAD	Multimode/Single-mode 850/1300/1310/1550 nm OTDR Module
E4126LA	LA 1310/1550 nm OTDR Module
E4126LM	Last Mile 1310/1550 nm OTDR Module
E4126MA	Metro Access 1310/1550 nm OTDR Module
E4126MP	Metro PON 1310/1550 nm OTDR Module

Universal optical connectors (not applicable for LA module)

EUNIPFCF, EUNIPCSC, EUNIPCST, EUNIPCDIN, EUNIPCLC	Straight connectors
EUNIAPFCF, EUNIAPCSC, EUNIAPCDIN, EUNIAPCLC	8° angled connectors

For more information on the T-BERD/MTS-2000 and T-BERD/MTS-4000 test platforms or individual modules, refer to their respective data sheets and brochure.

Test & Measurement Regional Sales

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