VIAVI Solutions

DATASHEET

VIAVI

4100-Series CWDM OTDR Modules

For T-BERD®/MTS-2000, –4000, –5800 Platforms

Connect the VIAVI Solutions™ 4100-Series CWDM OTDR family to successfully deploy and maintain C-RAN, DAS, CWDM, and fronthaul networks. CWDM OTDR-family optical performance, combined with the T-BERD/MTS platform's suite of testing features, ensures that testing jobs are performed right—the first time.

Testing features include:

- Automatic multitest configurations
- Easy-to-read summary results table with pass/fail analysis
- Quick trace interpretation with SLM (optional)
- FastReport™ onboard report generation

Benefits

- Characterize fiber links with exact CWDM wavelengths
- Qualify C-RAN, DAS, and any mobile fronthaul network
- Troubleshoot live networks with in-service testing capability
- Verify end-to-end continuity using the continuous wave source function
- Eliminate OTDR interpretation errors with Smart Link Mapper (SLM) without comprising test times

Features

- 8 or 10 CWDM wavelengths in 1 module and 18 wavelengths in 2 modules
- Optimized performance for access and metro applications
- Integrated CW light source with modulation capability
- Instantaneous traffic detection

Applications

- Qualification of fronthaul access networks
- Testing new CWDM wavelength routes without disrupting traffic on active channels
- Pinpointing faults and their exact locations while in service

Specifications (typical at 25°C)

Laser safety	Class 1 (IEC), Class 1 (21CFR)
Weight	430g (0.95 lb)
Dimensions (w x h x d)	128 x 134 x 40 mm (5 x 5.28 x 1.58 in)
Distance Units	Km/m/mile/ft
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	From 0.5 up to 260 km
Display resolution	1 cm
Cursor resolution	From 1 cm
Sampling resolution	From 4 cm
Accuracy	±1 m ±sampling resolution ±1.10-5 x distance (excluding group index uncertainties)
Attenuation Measurements	
Mode	Automatic, manual, 2-point, 5-point and LSA
Display range	From 1.25 dB to 55 dB
Display resolution	0.001 dB
Cursor resolution	From 0.001 dB
Attenuation linearity	±0.03 dB/dB
Threshold	0.01 to 1.99 dB in 0.01 dB step
Reflectance/ORL Measurements	
Mode	Automatic or manual
Reflectance accuracy	±2 dB
Display resolution	0.01 dB
Threshold	–11 to –98 dB in 1 dB steps
Storage	Bellcore/Telcordia compatible Version 1.1 and Version 2.0

OTDR	
CWDM Wavelengths[1]	1271/1291/1311/1331/1351/1371/1391/ 1411/1431/1451/1471/1491/1511/1531/ 1551/1571/1591/1611nm +/-3nm
Pulsewidth	10 ns to 20 µs
Dynamic range[2]	35dB
Event dead zone[3]	1.5 m
Attenuation dead zone[4]	5 m
Continuous Wave Light Source	Wavelengths: same as OTDR
	Output power -3.5 dBm
	Operating modes[5]: CW, 270 Hz, 330 Hz, 1 kHz, 2 kHz
Automatic traffic detection	Yes
In-service testing	Yes

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 noise level, after 3 minutes averaging and using the largest pulsewidth.
3. Measured at ±1.5 dB down from the peak of an unsaturated reflective event using the shortest pulsewidth.
4. Measured at ±0.5 dB from the linear regression using a FC/PC reflectance and using the shortest pulsewidth.
5. Subtract 3 dB when used in modulation mode (270/330/1/2 kHz).

Ordering Information

Description	Part Number
4100 CWDM OTDR Modules	
1271 to 1451 nm	E41CWDM10L
1471 to 1611 nm	E41CWDM8U
1431 to 1611 nm	E41CWDM10U
Optical Connectors	
PC connector with switchable adapter	EUNISPCFC, EUNISPCSC
8° APC connector with switchable adapter	EUNISAPCFC, EUNISAPCSC
For more information on T-BERD/MTS-2000/-4000/-5800 test platforms, refer to their respective datasheets.	

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Contact Us **+1 844 GO VIAVI**
(+1 844 468 4284)

To reach the VIAVI office nearest you,
visit viavisolutions.com/contacts.

4100cwdmotdr-ds-fop-nse-ae
30176250 905 1117