Optical Spectrum Analyzer (OSA) Modules

EM316OSA-40DC21 and EM316OSA-80DC21



Highlights

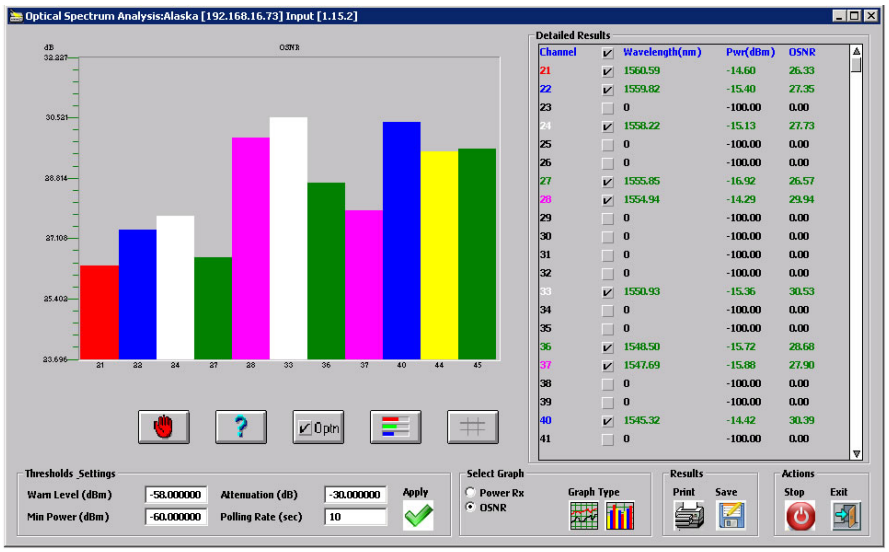
- Full C-Band scanning coverage
  - 50GHz or 100GHz spacing
  - DWDM channels 21-60
- Separate channel data
  - Wavelength and frequency
  - Optical power
  - Optical signal-to-noise ratio (OSNR)
- Fiber Driver management compatibility
- Local USB interface for PC-based optical performance monitor application
- High reliability technology - no moving parts and GR-63/1209/1221 qualified
- Fiber Driver chassis compatibility
- Fiber optic (98%/2%) splitter cable (ordered separately)

Overview

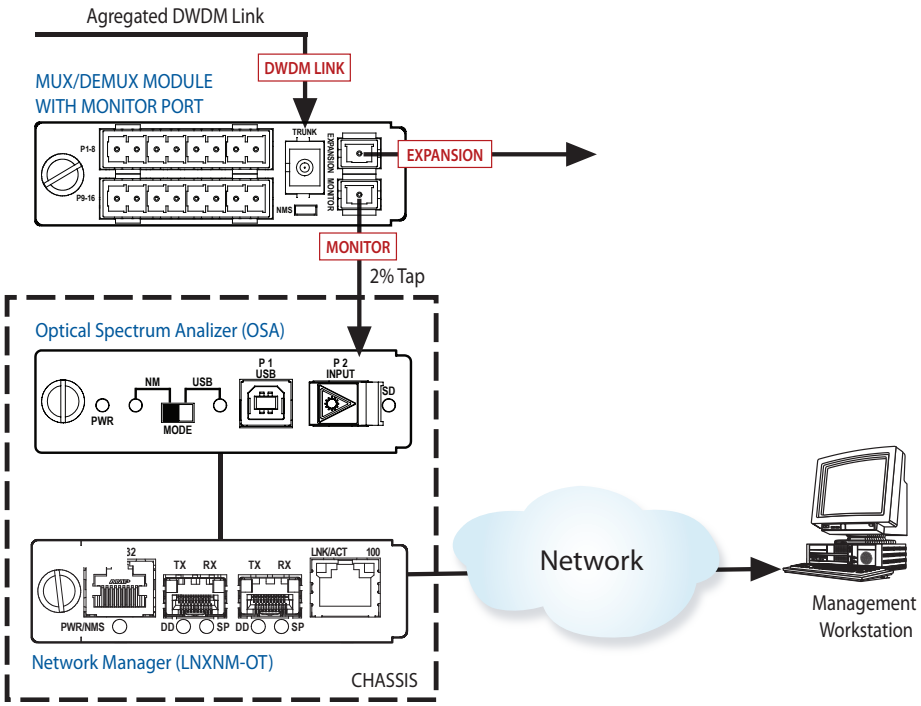
The Optical Spectrum Analyzer (OSA) modules complement the Fiber Driver™ DWDM transport solution by providing real-time optical performance analysis for any DWDM aggregated optical link. Each single-slot module operates as a standalone device or as a fully integrated and managed Fiber Driver system component.

The modules provide the optical channel monitoring functionality of an advanced OSA. They monitor signal status and deliver precise optical performance information including wavelength, frequency, signal power, and estimated optical signal-to-noise ratio (OSNR) for each individual wavelength channel in an optically multiplexed C-Band DWDM link. These parameters are important for the proper evaluation, deployment, management, and maintenance of optical transports systems.

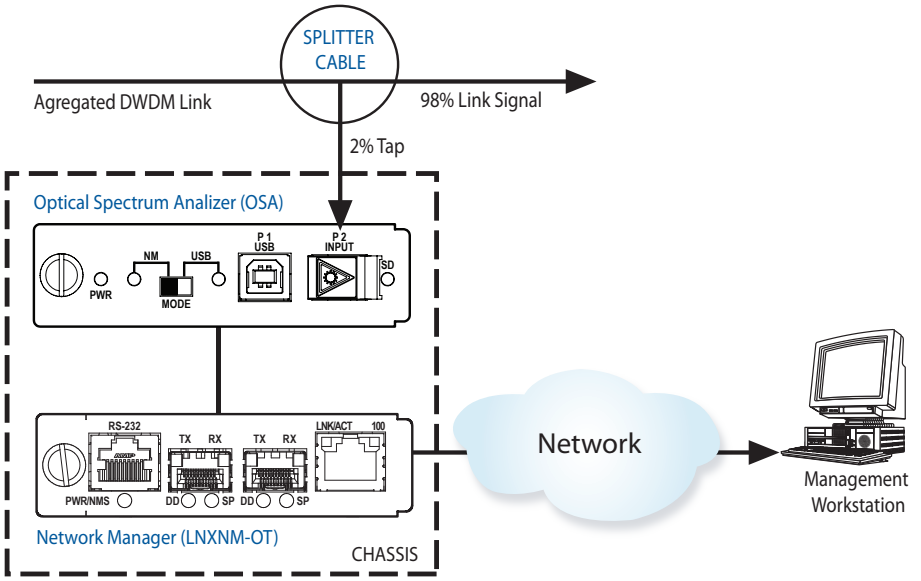
When integrated in a managed Fiber Driver system, the EM316LNXNM-OT Fiber Driver network manager (NM) provides full administrative access to the OSA spectrum analysis information. The NM interfaces create secure local serial and remote Ethernet connections for complete management access to the OSA analysis data through either a text command line or graphically through MRV's MegaVision Pro®.



Application Diagram 1



Application Diagram 2



PC Application - USB mode

The 1-slot module can also connect to a PC application through a USB interface. The PC-based optical performance monitoring application monitors and graphically displays the same module information as through the management module, but with increased spectrum resolution and without channel summary.

DWDM Channels H60 – C41			DWDM Channels H40 – C21		
Wavelength (nm)	Frequency (THz)	ITU Channel	Wavelength (nm)	Frequency (THz)	ITU Channel
1529.16	196.05	H60	1544.92	194.05	H40
1529.55	196.00	C60	1545.32	194.00	C40
1529.94	195.95	H59	1545.72	193.95	H39
1530.33	195.90	C59	1546.12	193.90	C39
1530.73	195.85	H58	1546.52	193.85	H38
1531.12	195.80	C58	1546.92	193.80	C38
1531.51	195.75	H57	1547.32	193.75	H37
1531.90	195.70	C57	1547.72	193.70	C37
1532.29	195.65	H56	1548.12	193.65	H36
1532.68	195.60	C56	1548.52	193.60	C36
1533.07	195.55	H55	1548.92	193.55	H35
1533.47	195.50	C55	1549.32	193.50	C35
1533.86	195.45	H54	1549.72	193.45	H34
1534.25	195.40	C54	1550.12	193.40	C34
1534.64	195.35	H53	1550.52	193.35	H33
1535.04	195.30	C53	1550.92	193.30	C33
1535.43	195.25	H52	1551.32	193.25	H32
1535.82	195.20	C52	1551.72	193.20	C32
1536.22	195.15	H51	1552.12	193.15	H31
1536.61	195.10	C51	1552.52	193.10	C31
1537.00	195.05	H50	1552.93	193.05	H30
1537.40	195.00	C50	1553.33	193.00	C30
1537.79	194.95	H49	1553.73	192.95	H29
1538.19	194.90	C49	1554.13	192.90	C29
1538.58	194.85	H48	1554.54	192.85	H28
1538.98	194.80	C48	1554.94	192.80	C28
1539.37	194.75	H47	1555.34	192.75	H27
1539.77	194.70	C47	1555.75	192.70	C27
1540.16	194.65	H46	1556.15	192.65	H26
1540.56	194.60	C46	1556.56	192.60	C26
1540.95	194.55	H45	1556.96	192.55	H25
1541.35	194.50	C45	1557.36	192.50	C25
1541.75	194.45	H44	1557.77	192.45	H24
1542.14	194.40	C44	1558.17	192.40	C24
1542.54	194.35	H43	1558.58	192.35	H23
1542.94	194.30	C43	1558.98	192.30	C23
1543.33	194.25	H42	1559.39	192.25	H22
1543.73	194.20	C42	1559.79	192.20	C22
1544.13	194.15	H41	1560.20	192.15	H21
1544.53	194.10	C41	1560.61	192.10	C21

MRV Optical Communications Systems®

Datasheet

Optical Specifications

Parameters	EM316OSA-40DC21	EM316OSA-80DC21
DWDM Channels (C-Band)	DWDM channels 21-60	DWDM channels C21-H60
Wavelength Range	1529.553 nm - 1560.606 nm	1529.163 nm - 1560.606 nm
Number of Channels	40	80
Channel Spacing	100 GHz	50 GHz
Absolute Wavelength Accuracy	± 50 pm	
Relative Wavelength Accuracy	30 pm	
Input Power Range	-60 to - 10 dBm	
Channel Power Accuracy	± 0.5 dB	
Power Resolution	0.1 dB	
PDL	0.3 dB	
Response Time	<10 ms (raw data only)	
OSNR	Minimum: 25 dB; Typical: 30 dB	
OSNR Accuracy	± 2 dB	

Physical Specifications

Operating Temperature:	-0°C to 50°C (32°F to 122°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Relative Humidity	85% maximum, non-condensing
Physical Dimensions (W x H x D)	25 mm x 75 mm x 175 mm deep (1" x 3" x 7" deep)
Approximate Weight	450 grams (16 oz)
Regulatory Compliance	FCC Part 15 (Class A); IC (Class A); EMC Directive: Emission (Class A) and Immunity; RoHS Directive; China RoHS; WEEE Directive

Ordering Information

Model	Description
EM316OSA-40DC21	Optical Spectrum Analyzer, DWDM, C-Band 10GHz spacing (ITU channels 21-60)
EM316OSA-80DC21	Optical Spectrum Analyzer, DWDM, C-Band 50GHz spacing (ITU channels C21-H60)
10610054-0001R	Optical splitter cable, 98% and 2% signal outputs

MRV operates Worldwide sales and service offices across four continents.

Contact us at **info@mrv.com**

MRV Communications

Corporate Headquarters

300 Apollo Drive

Chelmsford, MA 01824

http://www.mrv.com



All statements, technical information and recommendations related to the products herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness thereof is not guaranteed, and no responsibility is assumed for any inaccuracies. Please contact MRV Communications for more information. MRV Communications and the MRV Communications logo are trademarks of MRV Communications, Inc. Other trademarks are the property of their respective holders.

Copyright ©2012 MRV Communications, Inc. All Rights Reserved.