WDM900 Lightwave Test Set

US Patent # 9,515,726

Features

- Health Meter summarizes channel performance in less than 3 seconds
- Detail Display provides one-touch diagnosis of any performance issue
- Automatic compensation for monitor tap ratio
- Onboard report generation
- IEC 61280-2-9 OSNR measurement
- Meets stringent GR-2952-CORE mechanical design criteria

Applications

- Testing node splits in PON and broadband networks
- Testing DWDM overbuilds of CWDM networks
- Commissioning CWDM/DWDM mobile backhaul networks
- DAS installation and troubleshooting
- Restoration of Metro-E wavelength services
- Troubleshooting live mobile backhaul network
- Headend and CO signal path checks

The WDM900 is a rugged, portable and easy-to-use optical test set that simplifies in-service testing of live DWDM and CWDM networks. Within just seconds of connecting to a network port, WDM900 users know the status of each channel, which channels require attention and exactly what action is required.

The WDM900 is engineered to perform under the harsh conditions typically found in a central office, headend, network node and other outside plant locations. Its highly-integrated solid state design features a hermetically-sealed optical path and no moving parts. An internal wavelength reference and temperature-stabilized measurement circuits eliminate long warm-up periods and accuracy drifts induced by sudden temperature and humidity changes. The WDM900 is the only portable WDM measurement system that satisfies Telcordia GR-2952-CORE environmental specifications.

The WDM900's innovative Health Meter is protected by US Patent # 9,515,726.

Two different models of WDM900 are available.

- WDM900-40 – designed for commissioning, testing and troubleshooting of DWDM Access/Metro network links
- WDM900-60 – designed for commissioning, testing and troubleshooting of CWDM and DWDM Access/Metro network links

Ordering Information

DESCRIPTION	AFL NO.
Includes a WDM900 Lightwave Test Set configured for 50 or 100 GHz DWDM C-band operation, SC/FC/LC (UPC) test port adapters, SC/ FC/LC input attenuators, (2) One-Click Cleaners, AC adapter, user's guide and soft carry case.	WDM900-40
Includes a WDM900 Lightwave Test Set configured for CWDM, 50 GHz and 100 GHz DWDM C-band operation, SC/FC/LC (UPC) test port adapters, SC/FC/LC input attenuators, (2) One-Click Cleaners, AC adapter, user's guide and soft carry case.	WDM900-60

WDM900 Lightwave Test Set

U.S. Patent Pending

Specifications [a]

OPTICAL	DWDM		CWDM
	WDM900-40	WDM900-60	
Usable Channel Spacing	50 GHz, 100 GHz		20 nm
Optical Return Loss	30 dB		30 dB
Adjacent Channel Rejection Ratio, ORR @50 GHz	48 dB (typical)		25 dB
Measurement Time	3 sec		3 sec
WAVELENGTH MEASUREMENT			
Wavelength Coverage (ITU Channels)	1527.99 nm to 1568.77 nm 196.2 THz to 191.1 THz		CWDM 1–18
Absolute Accuracy	±0.08 nm (±0.05 nm typical)		
Display Resolution	0.001 nm		
POWER MEASUREMENT			
Range	WDM900-40	WDM900-60	-47 to +6 dBm
	-45 to -4 dBm [b]	-41 to -1 dBm [b]	
Absolute Accuracy	±0.8 dB [b]		±0.8 dB
	±1.2 dB [c]		
Relative Accuracy [d]	N/A	<1.0 dB	
Display Resolution	0.1 dB [b]		0.1 dB
Repeatability	0.1 dB [b]		0.1 dB
OSNR MEASUREMENT			
Standard	IEC 61280-2-9		
Accuracy	±2.1 dB [e]		
Repeatability	± 0.75 dB		
RATINGS	WDM900-40	WDM900-60	
Max Input Power	+21 dBm	+24 dBm	

ENVIRONMENTAL RESILIENCE	
Dust Resistance	Hermetically-sealed Light Path
Shock Resistance, Intended Use	GR-2952-CORE, O4-14: 30 in drop onto hard surface, base
Vibration Resistance	GR-2952-CORE, R4-15: 10 Hz to 500 Hz @1.5 g on 3 principal axes
Operating Environment	GR-2952-CORE, R4-19: -5 °C (@ uncontrolled humidity) to 50 °C (@95% relative humidity)
Non-operating Environment	GR-2952-CORE, R4-18: modified to -30 °C (@ uncontrolled humidity) to 60 °C (@95% relative humidity)
Electromagnetic Emissions	GR-2952-CORE, R4-21 & GR-1089-CORE and EN 5510
Electromagnetic Susceptibility	GR-2952-CORE, R4-22 and GR-1089-CORE and EN 61000-4-6
GENERAL	
Display	6.5 in, high brightness, outdoor enhanced, 640 x 480 color TFT
Touchscreen	Resistive technology, unaffected by moisture or water droplets
Connectivity	2 x USB 2.0 Host 1 x USB 2.0 Client RJ-45 LAN port (hardware only) IEEE 802.11 b/g/n (hardware only) Bluetooth 2.0 (hardware only)
Internal Memory	4 GB Flash
External Storage	Removable USB Flash drive
Report Formats	.csv and .pdf
Battery Type	User replaceable Li-ion, rechargeable
Battery Life	8 hours minimum
AC Adapter	Universal 100 to 240V AC, 47–63 Hz input, 18V DC output
Size	190.5 x 269.2 x 69.8 mm (7.5 x 10.6 x 2.75 in)
Weight	2.34 kg (5.16 lb)

Notes:

a. All specifications valid at 23°C ±2°C (73.4°F ±3.6°F).

b. Channel power <-4 dBm, total input power <9 dBm for WDM900-40 model. Channel power <-1 dBm, total input power <12 dBm for WDM900-60 model. When mixed 2.5 Gb/s, 10 Gb/s and 40 Gb/s signals are at non-adjacent channels (power imbalance < 10 dB).

c. Same as (b) - When mixed 40 Gb/s signals are in adjacent channels (power imbalance <5 dB).

d. Between CWDM and DWDM operating modes within 1530, 1550, and 1570 nm spectral regions.

e. When signal OSNR within the range of 8 dB to 25 dB for 10 Gb/s or lower data rate within 50 GHz channel spacing.

International Sales and Service Contact Information

Available at www.AFLglobal.com/Test/Contacts