PL-1000D Diagnostic and Monitoring Solution

Diagnostic device using OTDR to detect fiber quality and cut, and OSA for spectrum and OSNR analysis

Features Overview

- Monitoring up to 16 fibers simultaneously, 8 by the OTDR and 8 by the OSA
- Controlled with PacketLight web application or PacketLight's Lightwatch™ NMS
- Main Metro OTDR features:
    - Integrates 1:8 optical switch, OTDR, OADMs
    - 24dB fiber loss
    - Integrated with third party GIS tools
- Main Regional OTDR features:
    - Integrates 1:8 optical switch, OTDR, OADMs
    - 32dB fiber loss
    - Integrated with third party GIS tools
- Main OSA features:
    - Integrates 1:8 optical switch, OSA, splitters
    - Supports full C-band 50GHz/100GHz ITG grid
    - Measures the power, frequency and OSNR of the optical channels in the fiber
- 1U footprint 19"
- Dual redundant AC/DC power suppliers
- Hot swappable fan unit
- Low power consumption

How the PL-1000D Works

The PL-1000D consists of two technologies for non-intrusive monitoring live fiber optic networks. The OTDR locates fiber cut by sending high-powered diagnostic optical pulses into the fiber and creating Rayleigh back-reflections. The returning signals are measured and calculated, indicating the accurate location and intensity of the fault. The OSA presents for each fiber the optical spectrum and the OSNR of each wavelength, providing the operator with a full, accurate and detailed picture of the fiber.
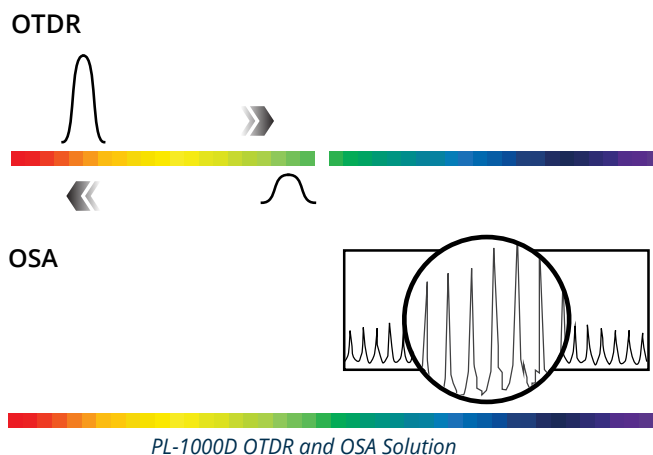
Main Benefits

- **Simultaneous OTDR diagnostics of up to 8 fibers**
- **OSA monitoring of up to 8 fibers**
- **In-service fiber monitoring**
- **Can operate over dark fiber or over third party network**
- **Detection of fiber tapping attempts**
- **Provide alarm when the trace events are changed**
- **Graphical display of the OTDR and OSA in any browser**

Full Fiber Diagnostic Device

The PL-1000D conducts full non-disruptive monitoring and analysis of the network's fiber. The OTDR monitors up to 8 fibers simultaneously, identifying a break or degradation in each fiber and where the break is. The embedded OSA provides the full optical DWDM spectrum and OSNR of up to 8 fibers simultaneously. The solution provides high-level visibility of the fiber characterization and operating wavelengths and saves network managers time and OPEX expenses associated with identifying and repairing faults.

PL-1000D OTDR and OSA Solution

Recommended applications:
- Monitoring dark fibers service/infrastructure
- Monitoring lighted DWDM fibers
- In service OTDR measurements for DWDM networks
- In service OSA measurements for DWDM networks
- Detection of fiber tapping

Technical Specifications

Product Configurations
- Metro or Regional OTDR
- OSA

Metro OTDR
Wavelength: 1610nm
Distance Range: 120 km
Dynamic Range: 24dB
Loss Measurement Accuracy: ±0.1dB
Max Optical Output Power: 17dBm

Regional OTDR
Wavelength: 1610nm
Distance Range: 140 km
Dynamic Range: 32dB
Loss Measurement Accuracy: ±0.1dB
Max Optical Output Power: 20dBm

OSA
Channel Spacing:
50GHz or 100GHz ITG grid
Frequency Window: C-band
Frequency Accuracy: ±0.1GHz
Slice Width: 0.3125GHz
Min Channel Width: 312.5MHz
Max Channel Width: 4.875THz
Input Channel Power (Pch):
-35dBm – 0dBm
Channel Power Accuracy: ±0.5dBm

Network Management
Management Protocols:
SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, TACACS+, SNTP, TFTP and FTP
Management
- Web browser over HTTP/HTTPS
- SNMPv2/SNMPv3
- TFTP/SFTP
- PacketLight LightWatch™ NMS/EMS
- Third party EMS NMS over SNMP
- CLI over RS-232 or CLI over Telnet/SSH
Visual Indicators:
LED status indicators for Management and LAN ports, system Critical/Major/Minor indicators, and Power Supply alarms
Software Upgrade:
Hitless traffic - dual image

Power Supply
AC/DC:
90 to 246 VAC, 50/60 Hz,
-36 to -60 VDC, 60W max
PSU Redundancy:
Single/dual feeding, hot swappable
Cooling Unit:
Hot swappable fan unit

Environmental
Operating Temperature:
-5ºC to 50ºC (+23ºF to +122ºF) operational
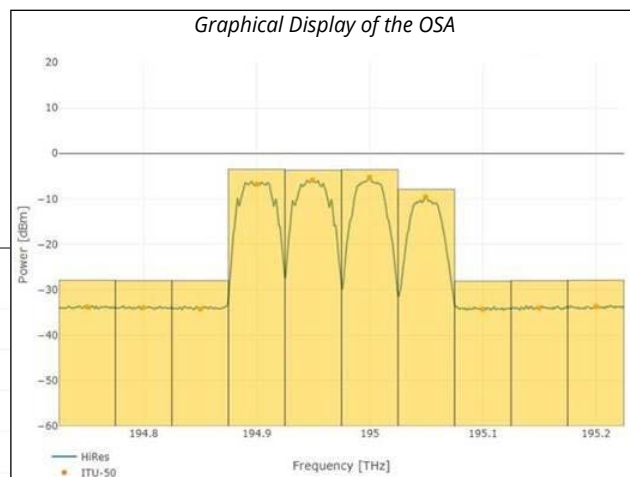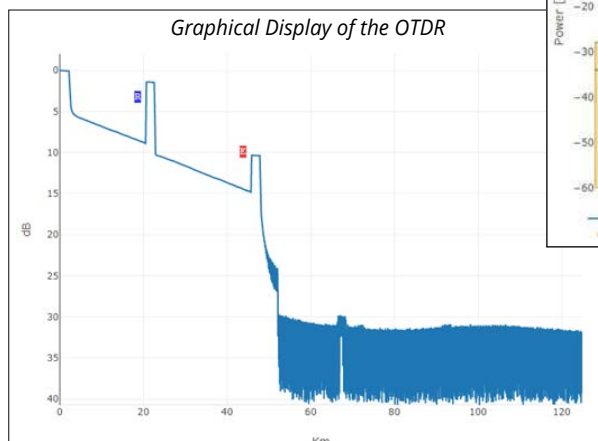**Humidity:**
5% to 85% RH

Physical Dimensions
1U:
- 1.77" (H) x 17.32" (W) x 9.05" (D)
- 45mm (H) x 440mm (W) x 230mm (D)

Weight: 5.5kg / 12.1lb (max)
Mounting: 19", ETSI and 23"

Approvals & Standards
- CE, FCC, RoHS, REACH
- NEBS ready

Graphical Display of the OSA

Graphical Display of the OTDR