Datasheet

OptiSmart SFP OTDR

Fiber Fault Reflectometer

OptiSmart SFP OTDR is a Gigabit Ethernet and STM-1/4 transceiver with built-in OTDR function.

Acting like a conventional SFP transceiver, once optical signal loss detected OptiSmart SFP OTDR automatically measures the distance to the fiber break point and reports it.

It is installed in network equipment of any vendor for fast break point identification of the optical fiber and for real time optical links monitoring.

OptiSmart SFP OTDR can be used to upgrade handheld Ethernet testers with an SFP slot.

Benefits of deploying:

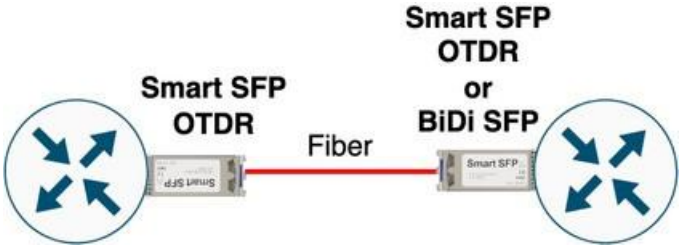
- Instant fiber break point identification
- Identify the distance to significant intermediate events with the high levels of reflected signal – air gap, dirty connector, bad splice and etc.
- Real-time remote fiber monitoring – break, degradation
- Operating over dark fiber and CWDM
- Less expensive than handheld or rack-mounted OTDR
- Reduce OpEx by eliminating false technician dispatches
- Reduce MTTR by locating fiber optic faults in seconds

Applications:

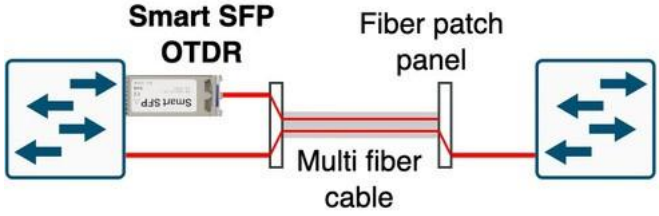
- Access networks
- Metro Ethernet
- CWDM
- Datacenter Interconnect (DCI)
- Remote Fiber Test Systems (RFTS)

Key features:

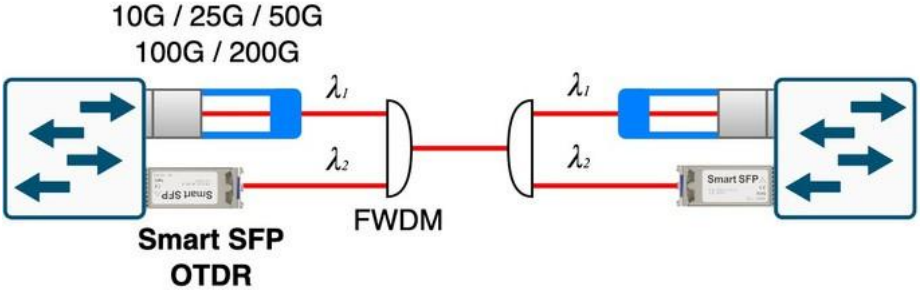
- Fast fiber break point identification
- 2 in 1: SFP and OTDR
- 10/25/40/50/100G links with FWDM
- Auto, manual or scheduled switching between SFP and OTDR modes
- Up to 50 km
- Results over DDM and module IDs



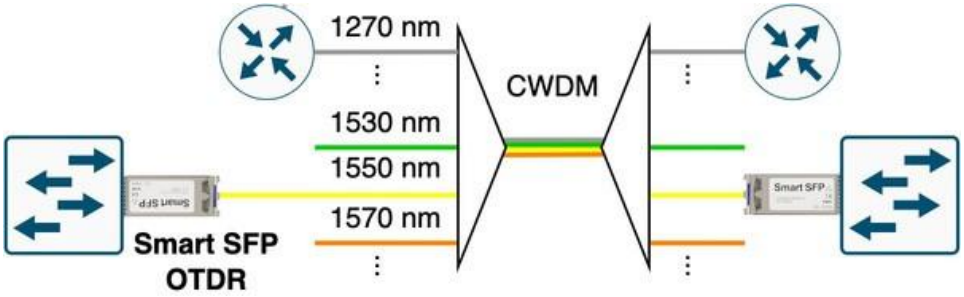
Data and OTDR



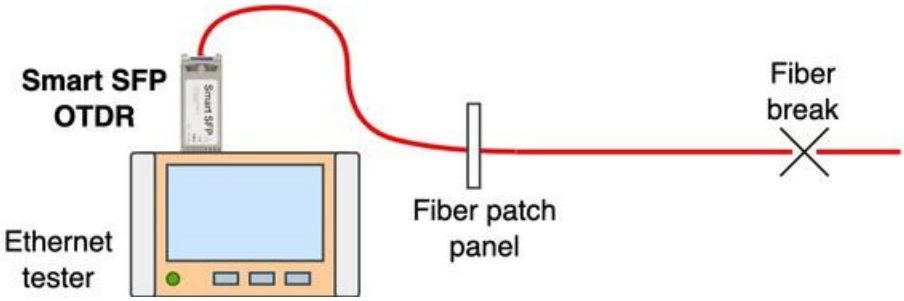
OTDR only



Connecting to high speed links



Connecting to CWDM systems

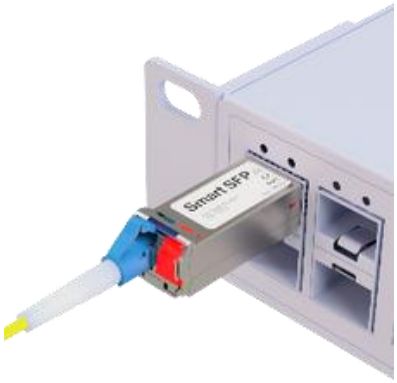


Add OTDR capability to any Ethernet tester

```
switch# show transceiver                                          Fiber OK
... some lines omitted
Vendor name:          PDR Videotronics (I) Pvt.Ltd
Vendor serial number: 00123
...
Port | Temp (C) | Voltage (V) | Tx Bias (mA) | Tx Power (dBm) | Rx Power (dBm)
-------------------------------------------------------------------------------
1/10 |       54 |        3.28 |           26 |          -0.43 |          -12.0
```

```
switch# show transceiver                                          Fiber break
... some lines omitted
Vendor name:          37654_m
Vendor serial number: 37654_m
...
Port | Temp (C) | Voltage (V) | Tx Bias (mA) | Tx Power (dBm) | Rx Power (dBm)
-------------------------------------------------------------------------------
1/10 |       54 |        3.28 |        37.65 |          -0.43 |          -40.0
```

Example of getting OTDR result over CLI



Operating mode indication

Features:

- Gigabit Ethernet, 1.25 Gbps
- STM-1/4, 155/622 Mbps
- Operating modes: Data + OTDR, OTDR only
- Wavelengths: any CWDM, 1625, 1650 nm
- Single wavelength single fiber operation (SWSF)
- Operating distance: up to 50 km
- Measuring distance accuracy: 5 to 50 m
- OTDR Tx pulse power: > 10 dBm
- OTDR Rx sensitivity: < -46 dBm
- Result output in meters or miles

Management:

- CLI, SNMP, Web (depends on host capabilities)
- Report measurement result over:
  - module IDs – Vendor name, Serial number
  - DDM – Bias current, Temperature
- I2C management
- Front LED to indicate operating mode

General:

- Digital Diagnostics Monitoring (DDM)
- SFP MSA compliant
- Multi-vendor compatibility
- Industrial temperature

Ordering information
Intelligent SFP module, Fiber Fault Reflectometer, 56 dB, Gigabit Ethernet, STM-1/4, DDM, 1550 nm, 50 km, SMF, LC/UPC
Intelligent SFP module, Fiber Fault Reflectometer, 56 dB, Gigabit Ethernet, STM-1/4, DDM, 1510 nm, 50 km, SMF, LC/UPC
Intelligent SFP module, Fiber Fault Reflectometer, 56 dB, Gigabit Ethernet, STM-1/4, DDM, 1650 nm, 40 km, SMF, LC/UPC

Optionally - any CWDM, 1625 nm wavelength

Find out more: pdrworld.com, info@pdrworld.com