

# 1100

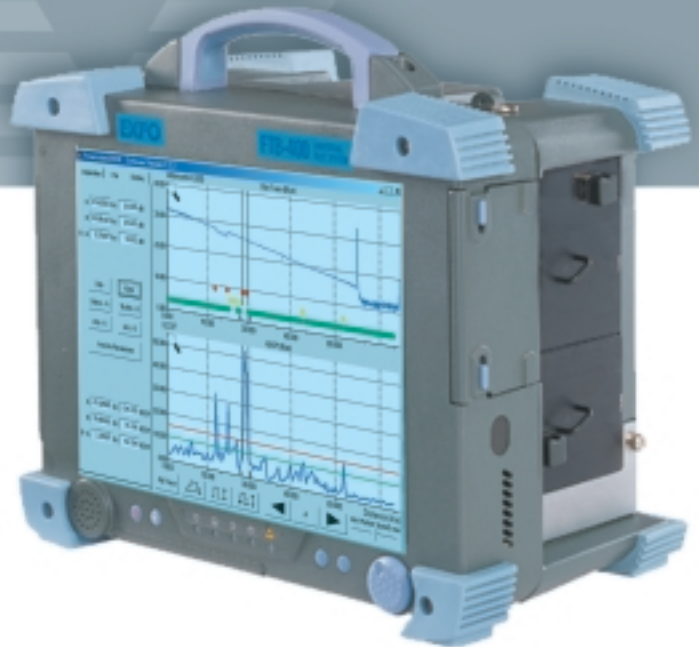
NETWORK TESTING

## DOP POLARIZATION-OTDR

### POTDR-1100



- Identifies high-PMD sections along installed fibers
- Classifies low-, medium- and high-PMD fiber
- Enables network bit-rate upgrades while maximizing the use of deployed fibers



PMD is a major obstacle to high-quality, high-bit-rate transmission. Despite better singlemode fiber production techniques that considerably reduce PMD, at times it is more economical to upgrade fiber links rather than replace them. So, when upgrading old fiber links to higher bit-rate, working with a mix of newer and older fibers means you can encounter huge PMD variations in a given link span.

### Locating Potential Trouble Spots

That's why network operators are looking for ways to locate high-PMD link spans, in order to replace old fibers when upgrading their systems. Together with its Swiss partner, GAP OPTIQUE, EXFO is introducing a new test method, using a DOP-based polarization optical time domain reflectometer (P-OTDR), to meet that specific need.

You'll find the leading-edge technology of the POTDR-1100 DOP Polarization-OTDR packaged conveniently in a four-slot module for EXFO's proven FTB-400 Universal Test System.

**SPECIFICATIONS<sup>1</sup>**

**P-OTDR\***

Wavelength	Fixed wavelength DFB laser in C+L-band
Selectable pulse widths (ns)	30, 100, 275, 500
Selectable ranges (km)	2.5, 5, 10, 20, 40, 80, 120
Dynamic range	20 dB typical (500 ns pulse)
Available measurements	Standard OTDR traces Stokes parameters: s1, s2 and s3 Degree of Polarization (DOP)

\*All specifications are for a 9-minute measurement time.

**PMD DETECTION\***

Detection range <sup>2</sup>	> 12 dB
Spatial resolution <sup>3</sup>	500 m
Detection efficiency <sup>4</sup>	typical > 80 % for PMD > 1 ps/sqrt (km)

\*All specifications are for a 275 ns pulse with a 9-minute measurement time.

**INTERFACES**

Optical interface	EUI-28/89/91/95 with APC
User interface	Windows®-based application

**GENERAL SPECIFICATIONS\***

Power supply	100-240 VAC, 50/60 Hz and 12-20 VDC
Temperature	Operating 10 °C to 35 °C
	Storage -40 °C to 60 °C
Weight	8 kg
Dimensions (W x H x D)	33.65 cm x 28.57 cm x 17.14 cm (with FTB-400)

\*Also refer to EXFO FTB-400 Universal Test System specifications.

**LASER SAFETY**

21 CFR-1040.10	CLASS 1 LASER PRODUCT
IEC-60825-1 am.2 :2001	CLASS 1 LASER PRODUCT

**Notes**

- Not applicable on spooled fibers. Applicable to fibers on drums with a minimum diameter of 1 m.
- Detection range can be increased by using longer pulses (500 ns), but the PMD detection efficiency will be degraded.
- Spatial resolution indicates the granularity of the information provided by the high-PMD detection algorithm. A more precise location of the beginning and end of the high-PMD section is usually possible by zooming in on the OTDR trace.
- The detection technique is based on the detection of poor mode coupling along a fiber link. It works well for "UNSPUN" standard singlemode fibers that exhibit high-PMD. Recent fibers that were spinned during their fabrication process usually have PMD below the sensitivity of the instrument. If a spinned fiber has a high-PMD it cannot be tested with the instrument (unpredictable results).

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our website at [www.exfo.com](http://www.exfo.com).



**Rugged Handheld Solutions**

- OLTS
- Power meter
- Light source
- Talk set



**Optical Fiber**

- OTDR
- OLTS
- ORL meter
- Switch

**DWDM Test Systems**

- OSA
- PMD analyzer
- Chromatic dispersion analyzer
- Multiwavelength meter

**Telecom/Datacom**

- 10/100 and Gigabit Ethernet
- SONET/SDH (DS0 to OC-192c)
- SDH/PDH (64 kb/s to STM-64c)

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