OFL280 FlexTester

Multifunction OTDR and Loss Test Set

The Noyes OFL280 FlexTester offers an unmatched combination of fiber optic test functions, ease-of-use, portability, and value. All OFl280 FlexTester models include an integrated single-mode 1310/1550 nm OTDR with PON and standard test modes, optical power meter, 1310/1550 nm laser source, and visual fault locator.

For many users the two-wavelength OFL280-100 will provide the best balance of functionality and value. Testing at 1310 and 1550 nm is normally sufficient to certify point-to-point or FTTx PON fibers and allows the detection of macro bends. The three-wavelength OFL280-101 and OFL280-102 models add 1625 nm or 1490 nm respectively. Testing at 1625 nm allows certification of the L band for transport use. Testing at 1490 nm is required by some network operators to certify FTTx PONs. The filtered, three-wavelength OFL280-103 can certify dark fibers at 1310/1550 nm, fault-locate live FTTx fibers at 1625 nm, and measure FTTx power levels at 1490 and 1550 nm, all from a single test port.

The OFL280 FlexTester user interface provides operating modes suitable for a wide range of users and features a top-down menu structure that is both easy to learn and a pleasure to use.

OTDR test results may be saved as industry standard SOR files, which can be transferred to a PC for viewing, printing, and analysis using supplied Windows® compatible software.

Features

- Rugged, handheld and light weight
- 1.0 m event dead zone, 3.5 m attenuation dead zone
- 34 dB dynamic range
- Live fiber OTDR and PON power meter from single port
- Fast Real Time OTDR mode
- Internal storage (> 1000 OTDR traces in standard .SOR format)
- New technology display – clear and bright under any lighting condition
- Drag and drop test results to a PC via USB
- 10-hour operation, fast charge, Li-Ion battery
- Short power on time (< 5 sec)
- Easy to use and learn

Applications

- **PON OTDR -** FTTx construction certification
- **Live Fiber OTDR -** FTTx service turn-up and troubleshooting
- **Full Auto OTDR -** Event loss and reflection; end-to-end loss
- **Expert OTDR -** Full function OTDR for experienced users
- **Real Time OTDR -** Fault location, splice verification, first connector checker
- **End Locator -** Fast break location or fiber length measurement
- **Optical Power Meter -** Measure optical power or fiber loss
- **Laser Source -** Measure fiber loss or trace fibers using tone feature and Noyes OFI
- **Visual Fault Locator -** Red laser for fiber bend/break location and tracing

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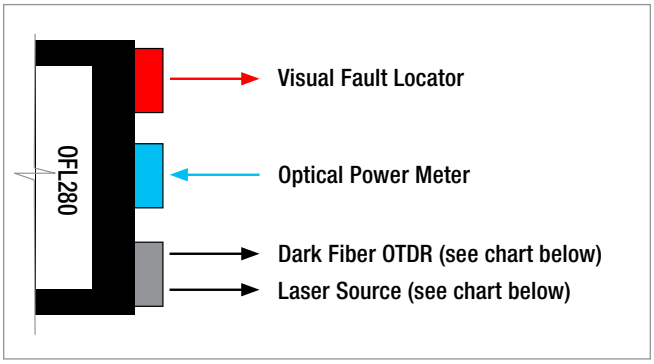
OFL280 Features and Applications by Model

	OFL280 MODELS			
FEATURES	**-100**	**-101**	**-102**	**-103**
Compatible with all Noyes optical power meters and laser sources (OPM/OLS), including tone and wave ID features	◆	◆	◆	◆
Compatible with Noyes optical fiber identifiers (OFI)	◆	◆	◆	◆
Integrated hi-power optical power meter	◆	◆	◆	◆
Integrated visual fault locator (red laser)	◆	◆	◆	◆
1310 nm OTDR and laser source (CW, wave ID, tone)	◆	◆	◆	◆
1550 nm OTDR and laser source (CW, wave ID, tone)	◆	◆	◆	◆
1490 nm OTDR and laser source (CW, wave ID, tone)			◆	
1625 nm OTDR and laser source (CW, wave ID, tone)		◆		◆
1625 nm FTTx live fiber (filtered) OTDR				◆
1490/1550 nm FTTx PON Meter				◆

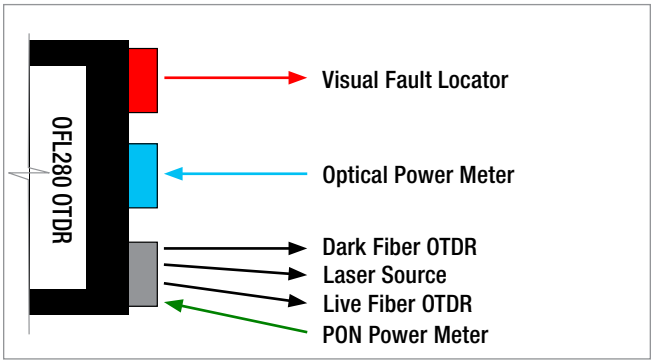
	OFL280 MODELS			
FIBER TESTING APPLICATIONS	**-100**	**-101**	**-102**	**-103**
Point-to-point cable construction and troubleshooting Fiber loss, splice/connection loss and reflectance, fault-location	◆	◆	◆	◆
FTTx PON construction Fiber loss, splitter loss and reflectance, splice or connection loss and reflectance, fault-location	◆	◆	◆ [1]	◆
FTTx customer fiber troubleshooting - hard faults Locate cable cuts, open splices, and bad connections	◆	◆	◆	◆
FTTx customer fiber troubleshooting - marginal faults Locate marginal faults such as macro bends, poor splices, high-loss connections, high loss fiber sections due to water intrusion (requires live fiber OTDR)				◆
FTTx service turn-up (commissioning) At the ONT (customer) location, verify network power levels, and if needed, locate faults on the drop cable or customer fiber				◆

1 Adds ability to perform OTDR and loss tests at 1490 nm. However, testing at 1310 and 1550 nm is generally all that is needed and what is recommended to test or fault-locate FTTx PONs during construction, in other words while they are still dark.

OFL280-100, -101, and -102 models



OFL280-103 model



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Specifications (All specifications valid at 25°C unless otherwise specified)

OTDR	
Emitter Type	Laser
Safety Class	Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Fiber Type	Single-mode
Available Wavelengths	1310/1490/1550/1625 nm
Wavelength Tolerance	±20/±20/±20/±10 nm
Dynamic Range (SNR=1)	34/32/32/30 dB
Event Dead Zone [1]	1.0 m (maximum)
Attenuation Dead Zone [2]	3.5 m (typical), 5.0 m (maximum)
Pulse Widths	5, 10, 30, 100, 300 ns, 1, 3, 10 µs
Range Settings	250 m to 240 km
Data Points	Up to 30,000
Data Point Spacing	5.0 cm (range < 1.5 km), Range/30000 (range > 1.5 km)
Group Index of Refraction (GIR)	1.4000 to 1.6000
Distance Uncertainty (m)	± (1 + 0.005% x distance + data point spacing)
Trace File Format	Bellcore GR-196 V.1.1
Trace File Storage Medium	Internal memory (>1000 traces)
Data Transfer to PC	USB cable
PON OTDR Modes	FTTx Construction, FTTx Live Fiber
Standard OTDR Modes	Full Auto, Fast End Locate, Expert, Real Time

1. *Typical distance between the two points 1.5 dB down each side of a reflective spike caused by a -45 dB event using 5 ns pulse width.*
2. *Typical distance from event location to point where trace is within 0.5 dB of backscatter at 5 ns pulse width.*

PON POWER METER FOR SINGLE-MODE ONLY	
Calibrated Wavelengths	1490, 1550 nm
Detector Type	Filtered InGaAs
Isolation	> 40 dB
Measurement Range	+23 to – 50 dBm
Accuracy [1]	± 0.5 dB
Resolution	0.01 dB
Measurement Units	dBm or watts

1. *At calibration wavelengths, and power levels of approximately -5 dBm for 1550 nm and -10 dBm for 1490 nm.*

OPTICAL POWER METER	
Calibrated Wavelengths	1310, 1490, 1550, 1625, 1650 or 850,1300,1310,1490,1550 for MM
Detector Type	InGaAs or Ge for MM
Measurement Range	+23 to – 50 dBm or +3 to -60 dBm
Tone Detect Range	+3 to -35 dBm
Wavelength ID Range	+3 to -35 dBm
Accuracy [1]	± 0.25 dB
Resolution	0.01 dB
Measurement Units	dB, dBm or Watts

1. *At calibration wavelengths, and power level of approximately -10 dBm.*

LASER SOURCE	
Emitter Type	Class I FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Fiber Type	Single-mode
Available Wavelengths (nm)	1310/1490/1550 or 1310//1550/1625
Wavelength Tolerance	± 20, ± 10 nm @ 1625 nm
Spectral Width (FWHM)	2 nm (maximum)
Internal Modulation	1 kHz, 2 kHz, CW
Wavelength ID (one, two, or three wavelengths)	Compatible with Noyes Optical Power Meters and Light Sources
Output Power Stability	< ± 0.25 dB after 15 min
Output Power (nominal)	– 3 dBm

VISUAL FAULT LOCATOR	
Emitter Type	Laser
Safety Class	Class II FDA 21 CFR 1040.10 and 1040.11, IEC 60825-1: 2007-03
Wavelength	650 nm
Output Power (nominal)	0.8 mW into single-mode fiber

GENERAL	
Size (in boot)	19 x 11.2 x 4.7 cm (7.5 x 4.4 x 1.9 in)
Weight	0.8 kg (1.7 lb)
Operational Temperature	-10 to +50°C, 0 to 95% RH (non-condensing)
Storage Temperature	-20 to +60°C, 0 to 95% RH (non-condensing)
Power	Rechargeable Li-Ion or AC adapter
Battery Life	10 hours, backlight ON, continuous operation
Display	LCD, 320x240, 3.5 inch (89 mm), color, high-performance transflective with backlight and AR coating
OTDR and OPM Ports	FC, SC, ST, LC

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Ordering Information

MODEL	WAVELENGTHS AND ADDED FEATURES	NOTES
OFL280-100	1310, 1550 nm	Dual-wavelength OTDR/Loss test set for both point-to-point and PON applications
OFL280-101	1310, 1550, 1625 nm	Adds ability to test at 1625 nm (L band)
OFL280-102	1310, 1490, 1550 nm	Adds ability to test at 1490 nm (FTTx downstream data)
OFL280-103	1310, 1550, 1625 nm, Live Fiber filter, PON meter	Adds ability to test (dark fibers) at 1625 nm (L band), filter to test FTTx live fibers at 1625 nm, and PON meter to measure FTTx downstream power at 1490 and 1550 nm.

Note: *All OFL280 FlexTester models come with a carry case, (1) SC and (1) FC adapter for the OTDR/OLS port, (1) 2.5 mm universal adapter for the OPM port, (1) 2.5 mm universal adapter for the VFL port, One-Click Cleaner SC/ST/FC (2.5mm), USB cable (connects with Type A USB port on your PC), and AC power adapter with a country-specific power cord.*

When placing an order, select options as follows:

Optical Configuration (NN), OTDR port ferrule type (F), and Language of the provided Quick Reference Guide (LL)*.

Example: OFL280-102U-ENG indicates a three-wavelength (1310/1490/1550 nm) OFL280 with UPC OTDR port ferrule and Quick Reference Guide printed in English.

OFL280 — NN F — LL

Optical Configuration (NN)

100 = 1310/1550 nm
101 = 1310/1550/1625 nm
102 = 1310/1490/1550 nm
103 = 1310/1550/1625 nm, Live Fiber filter, PON meter

OTDR port ferrule (F)

A = APC
U = UPC

Quick Reference Guide Language (LL)*

ENG = English

** All OFL280 models come preloaded with the GUI in English, Simplified Chinese, and other languages. Contact AFL/Noyes for a complete list of currently available languages (GUI and printed Quick Reference Guide).*

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