

# FX81

## 10G PON Optical Power Meter

Optical power meter for the installation, service activation and troubleshooting of B/GPON, XG(S)-PON, EPON and 10G-EPON fiber networks. Pass-through design measures multiple downstream and upstream signals simultaneously for ONU/ONT verification.



### Key Features

- Compatible with both GPON and EPON fiber networks
  - GPON and XG(S)-PON test applications
  - EPON and 10G-EPON test applications
- ONU and OLT test ports with filtered, pass-through design
- Concurrent measurement/display of Upstream and Downstream signals
- High speed digital design to measure 1270/1310 nm upstream burst signals accurately
- 1490/1550/1577 nm Downstream signal support
- WaveID support when paired with compatible VeEX source
- Fixed SC/APC Interface for ONU and OLT test ports
- Programmable thresholds with Pass/Fail indication
- Optional broadband power meter with universal adapters
- Non-volatile storage for 960 xPON measurements or 1920 OPM/ORL measurements
- Transfer of stored results to a Windows PC via micro USB cable or optional Bluetooth
- Flexible data transfer, test result management and report generation options using:
  - LT-Sync PC software (USB or Bluetooth)
  - Fiberizer™ Mobile OLTS software (USB or Bluetooth)
  - R-Server workforce management system
  - Fiberizer™ Desktop Plus or Fiberizer™ Cloud
- High contrast LCD - visible outdoors, programmable backlight for indoor or low light conditions
- Splash and dust resistant keypad and chassis design

### Key Specifications

- Wavelength-selective level measurements:
  - GPON per ITU-T G.984.2
  - XG(S)-PON per ITU-T G.9807.1
  - EPON & 10G-EPON per IEEE 802.3av
  - RF video (RVO)
- Calibrated wavelengths (US/DS):
  - GPON and EPON: 1310/1490 nm
  - XG(S)-PON and 10G-EPON and 1270/1577 nm
  - RF video (RVO): 1550 nm
- xPON Power Measurement range (Pass-through):
  - Burst mode at 1270 and 1310 nm: -35 to +10 dBm
  - CW mode at 1490 and 1577 nm: -40 to +12 dBm
  - RF video (RVO) at 1550 nm: -40 to +25 dBm
- Pass-through Insertion Loss:  $\leq 1.5$  dB
- Optical Return Loss @ 1550 nm:  $\geq 55$  dB
- Display resolution: 0.01 dB
- Broadband Optical Power Meter (BB-OPM)
  - Calibrated wavelengths (nm): 850/1300/1310/1490/1550/1625/1650
  - CW measurement range (dBm): -50 to +25
  - Absolute Accuracy:  $\pm 0.5$  dB
  - Linearity:  $\pm 0.2$  dB @ 1550 nm ( $\geq -40$  dBm)
- Communication Interface: Micro-USB, Bluetooth (optional)
- Battery: Built-in, rechargeable Li-polymer
- Battery operating time (with backlight):
  - FTTx PON mode: >25 hours

## Fiberizer™ Software

Fiberizer is a family of VeEX fiber software applications that streamlines results storage, test reporting, work-flow integration and process compliance.

**Fiberizer Mobile OLTS (FMOLTS)** is an App for Android mobile devices. OPM/PON test data saved in the FX8x series test can be transferred via USB cable or optional Bluetooth connection to a phone/tablet for report generation and subsequent processing.

**Fiberizer Cloud** is an online repository where you can store, analyze and process all your fiber test results. This unique Cloud solution provides superior centralized test data management and advanced report generation - since it's a full on-line web service, technicians can upload, process or access test data from almost any location, at any time.

**Fiberizer Desktop-Plus** is a Windows PC software application that enables comprehensive test data analysis and report generation. The software supports transfer of test data to Fiberizer Cloud or VeSion R-server for additional test data operations.

## VeSion R-Server Workforce/Productivity System

A centralized server application designed for medium-to-large service providers facing the enormous challenge of managing and coordinating hundreds or even thousands of installations per day. The VeSion R-Server collects field test results for billing/record keeping purposes and simplifies inventory management. Used in conjunction with Fiberizer Mobile, this back-office application reduces customer call-backs and associated truck rolls, maximizing workforce efficiency and lowering operational costs.



Optical Specifications<sup>1</sup>

xPON Power Meter	Specification
Calibrated wavelengths (nm)	1270/1310/1490/1550/1577
Number of test ports	2 (ONU, OLT)
Continuous data measurement range (dBm) - OLT - 1490 nm - 1577 nm	-40 to +12 -40 to +12
Burst data measurement range (dBm) – ONT/ONU - 1270 nm - 1310 nm	-35 to +10 -35 to +10
RF Video data measurement range (dBm) - OLT - 1550 nm	-40 to +25
Spectral Passband (nm) <sup>2</sup> - 1270 - 1310 - 1490 - 1550 - 1577	1260 to 1280 1290 to 1330 1480 to 1500 1535 to 1570 1572 to 1582
Power measurement accuracy, (dB) <sup>3,4,5</sup>	±0.5
Pass-Through Insertion Loss, (dB) <sup>4</sup>	≤1.5
Linearity, (dB)	±0.1
Display Resolution (dB)	0.01
Results	Absolute (dBm, W), Relative (dB), Thresholds (Pass/Fail)
Interface (with dust cap protection)	Fixed SC/APC, >-55dB reflectance

Broadband Optical Power Meter (Optional)	
Wavelength range (nm)	800 to 1700
Calibrated wavelengths (nm)	Standard - 850/1300/1310/1490/1550/1625/1650 Optional - CWDM ITU-T 694.2 Grid
Detector type	InGaAs
Measurement range (dBm)	-50 to +25
Power Accuracy, % (dB)	±5 (±0.22)
Linearity, % (dB)	±2.5 (±0.11)
Readout Resolution (dB)	±0.01
Tone Detection (Hz)	270/330/1000/2000
Wave ID (Auto)	Compatible with VeEX Light Source
Optical Adaptors (interchangeable)	ST/SC/FC/LC, Universal, 2.5/1.25 mm

**Notes:**

- At room temperature
- FWHM (typical)
- Calibration conditions, -10 dB
- Typical value dBm
- Calibrated wavelengths

## General Specifications

Size:	164.39 x 100 x 46.93 mm (H x W x D)	Connectivity:	Data transfer via micro USB or Bluetooth (optional)
Weight:	420 g (0.93 lbs.)	Display:	High contrast LCD (128 x 64 pixels)
Construction:	Polycarbonate chassis, rubber holster, 1 meter drop tested, IP54 equivalent	Operating Temp:	-10 °C to +50 °C
Battery:	Rechargeable Li-Polymer, max 35 hrs	Storage Temp:	-20 °C to +70 °C
Power Supply:	Micro USB interface, 5 VDC charger	Humidity:	0% to 95%, non-condensing



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