

FX41xT

Selective PON Power Meter for G-PON and XGS-PON



10G Next-Gen and Legacy PON Optical Power Meter

Provides fast, simple, and precise measurement of G-PON and XGS-PON downstream signals. Miniature filters ensure each wavelength is measured accurately. The tester is well suited for installation, service verification, and troubleshooting of co-existent networks, including IEEE based E-PON and 10G-EPON deployments.



Key Features

- Downstream signal verification for G-PON and XGS-PON networks
- Simultaneous 1490/1577 nm signal level measurements
- Pass/Fail indication per PON Class or User thresholds
- Alkaline or rechargeable NiMH batteries with Auto- off
- Save over 2000 measurements with date and timestamp
- Save/display test results via NoApp® QR code for mobile device transfer, post-processing, sharing, and upload
- Cloud-based NoApp service (included) allows for data augmentation via mobile phone or tablet. Secured and always up to date. No installation or updates required.
- Micro USB interface for 5V DC powering and battery charging
- High contrast backlit, monochrome display - visible outdoors and indoor with varying light conditions
- Splash and dust resistant keypad and chassis design
- Rugged polycarbonate chassis for demanding field conditions
- Fixed SC/APC connector interface with protective dust caps
- Visual Fault Locator (VFL) option
- Broadband Optical Power Meter (OPM) option

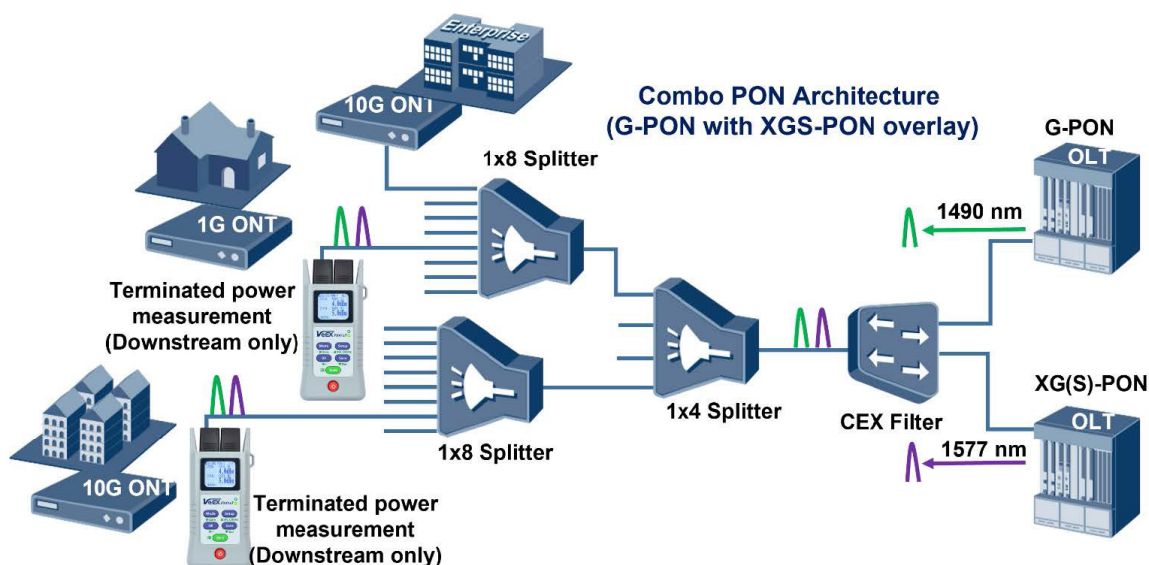
Key Specifications

- Wavelength-selective level measurements:
 - G-PON per ITU-T G.984.2
 - XGS-PON per ITU-T G.9807.1
 - EPON & 10G-EPON per IEEE 802.3av
- Calibrated PON wavelengths (Downstream):
 - 1490 nm (G-PON)
 - 1577 nm (XGS-PON)
- Narrow, Selective Spectral Passband*
 - Accurate measurements even in the presence of other wavelengths
 - 1490 nm (1480 to 1500 nm)
 - 1577 nm (1572 to 1582 nm)
- Display resolution: 0.1 dB
- Absolute Accuracy: ± 0.5 dB
- Communication Interface: Contact-less QR codes
- Battery Charging Interface: Micro-USB
- Battery Operating Time: ≥ 75 hours (with backlight)

**Meets ITU-T and IEEE PON passband specifications*

Coexistent PON Services and Overlay Networks

Check PON service wavelengths to ensure customers are connected correctly and verify downstream levels meet threshold criteria.



Test Result Saving and Transfer

NoApp® QR code method is used to save and transfer measurement results from the FX41xT power meter. Simply scan the QR code and process the test data directly on your mobile device. The NoApp™ feature eliminates the need to download specialized Android or iOS Apps to your mobile device – the QR code embeds all the necessary reporting, commenting, sharing, and uploading.



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 QR code test reporting function, this back-office application reduces customer call-backs and associated truck rolls, maximizing workforce efficiency and lowering operational costs.

Optical Connector Protector (Hardware Option)¹



Optical Connector Protector



Replaceable Ferrule



Optical Protector Cover
(optional)

The innovative, patented (US Patent 12,481,111)* field-replaceable optical ferrule system adds an extra layer of protection to the internal end-face of calibrated optical test ports, preventing contamination and accidental damage.

Users can quickly replace the ferrule² without the need for any tool while maintaining the integrity of the instrument's factory calibration. This novel approach eliminates the downtime, logistical hurdles and high cost associated with sending test sets to a service center for repair and recalibration.

All components in the system are reusable, with the exception of the small replaceable ferrule, helping to reduce environmental waste.

Field-Replaceable Optical Ferrule System

Universal Adapter

The universal connector adapter allows users to change the optical connector type conveniently whenever needed. Available in FC, SC, ST and LC.

Locking Ring

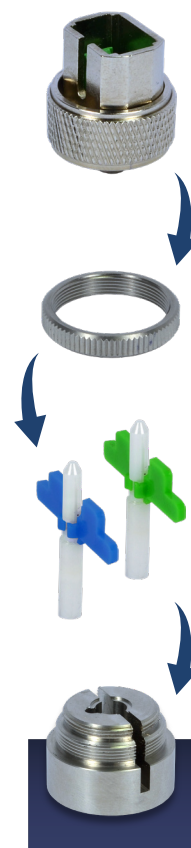
To secure the replaceable ferrule at its optimum location for the best performance.

Replaceable Ferrule with APC or UPC End-face

The self-aligned field-replaceable ferrule can be changed out in seconds. Users can select between APC or UPC end-face, ensuring compatibility with any test application requirement.

Optical Connector Protector Base

The panel mount protector base is made from high-grade stainless steel using a precision CNC process. This achieves proper alignment of the replaceable ferrule, minimizing insertion loss.



1. All optical specifications based on fixed connector test port. The Field Replaceable optical connector may add additional insertion loss.

2. Spare ferrules available in pack of 4 for APC or UPC.

*This product is protected under U.S. Patent No. 12,481,111 and may be covered by additional patents. Any unauthorized reproduction, sale, or distribution is strictly prohibited and may result in legal action.

Optical Specifications¹

FX41xT PON-T Power Meter	
Calibrated Wavelengths (nm)	1490/1577
Continuous Data Measurement Range (dBm) - OLT - 1490 nm - 1577 nm	-45 to +13 -45 to +13
Spectral Passband (nm) ² - 1490 - 1577	1480 to 1500 1572 to 1582
Isolation (dB) -1490 and 1577	40
Power Measurement Accuracy, (dB) ^{3,4}	±0.5
Return Loss (dB)	40
Linearity (dB)	±0.11
Display Resolution (dB)	0.1
Display Result View	dBm and Pass/Fail (user defined thresholds)
Connector Interface (with dust cap protection)	Fixed SC/APC
Visual Fault Locator (VFL) (Optional)	
Emitter Type	Laser
Wavelength (nm)	655 nm ±5 nm
Output Power (mW) ²	1 mW
Laser Safety	Class 2
Modulation	CW, 1 Hz, 2 Hz
Connector Type ⁵	Universal 2.5 mm
Broadband Optical Power Meter (Optional)	
Wavelength Range (nm)	800 to 1700
Calibrated Wavelengths (nm)	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)
Display Resolution (dB)	0.1
Tone Detection (Hz)	270/330/1000/2000
Measurement Units	dBm, dB or Watt
Wave ID (Auto λ Detection)	Compatible with VeEX Light Sources only
Optical Adapters (Interchangeable)	SC, LC, FC, ST, Universal 2.5 or Universal 1.25 ferrule

Notes

1. At room temperature
2. FWHM (typical)
3. Calibration conditions (-10 dBm)
4. Typical value
5. 2.5 mm to 1.25 mm FC to LC converter available

Ordering Information

P/N	Description
Z06-99-255P	FX41xT PON Terminated Power Meter, 1G/10G - 1490/1577 nm with VFL
Z06-99-256P	FX41xT PON Terminated Power Meter, 1G/10G - 1490/1577 nm with High Power OPM, +25dBm to -50 dBm

General Specifications

Size:	129 x 61 x 38 mm (H x W x D)	Storage:	>2000 Single wavelength results >1000 Dual wavelength results
Weight:	200 g (0.44 lbs.) (including batteries)	Display:	High contrast, transfective LCD with backlight
Construction:	Rugged, Polycarbonate chassis, 1 meter drop tested	Operating Temp:	-10 °C to +50 °C
Battery:	Two Alkaline AA or Rechargeable NiMH, 2150 mAh	Storage Temp:	-20 °C to +70 °C
Power Supply:	Micro USB interface, 5 VDC charger	Humidity:	0% to 95%, non-condensing
Connectivity:	Micro USB		

Complementary Products for PON Verification and Troubleshooting

FL150 FaultScout® Multimeter



FL41 Optical Fault Locator



FX150+ PON OTDR



FX120 PON Analyzer



PON Technology Poster

VeEX The Verification Experts

Introduction to Passive Optical Networks (PON)

Practical Reference Guide to Field Portable Measurements

For more information visit www.veexinc.com

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QR Code