

# 350B

## PON POWER METER

PPM-350B

NETWORK TESTING



### Optimized for FTTx Service Activation and Maintenance

- Available in one-port and two-port pass-through configurations
- Patent-pending two-port pass-through design, for full OLT-to-ONT communication while testing
- Simultaneous measurement and display of all signal types—voice, data and video
- Filtered measurements, providing distinct power values for each signal (1310 nm, 1490 nm and 1550 nm)
- 10 threshold sets, as well as pass/warning/fail indicators, showing that all signals fall within specified ranges—or not
- Easy to use, even for technicians not specialized in fiber optics
- Go-anywhere versatility: enables quick, accurate testing all across the network
- Extended-range option for testing at the central office (CO) and before the splitter



# The Most Innovative Test Tool for FTTx Service Activation and Maintenance

The PPM-350B PON Power Meter is the latest addition to EXFO's line of test instruments specifically intended for FTTH and FOTP systems. This rugged, lightweight unit comes in one-port and two-port versions.

## Groundbreaking technology—two-port pass-through

The PPM-352B two-port power meter acts as a pass-through device, which means that it is connected between the OLT and the ONT. A small percentage of the signal is extracted for use by the power meter's detectors.

This approach enables all wavelengths to be used simultaneously. Also, since the PON equipment can keep functioning normally, the ONT continues to operate (to respond to the OLT), and therefore to transmit and have its laser on.

## One-port FTTx configuration

The PPM-351B FTTx-optimized power meter provides filtered measurements and distinct power values for downstream signals (1490 nm and 1550 nm).



The PPM-352B two-port power meter.

## Go-Anywhere Versatility

The PPM-350B performs quick, accurate measurements, no matter where in the network you need to test. What's more, it offers threshold-based pass/warning/fail analysis.



The PPM-350B's threshold configuration software interface.

Specify the test location (CO, FDH, drop terminal, ONT, etc.)	Set the location-related thresholds directly in the unit. Thresholds are used to establish a test verdict of pass, warning or fail, according to standard (predefined threshold sets) or user-defined values.
Configure up to 10 threshold sets and label each threshold set	A threshold set comprises three wavelengths (1310 nm, 1490 nm and 1550 nm) for the two-port version, and two wavelengths (1490 nm and 1550 nm) for the one-port version, each of them having specific threshold values for pass, warning and fail. Using software directly installed on your computer, you can customize these thresholds.

# Future-Proof: Optical Power Measurement for All Signal Types

The flexible PPM-350B PON Power Meter lets you measure the optical power for any type of signal and any baud rate.

Continuous signals (e.g., video signal at 1550 nm)	Supports high-power, amplified, analog video signals.
Framed signals (e.g., ATM or Ethernet at 1490 nm or 1310 nm)	Measures optical power even if only a keep-alive message is transmitted from the ONT. This is very important, especially when ATM is used, since there can be long "silent" periods. A power meter not considering this would read no power during ONT installation.
Designed for networks based on ITU 983 (A, B, C), ITU 984 and IEEE 802.3an	The PPM-350B is designed for testing systems operating at 155 Mb/s, 622 Mb/s, 1 Gb/s and 2.5 Gb/s, both for synchronous and non-synchronous signals.

## Two Power Measurement Ranges

The PPM-350B PON Power Meter offers two measurement ranges—normal range and extended range (ER)—for testing at the central office (CO) and before the splitter. It enables simultaneous measurement, display and pass/warning/fail analysis of all signal types:

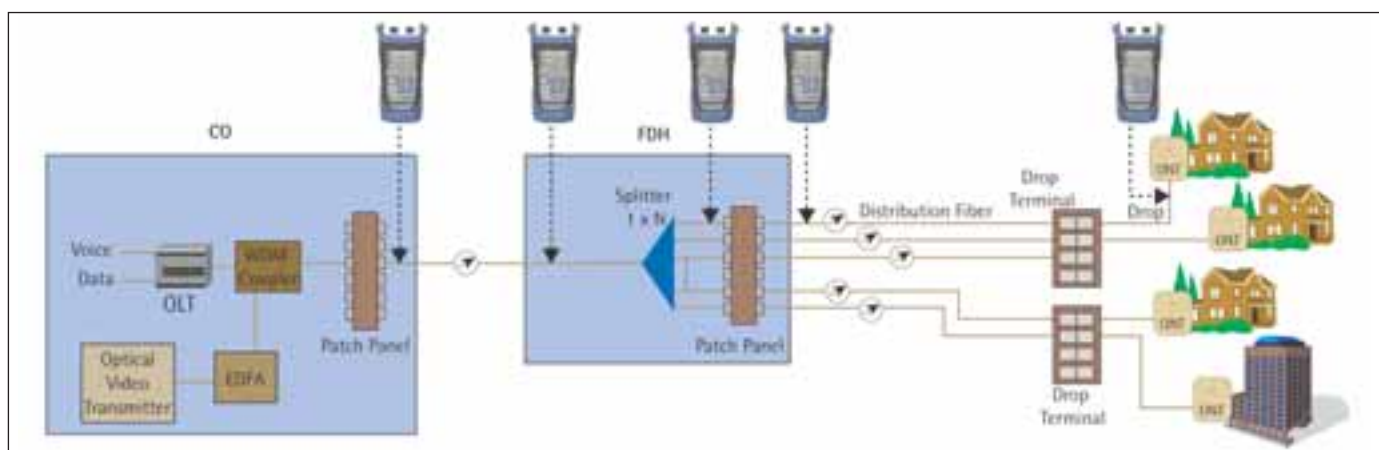
- Voice and data (downstream) at 1490 nm
- Video (downstream) at 1550 nm
- Voice and data (upstream) at 1310 nm



The PPM-350B's threshold configuration software interface.



The PPM-350B used at the ONT.



Using the PPM-350B PON Power Meter for troubleshooting various points in the network.

SPECIFICATIONS<sup>1</sup>

		PPM-351B	PPM-351B-ER	PPM-352B	PPM-352B-ER
Power measurement range – pass zone (dBm) for continuous data stream	1310 nm	5.5 to –15	10 to –40	5.5 to –15	10 to –40
	1490 nm	1 to –33	12 to –40	1 to –33	12 to –40
	1550 nm	15 to –36	25 to –40	15 to –36	25 to –40
Framed data stream power measurement capability from:		Splitter to ONT	CO to ONT	Splitter to ONT	CO to ON
ORL <sup>3</sup> (dB)	1550 nm	55	55	55	55
Pass through insertion loss <sup>2</sup> (dB)		1.5	1.5	1.5	1.5
Spectral passband (nm)	1310 nm	1260 to 1360	1260 to 1360	1260 to 1360	1260 to 1360
	1490 nm	1480 to 1500	1480 to 1500	1480 to 1500	1480 to 1500
	1550 nm	1539 to 1565	1539 to 1565	1539 to 1565	1539 to 1565
Power uncertainty at calibrated wavelengths <sup>2,4</sup> (dB)		0.5	0.5	0.5	0.5
Refresh rate of display (Hz)		2.5	2.5	2.5	2.5
Calibrated wavelengths (nm)		1310, 1490, 1550	1310, 1490, 1550	1310, 1490, 1550	1310, 1490, 1550
Threshold sets		10 configurable threshold sets with threshold naming			
Autonomy <sup>2</sup> (hours)		> 30	> 30	> 30	> 30
Number of ports		1	1	2	2
Warranty and recommended calibration interval (years)		1	1	1	1

## Notes

1. At room temperature.
2. Typical.
3. For APC connectors. Typically > 35 dB for UPC connectors.
4. At -7 dBm.
5. Same connectors for both ports on 2 ports version.

## GENERAL SPECIFICATIONS

Size (H x W x D)	18.5 cm x 10.0 cm x 5.5 cm	(7 1/4 in x 4 in x 2 1/8 in)
Weight	0.4 kg	(0.9 lb)
Temperature		
operating	–10 °C to 50 °C	(14 °F to 122 °F)
storage	–40 °C to 70 °C	(–40 °F to 158 °F)
Relative humidity	0 % to 95 % non-condensing	

## STANDARD ACCESSORIES

User guide, three AA batteries, wrist strap, PC threshold-transfer software, RS-232 cable, alcohol cleaning pads.

## ORDERING INFORMATION

## PPM-35XB-XX-XX

## Model

- 1: 1 port version  
2: 2 ports version

## Range

- 00 = Normal range (splitter to ONT)  
ER = Extended range (central office to ONT)

Example: PPM-352B-ER-EI-EUI-90

Connector<sup>5</sup>

- 88 = SC/APC  
91 = SC/UPC  
EI-EUI-28 = UPC/DIN 47256  
EI-EUI-76 = UPC/HMS-10/AG  
EI-EUI-89 = UPC/FC narrow key  
EI-EUI-90 = UPC/ST  
EI-EUI-91 = UPC/SC  
EI-EUI-95 = UPC/E-2000  
EA-EUI-28 = APC/DIN 47256  
EA-EUI-89 = APC/FC narrow key  
EA-EUI-91 = APC/SC  
EA-EUI-95 = APC/E-2000

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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EXFO is certified ISO 9001 and attests to the quality of these products. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices.

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