# PPM-350D PON power meter

TEST ANY PON TECHNOLOGY WITH ONE INTELLIGENT INSTRUMENT

This intelligent PON power meter automatically detects and adapts test parameters to the PON technology in use at the customer premises, thanks to its groundbreaking, patented PON-aware<sup>™</sup> capability.







### **KEY FEATURES**

Unique PON-aware<sup>™</sup> capability automatically detects PON technology in use

Compatible with GPON and EPON networks

Supports 10G-capable PON networks

Pass-through mode for ONT/ONU verification

Bluetooth® and USB connectivity

Smart app to store and share test results, create test reports

Compact, rugged and designed to comply with the IP54 enclosure standard

Rechargeable battery lasts for up to 8 hours of continuous use

### APPLICATIONS

Single-layer PON service activation

Multi-layer PON service activation

Insertion loss testing

and Android

Multiple PON technologies supported on a single unit:

- GPON (ITU-T G984.2)
- EPON (IEEE 802.3)
- XG(S)-PON (ITU-T G987.2)
- TWDM NG-PON2 (ITU-T G989.2)
- RF overlay
- RFoG (ANSI/SCTE 174 2010)

### **RELATED PRODUCT**



Fiber inspection scope FIP-400B wireless



### **NEXT-GENERATION PON COMPLIANT**

Next-generation passive optical networks (PONs) will, in most cases, leverage the existing outdoor plant infrastructure already in use for current PON customers. This adds a level of complexity to PON testing since multiple wavelengths will reach the end user at the service activation location. Having the right instrument is vital to avoid meaningless test results or false positives.

EXFO's PPM-350D can be used in legacy and next-generation PON scenarios. It is compatible with single-layer PON and RF overlays as well as mixing a next-generation layer on top of it. The PPM-350D affords the unique ability to test several next-generation PON technologies (XGS-PON, NG-PON2) with a single unit. With the same PPM-350D test unit you can tackle today's increasing field complexities and you are already equipped for tomorrow's PON challenges.

### **PON-AWARE TECHNOLOGY**

Deploying a mix of legacy and next-generation equipment? No problem. By relying on pre-configured and customizable test configurations, the PPM-350D automatically detects the type of network under test and self-adjusts the pass/fail criteria for error-free testing.



### EQUIPEMENT AND MOBILE APP OVERVIEW

Example of a triple layer network with GPON, XGS-PON and an RF video overlay. PON-aware<sup>™</sup> technology helps technicians validate the service activation for GPON and XGS-PON customers with a single test configuration. The PON-aware<sup>™</sup> feature automatically detects the service being activated and provides a clear pass/fail status according to that service.



### REPORTING

Create complete service activation reports directly from your mobile device.

#### Auto-PPMCOOL Auto-PPMCOOL Ded Start Auto-PPMCOOL Auto-PPMCOOL Ded Start Auto-PPMCOOL Auto-PPM

### LOSS TESTING

On top of using it for PON service activation, the PPM-350D can be used to measure insertion loss (IL) of fiber networks using a portable light source or the PON system transmit cards of the optical line terminal (OLT) at the central office. The PPM-350D and the mobile application feature a loss testing mode to take a reference for accurate IL measurement of the fiber under test.

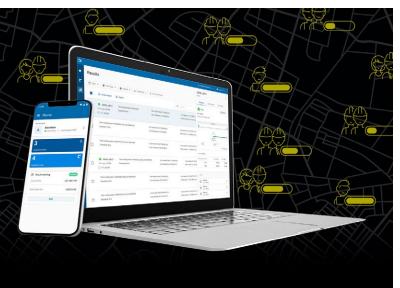


# **-X**Change

### SHARE TEST RESULTS. BOOST COMPLIANCE. UNLOCK INSIGHTS.

# Cloud-hosted solution for sharing test results and ensuring compliance.

Paired with EXFO's leading test instruments, EXFO Exchange drives an entire ecosystem, while integrating seamlessly with existing operation processes.







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**KEY BENEFITS** 

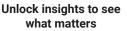




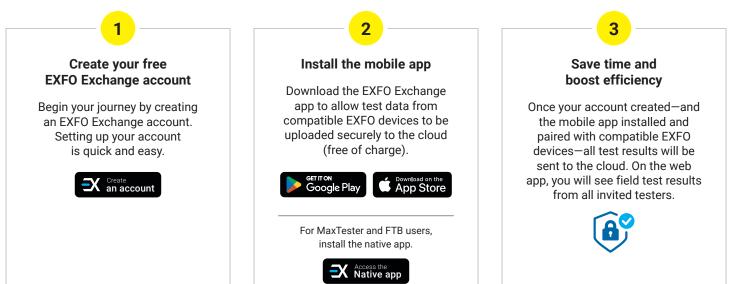
# Automate test results management

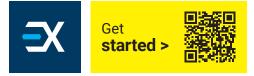
Boost compliance and efficiency

Improve collaboration and visibility Access comprehensive reporting



## SIMPLE SETUP IN THREE STEPS





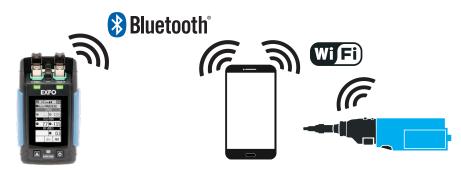


### FIBER CONNECTOR INSPECTION AND CERTIFICATION-THE ESSENTIAL FIRST STEP BEFORE ANY OPTICAL TESTING

Taking the time to properly inspect a fiber optic connector using an EXFO fiber inspection scope can prevent a lot of issues from arising further down the line, thus saving you time, money and trouble. Moreover, using a fully automated solution with autofocus capabilities will turn this critical inspection phase into a fast and hassle-free one-step process.

### DID YOU KNOW THAT THE CONNECTOR OF YOUR TEST INSTRUMENT IS ALSO CRITICAL?

The presence of a dirty connector at a test instrument port or test jumpers can negatively impact your test results, and even cause permanent damage during mating. Therefore, it is critical to regularly inspect these connectors to ensure that they are free of any contamination. Making inspection the first step of your optical testing is a best practice that will maximize the performance of your instrument and your efficiency.



| FEATURES                                 | WIRELESS                   |                             |  |
|--|----------------------------|-----------------------------|--|
|  | Semi-automated<br>FIP-425B | Fully automated<br>FIP-435B |  |
| Three magnification levels               | •                          | •                           |  |
| Image capture                            | •                          | •                           |  |
| Five-megapixel CMOS capturing device     | •                          | •                           |  |
| Automatic fiber image-centering function | •                          | •                           |  |
| Automatic focus adjustment               |                            | •                           |  |
| On-board pass/fail analysis              | •                          | •                           |  |
| Pass/fail LED indicator                  | •                          | •                           |  |
| WiFi connectivity                        | •                          | •                           |  |



### **THREE PON OPTIONS**

Available in three options, this instrument is tailored to fit your needs. Choose between single- or dual-layer PON testing and RF overlay supporting RF video.

|                             | UPSTREAM (nm) | DOWNSTREAM (nm) | PPM-350D-SR | PPM-350D-D | PPM-350D-DR |
|-----------------------------|---------------|-----------------|-------------|------------|-------------|
| GPON (ITU-T G984.2)         | 1310          | 1490            | •           | •          | •           |
| 1G EPON (IEEE 802.3)        | 1310          | 1490            | •           | •          | •           |
| XG/XGS-PON (ITU-T G987.2)   | 1270          | 1578            |             | •          | •           |
| TWDM NG-PON2 (ITU-T G989.2) | 1524 to 1544  | 1596 to 1603    |             | •          | •           |
| 10G EPON (IEEE 802.3)       | 1270          | 1577            |             | •          | •           |
| RF video overlay            |               | 1550            | •           |            | •           |
| RFoG (ANSI/SCTE 174 2010)   | 1310 or 1610  | 1550            | •           |            | •           |



### **VISUAL FAULT LOCATER OPTION**

The PPM-350D's optional visual fault locator (VFL) enables quick and easy troubleshooting to identify breaks, bends and faulty connectors or splices, as well as other causes of signal loss. This valuable option helps you shorten time-to-restoration cycles and increase the productivity of your field crews.

| FTTx SPECIFICATIONS              |                                   |                           |                                     |                                  |                                   |
|----------------------------------|-----------------------------------|---------------------------|-------------------------------------|----------------------------------|-----------------------------------|
|                                  |                                   | Spectral<br>passband (nm) | Power<br>measurement<br>range (dBm) | Calibrated<br>wavelength<br>(nm) | Maximum total<br>safe power (dBm) |
|                                  | Upstream 1270 nm, burst mode      | 1260 to 1280              | -10ª to 13                          | 1270                             |                                   |
|                                  | Upstream 1310 nm, burst mode      | 1290 to 1330              | −30 ª to 13                         | 1310                             |                                   |
| ONT/ONU                          | Upstream 1524-1544 nm, burst mode | 1330 to 1630 <sup>b</sup> | –10 ª to 13                         | 1534                             | 16                                |
|                                  | Upstream 1550 nm, burst mode      | 1330 to 1630              | -10 ª to 13                         | 1550                             |                                   |
|                                  | Upstream 1610 nm, burst mode      | 1330 to 1630 <sup>b</sup> | –10 ª to 13                         | 1610                             |                                   |
|                                  | Downstream 1490 nm                | 1480 to 1500              | -50 to 13                           | 1490                             | 17                                |
|                                  | Downstream 1550 nm                | 1540 to 1560              | -35 to 26                           | 1550                             | 27                                |
| OLT                              | Downstream 1577-1578 nm           | 1573 to 1630              | -50 to 17                           | 1578                             |                                   |
|                                  | Downstream 1596-1603 nm           | 1573 to 1630              | -50 to 17                           | 1600                             | 20                                |
|                                  | Downstream 1610 nm                | 1573 to 1630              | -50 to 17                           | 1610                             |                                   |
| ORL (dB)                         | 60 <sup>a, c</sup>                |                           |                                     |                                  |                                   |
| Pass-through insertion loss (dB) | 1.5°                              |                           |                                     |                                  |                                   |
| Power uncertainty (dB)           | 0.5 <sup>a, d</sup>               |                           |                                     |                                  |                                   |

| VISUAL FAULT LOCATOR (VFL) (OPTIONAL)                             |
|---|
| Laser, 650 nm ± 10 nm   |
| CW/Modulate 1 Hz  |
| Typical P <sub>out</sub> in 62.5/125 $\mu$ m: > –1.5 dBm (0.7 mW) |
| Laser safety: Class 2   |

a. Typical, at 23  $^\circ\text{C}$  ± 3  $^\circ\text{C}$  and with SC/APC connectors.

- b. For model PPM-350D-DR, 1555 nm  $\pm$  5 nm is excluded from the spectral passband.
- c. At calibrated wavelength.
- d. At input level 2 dBm, CW.





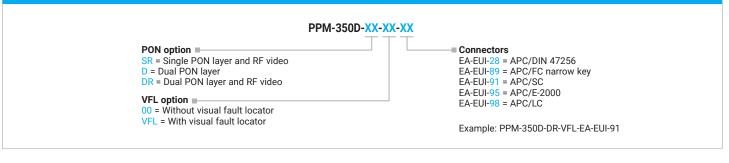
| GENERAL SPECIFICATIONS           |  |
|----------------------------------|--|
| Storage capacity                 | Up to 3500 results   |
| Battery autonomy                 | 8 hours of continuous use  |
| Battery charge time (hours)      | < 2  |
| Display resolution (dBm)         | 0.01   |
| Measurement units                | dB, dBm  |
| Dimensions (H x W x D)           | 154 mm x 88 mm x 41 mm (6 <sup>1</sup> / <sub>16</sub> in x 3 <sup>1</sup> / <sub>2</sub> in x 1 <sup>5</sup> / <sub>8</sub> in) |
| Display size                     | 69 mm (2.7 in)   |
| Weight                           | 420 g (0.93 lb) ª  |
| Display type                     | Reflective   |
| Display pixel count              | 400 x 240  |
| Temperature Operating<br>Storage | 0 °C to 50 °C (32 °F to 122 °F)<br>−40 °C to 70 °C (−40 °F to 158 °F)  |
| Connector                        | USB type C   |
| Connectivity                     | Bluetooth low energy   |
| Smart device OS compatibility    | Android 6 and above, iOS 11 and above  |

#### STANDARD ACCESSORIES INCLUDED

| Instruction manual (soft copy)         |                        |
|--|------------------------|
|  |                        |
| Certificate of calibration (hard copy) |                        |
| GP-3257 USB-A to US                    | B-C cable              |
| GP-2227 USB AC ada                     | pter                   |
| GP-2275 Wrist strap                    |                        |
| GP-2274 Protective c                   | over for optical ports |
| GP-2277 Rechargeab                     | le battery             |
| GP-10-071 Soft carrying                | g case                 |
| GP-10-104 Rigid carryin                | ng case                |
| GP-1008 VFL adapter                    | for 1.25 mm ferrule    |

a. PPM-350D-SR model

### **ORDERING INFORMATION**



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