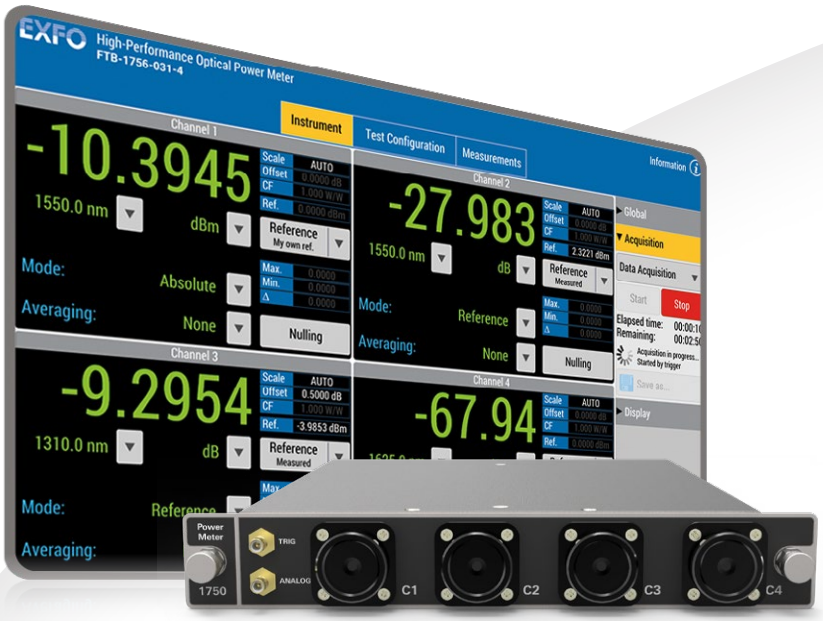
FTBx-1750/OHS-1700

HIGH-PERFORMANCE POWER METER AND OPTICAL HEAD SERIES



EXFO | MULTILINK

40G

100G

400G

Fast, accurate, flexible power measurement in a platform-based solution.

SPEC SHEET

KEY FEATURES

- One, two or four detectors on a single module
- Ultra-High-Power™ remote head for up to 37 dBm measurement
- Continuous sampling rate of up to 5 kHz
- User-configurable trigger input and analog output

RELATED PRODUCTS AND ACCESSORIES

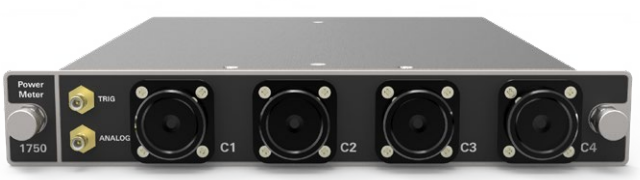
Rackmount platform
LTB-8

Variable attenuator
FTBx-3500

MEMS optical switch
FTBx-9160

GET FAST, HIGH-PERFORMANCE POWER METER MEASUREMENTS

The FTBx-1750/OHS-1700 high-performance power meter and optical head series is EXFO's modular answer to all your power measurement requirements. Designed for the new LTB-8 platform, these power meters deliver speed, accuracy and flexibility in a platform-based solution.



High-speed acquisition with an extended range

The FTBx-1750's unique, patented design saves time, cuts costs and significantly enhances throughput with its continuous-mode peak-acquisition speed of 5208 acquisitions per second. With its dynamic range greater than 90 dB and fast stabilization time, this power meter lets you simultaneously measure low and high signals on up to four channels.

Data acquisition

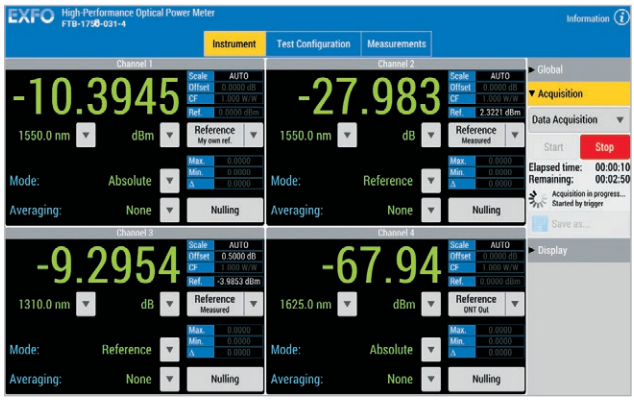
Perform acquisitions on a single channel, or on several channels simultaneously, and save all results in a file on the FTBx platform or on your network.

Min/Max function

This special data acquisition mode lets you track the minimum and maximum values measured on each channel over a defined timespan, allowing for the measurement of a component's PDL or a source's power drift over time.

Easy-to-use interface

The web-based graphical user interface (GUI) enables the easy configuration of the power meter and simple status monitoring.



Locally, remotely or automated—The choice is yours

Control your FTBx-1750 power meter locally using the keyboard, mouse or display, available on the LTB-8, or access the same application remotely via any web browser by accessing your LTB-8 from your network.

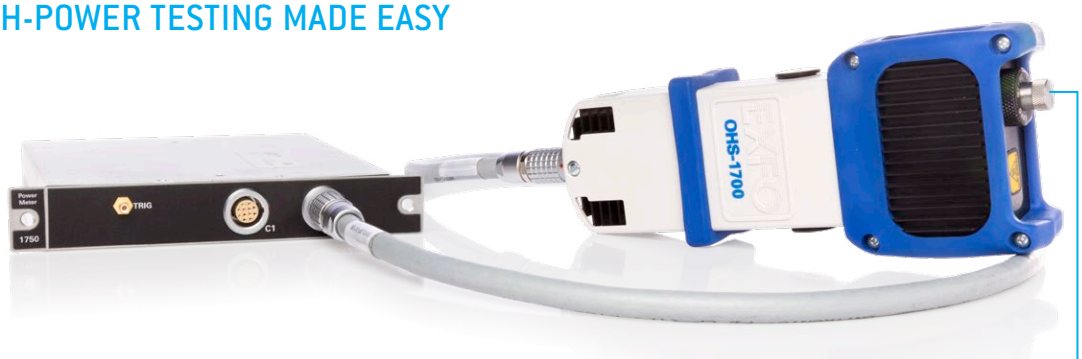
The FTBx-1750 can also be easily integrated into an automated test station using the IVI-compliant drivers or available SCPI commands. Remote control is easily performed using Telnet over the built-in LAN port or the GPIB to USB adapter.

The FTBx-1750—Remote power/high-power measurement

Power, simplicity and flexibility are what you get when you combine up to two OHS-1700 high-performance optical heads with the FTBx-1750 high-performance power meter interface module. This combination allows you to move the power measurement sensor to the device under test (DUT) for efficient testing.

Such a design allows a continuous-mode peak acquisition speed of 5208 samples/s over an 80 dB range, while maintaining a 300 µs stabilization time. Each optical head is individually calibrated, allowing you to interchange heads on a module or between test stations, without compromising on accuracy.

REMOTE HIGH-POWER TESTING MADE EASY



Ultra-high-power capability

- Up to 37 dBm
- ± 4% uncertainty (accuracy)
- First-class linearity

Maximum flexibility for an optimized solution

Choose from four sensing options that deliver performance exceeding even the most demanding R&D and manufacturing requirements:

- The FTBx-1750-02X-XX models, which use GeX front panel detectors, allow users to measure input power up to 22 dBm.
- The FTBx-1750-031-XX models, which use InGaAs front panels detectors, provide an impressive –85 dBm sensitivity.
- The FTBx-1750-ISP-XX is a single-channel power meter module with a front panel integrated cavity providing wide numerical aperture, which allows for measurements of up to 36 fibers when used with the FOA-392B adapter at maximum input power of 25 dBm.
- The OHS-1700-UH Optical Head comes with an Ultra-High-Power™ detector for safe power measurements up to 37 dBm.

SPECIFICATIONS [a] (FTBx-1750/OHS-1700 SERIES)

	FTBx-1750-031-1/2/4	OHS-1713-UH
Number of detectors	1/2/4	1
Detector type	InGaAs	InGaAs and integrating cavity
Detector size	1 mm detector	9 mm input aperture
Wavelength range (nm)	800 to 1700	930 to 1660
Power range (dBm) (typical) [b, c]	8 to –85 (9 to –90)	37 to –55
Uncertainty	±(5 % + 3 pW) [c, d]	±(4 % + 3 nW) [c, e]
Polarization-dependent responsivity (dB) [f, j]	±0.015 typical	±0.008 typical
Linearity [g]	±0.015 dB (5 dBm to –55 dBm)	±0.11 dB (35 dBm to 30 dBm) ±0.05 dB (30 dBm to 5 dBm) ±0.015 dB (5 dBm to –22 dBm)
Wavelength resolution (nm)	0.01	0.01
Stabilization time (ms) (typical)	0.4	0.3
Sampling rate (sample/s/channel)	Up to 5208	Up to 5208
Trigger input voltage (Vdc)	0-5 (TTL - type)	0-5 (TTL-type) [h]
Analog output voltage (Vdc) (typical)	0-5	–
Fiber type (µm)	5/125 to 62.5/125	5/125 to 62.5/125

SPECIFICATIONS [a]

	FTBx-1750-02X-1/2/4	FTBx-1750-ISP-1
Number of detectors	1/2/4	1
Detector type	GeX	InGaAs and integrating cavity
Detector size	3 mm	9 mm input aperture
Wavelength range (nm)	800 to 1660	800 to 1700
Power range (dBm) (typical)	22 to –53 (22 to –60)	25 to –55
Uncertainty	±(5% + 5 nW) [c, k]	±(5% + 3 nW) [c, d]
Uniformity (dB) [c, i, j]	N/A	±0.05
Polarization-dependent responsivity (dB) [f, j]	±0.015 typical	±0.008 typical
Linearity [g]	±0.015 dB (5 dBm to –37 dBm)	± 0.015 dB (10 dBm to –38 dBm)
Wavelength resolution (nm)	0.01	0.01
Stabilization time (ms)	1.0	0.4
Sampling rate (sample/s/channel)	Up to 5208	Up to 5208
Trigger input voltage (Vdc)	0-5 (TTL - type)	0-5 (TTL - type)
Analog output voltage (Vdc) (typical)	0-5	0-5
Fiber type (µm)	5/125 to 62.5/125	5/125 to 62.5/125

a. Unless otherwise specified, all specifications are valid at 1550 nm, 23 °C ± 1 °C, after 20-minute warm-up.

b. From 18 °C to 28 °C.

c. Averaging time of 1 s, after nulling.

d. At 23 °C ± 1 °C with an FOA-322 and an FC non-angled connector, between 1000 nm and 1640 nm. Add 1 % to uncertainty below 1000 nm, and 6 % over 1640 nm.

e. At 23 °C ± 1 °C with an FOA-322 and an FC angled connector, between 1290 nm and 1340 nm, and between 1420 nm and 1640 nm. Add 2 % to uncertainty below 1000 nm, 1 % between 1370 nm and 1420 nm, and 5 % over 1640 nm. All uncertainties valid on the day of calibration. Wavelength must not be equal to any water absorption line.

f. At 23 °C ± 3 °C, constant wavelength (1550 nm), constant power and with an FC non-angled connector.

g. At constant temperature in the 0 °C to 40 °C range; nulling required.

h. Available on FTBx-1750-OHS module.

i. At 23 °C ± 1 °C with an FOA-392B and with a MTP FC non-angled connector up to 36 fibers.

j. Calculated from "(Max-Min)/2".

k. At 23 °C ± 1 °C with an FOA-322 and an FC non-angled connector, between 1000 nm and 1570 nm. Add 1 % to uncertainty below 1000 nm, and 3 % over 1570 nm.

GENERAL SPECIFICATIONS

	FTBx-1750-031-1/2/4 FTBx-1750-02X-1/2/4	FTBx-1750-OHS-1/2	FTBx-1750-ISP-1	OHS-1713-UH
Number of ports	1/2/4	1/2	1	1
Weight	0.35 kg (0.8 lb)	0.35 kg (0.8 lb)	0.64 kg (1.4 lb)	0.5 kg (1.1 lb)
Size (H x W x D)	25 mm x 159 mm x 175 mm (1 in x 6 1/4 in x 6 7/8 in)		50 mm x 159 mm x 175 mm (1 15/16 in x 6 1/4 in x 6 7/8 in)	42 mm x 79 mm x 190 mm (1 5/8 in x 3 1/8 in x 7 1/2 in)
Temperature Operating [a] Storage	0 °C to 40 °C (32 °F to 104 °F) –40 °C to 70 °C (–40 °F to 158 °F)			
Relative humidity [b]	0 % to 80 % non-condensing			
Remote control	With FTBx-1750: GPIB (IEEE-488.1, IEEE-488.2) and Ethernet			
Instrument drivers	IVI drivers and SCPI commands			
Standard accessories	User guide, one fiber-optic adapter per channel, certificate of compliance and certificate of calibration			

a. For optical power > 35 dBm, maximum operating temperature is 30 °C. With the FOA-396, maximum operating temperature is 25 °C.

b. From 0 °C to 40 °C.

ORDERING INFORMATION

Power meter module

FTBx-1750-XX-XX-XX

Detector type
00 = No detector, to be used with OHS-1713-UH
02X = 3 mm GeX detector
031 = 1 mm InGaAs detector
ISP = 9 mm integrating cavity with 1 mm InGaAs detector

Number of channels
1 = One channel
2 = Two channels [a]
4 = Four channels [b]

Example: FTBx-1750-031-1-FOA-322

Connector adapter [c]
FOA-302B = MT (8-12 fibers) ultra-low-reflection connector adapter [d]
FOA-316 = SMA 906 ultra-low-reflection
FOA-322 = FC ultra-low-reflection: FC (PC/SPC/UPC/APC), NEC-D3
FOA-328 = DIN 47256 (LSA) ultra-low-reflection: DIN 47256 (PC/APC)
FOA-330 = LC duplex ultra-low-reflection connector adapter [d]
FOA-332 = ST ultra-low-reflection: ST (PC/SPC/UPC)
FOA-340 = Diamond HMS-0, HFS-3 (3.5 mm) ultra-low-reflection
FOA-354 = SC ultra-low-reflection: SC (PC/SPC/UPC/APC)
FOA-376 = FSMA HMS-10/AG, HFS-10/AG ultra-low-reflection
FOA-384 = Diamond HMS-10, HFS-13 ultra-low-reflection
FOA-392B = MTP (12 fibers) ultra-low-reflection connector adapter [d]
FOA-397 = LX.5 ultra-low-reflection
FOA-398 = LC ultra-low-reflection
FOA-399 = MU ultra-low-reflection
FOA-3000 = Adapter for BFA-3000 base fiber adapter [d]
FOA-8100 = Adapter for keysight 8100Bx base fiber adapter [d]
FOA-U12 = 1.25 mm universal
FOA-U25 = 2.5 mm universal

OHS-1713-UH-FOA-XX-XX

Connector adapter
FOA-302B = MT (8-12 fibers) ultra-low-reflection connector adapter
FOA-316 = SMA 906 ultra-low-reflection
FOA-322 = FC ultra-low-reflection: FC (PC/SPC/UPC/APC), NEC-D3
FOA-328 = DIN 47256 (LSA) ultra-low-reflection: DIN 47256 (PC/APC)
FOA-330 = LC duplex ultra-low-reflection connector adapter
FOA-332 = ST ultra-low-reflection: ST (PC/SPC/UPC)
FOA-340 = Diamond HMS-0, HFS-3 (3.5 mm) ultra-low-reflection
FOA-354 = SC ultra-low-reflection: SC (PC/SPC/UPC/APC)
FOA-376 = FSMA HMS-10/AG, HFS-10/AG ultra-low-reflection
FOA-384 = Diamond HMS-10, HFS-13 ultra-low-reflection
FOA-392B = MTP (12 fibers) ultra-low-reflection connector adapter
FOA-396 = E-2000 ultra-low-reflection (PC/APC)
FOA-397 = LX.5 ultra-low-reflection
FOA-398 = LC ultra-low-reflection
FOA-399 = MU ultra-low-reflection
FOA-3000 = Adapter for BFA-3000 base fiber adapter
FOA-8100 = Adapter for keysight 8100Bx base fiber adapter
FOA-U12 = 1.25 mm universal
FOA-U25 = 2.5 mm universal

Example: OHS-1713-UH-FOA-322-1M

Cable
1M = 1 m interface cable (standard)
2M = 2 m interface cable

a. Not available for ISP models.
b. Not available for FTBx-1750-ISP and FTBx-1750-OHS.
c. Not applicable to OHS models.
d. Available for FTBx-1750-ISP-1 only.

OPTIONAL ACCESSORIES

GP-3010B = 1 m interface cable
GP-3011B = 2 m interface cable

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