

# High-Performance Power Meter and Optical Head IQS-1700/OHS-1700



Ultra-High-Power™ capabilities

Up to four remote optical heads for simultaneous testing

Fast stabilization time over a broad dynamic range

Ideal for active/passive component characterization



Fiber-optic T&M,  
monitoring, manufacturing  
and assembly solutions

# Measure High Power with a Remote Optical Head

Power, simplicity and flexibility are what you get when you combine up to four OHS-1700 High-Performance Optical Heads with the IQS-1700 High-Performance Power Meter interface module. This patent-pending combination allows you to move the power measurement sensor to the DUT for efficient testing. The two detector options deliver performance that exceeds even the most demanding R&D and manufacturing requirements.

## A Powerful Combination

The OHS-1700 High-Performance Optical Head works exclusively with the IQS-1700 High-Performance Power Meter. Together, they share a patent-pending design that allows a continuous-mode peak-acquisition speed of 5208 acquisitions/s over an 80 dB range, while maintaining a 300  $\mu$ s stabilization time. As it takes advantage of the IQS-1700's improved triggering capabilities, analog output and intuitive graphical interface, this product combination will help you save time, cut costs and significantly enhance testing throughput.

Select the four-channel option on the IQS-1700 interface module and connect four remote heads for efficient, simultaneous testing that will improve productivity. Each optical head is individually calibrated, allowing you to interchange the heads between the channels of a module or between test stations, without compromising on accuracy.

## Flexibility That Optimizes Productivity and Safety

The OHS-1700 delivers the performance you need in the lab or on the active/passive component production floor. Combine it with the IQS-1700 and incorporate them into your alignment workstation, or into your PDL test setup to characterize loss in amplifiers, AWGs, fiber Bragg gratings, diodes, receivers and more.

Handling high-power fibers requires special care. Exposure to laser light from bare fiber can be harmful. To reduce this risk, remote power meters, like the OHS-1713-UH, allow you to bring the power meter to the source, instead of taking live fiber to the test equipment.

For truly versatile testing, perform measurements on bare fiber easily and with proven repeatability using EXFO's BFA-3000 Universal Bare Fiber Adapter.

## IQS-1700 Key Features

- Designed for the IQS-500 Intelligent Test System
- Optimized for use in automated systems
- High-speed measurements over an extended dynamic range
- OHS-1700 Optical Head interface module available

## OHS-1700 Key Features

- 5 % accuracy
- Up to 40 dBm capability on the OHS-1713-UH
- Low PDR
- Excellent linearity
- Remote optical head for maximum flexibility
- For use with connectorized or non-connectorized fiber
- Robust, tripod-mountable for convenient lab setups
- Can be used with BFA-3000 Universal Bare Fiber Adapter



Use the BFA-3000 Universal Bare Fiber Adapter to perform measurement of unconnectorized components. Select the FOA-3000 Adapter for the BFA-3000.



## High-Speed Acquisition with an Extended Range

The IQS-1700's unique, patent-pending design will save time, cut costs and significantly enhance throughput with its continuous-mode peak-acquisition speed of 5208 acquisitions per second. The 80-dB range and 300- $\mu$ s stabilization time will allow you to simultaneously measure high and low signals on up to four channels. Test more components in less time with the four-channel capability of the IQS-1700 High-Performance Power Meter.



Take advantage of the intuitive graphical user interface for improved testing efficiency.

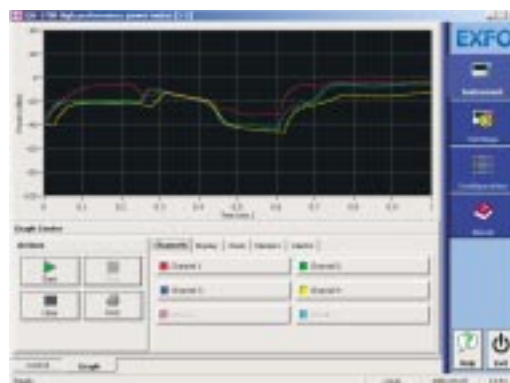
### IQS-1700/OHS-1700 Applications

- In-process qualification during component fabrication
- Nanopositioning and fiber-optic component alignment
- PDL measurement
- Network monitoring

### The IQS-500 Intelligent Test System

The new IQS-500 Intelligent Test System provides a flexible approach to optical test and measurement for manufacturing, automation, optical qualification and R&D. It combines powerful features and control capabilities for up to 100 modules.

Based on standard industrial PC architecture, the IQS-500 Intelligent Test System is a scalable modular platform that includes controllers, expansion units and a comprehensive range of plug-in test modules. The IQS-500 is also backward-compatible with most of EXFO's IQ-generation modules, allowing you to maximize the return on previous investments. The IQS-500 Intelligent Test System offers a powerful, easy-to-use environment to match your most demanding needs.



The Graph mode display: a unique way of displaying high-speed power-measurement results in Continuous mode.

### General Specifications

		IQS-1710/1720/1740 <sup>1</sup>	OHS-1713W-PL	OHS-1713-UH
Size (H x W x D)		12.5 cm x 3.6 cm x 28.2 cm	4.3 cm x 6.6 cm x 15.1 cm	4.2 cm x 7.9 cm x 19.0 cm
Weight		0.58 kg (1.3 lb)	0.32 kg (0.7 lb)	0.45 kg (1.0 lb)
Temperature	operating	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C <sup>2</sup> (32 °F to 104 °F)
	storage	-40 °C to 70 °C (-40 °F to 158 °F)	-40 °C to 70 °C (-40 °F to 158 °F)	-40 °C to 70 °C (-40 °F to 158 °F)
Analog output				
	Bandwidth (Hz)	2500 typical	N/A	N/A
	Output voltage (V)	between 0 and 4 typical	N/A	N/A
	Output impedance ( $\Omega$ )	between 100 and 150 maximum	N/A	N/A
	Number of ports	1/2/1	N/A	N/A

#### Note

1. Multichannel interface cannot support more than a single type of head (W-PL or UH).

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

N/A: not available

# Specifications<sup>1</sup> (preliminary)

# Ordering Information

All optical heads must be operated with IQS-1710/1720/1740 High-Performance Interface module

Model	OHS-1713W-PL	OHS-1713-UH
Number of detectors	1	1
Detector type	InGaAs	InGaAs
Input aperture diameter (mm)	3	9
Wavelength range (nm)	800 to 1700	930 to 1660
Power range <sup>2</sup> (dBm)	8 to -78	40 to -53
Uncertainty <sup>3</sup>	± 5 % ± 10 pW	± 5 % ± 5 nW
Polarization-dependent responsivity (dB)	± 0.005 max. <sup>4</sup>	± 0.008 typ. <sup>5</sup>
Linearity <sup>6</sup>	± 0.015 dB (0 dBm to -50 dBm)	± 0.1 dB (37 dBm to 30 dBm) ± 0.05 dB (30 dBm to 0 dBm) ± 0.015 dB ± 5 nW (≤ 0 dBm)
Power resolution <sup>7</sup> (dB)	± 0.001 (8 dBm to -44 dBm)	± 0.001 (40 dBm to -17 dBm)
Wavelength resolution (nm)	0.01	0.01
Stabilization time (ms)	0.3	0.3
Sampling rate (sample/s/channel)	up to 5208	up to 5208
Fiber type (µm)	5/125 to 62.5/125 NA ≤ 0.3	5/125 to 62.5/125 NA ≤ 0.4 (with BFA-3000)

## Notes

- All specifications are measured at 1550 nm (unless otherwise specified) with FC angled connector and a warmup time of 20 minutes, followed by an offset nulling.
- From 18 °C to 28 °C.
- OHS-1713-UH: At 23 °C ± 1 °C with FOA-322 between 960 nm and 1000 nm, 1290 nm and 1340 nm, 1370 nm and 1640 nm. Add 2 % to uncertainty below 960 nm and 6 % over 1640 nm. Includes all interference effects on the detector. All uncertainties valid on the day of calibration. Add 0.4 % to uncertainty for optical power between 0 dBm and 30 dBm. Add 2.2 % to uncertainty for optical power between 30 dBm and 37 dBm. Wavelength must not be equal to any water absorption line.  
OHS-1713W-PL: At 23 °C ± 1 °C with FOA-322 between 1000 nm and 1640 nm. Add 1 % to uncertainty below 1000 nm and 6 % over 1640 nm. All uncertainties valid on the day of calibration.
- At 23 °C ± 3 °C, 1550 nm and with an FC non-angled connector.
- At 23 °C ± 3 °C, 1560 nm ± 40 nm and with an FC non-angled connector.
- At constant temperature (ΔT = ± 1 °C), in 0 °C to 40 °C range and nulling required.
- Averaging time 1 s.

**IQS-17X0**

Number of channels

- 1 = One channel
- 2 = Two channels
- 4 = Four channels

Port/detector code

- 0 = Electrical connector

**OHS-171X-FOA-XXX-XM**

Detector code

- 3-UH = Ultra-High-Power™
- 3W-PL = with 3 mm detector

Cable option

- 1 = 1 meter interface cable (standard)
- 2 = 2 meters interface cable

Connector adapter code

- FOA-316 = SMA 906 ultra-low-reflection
- FOA-322 = FC ultra-low-reflection: FC, FC (/PC/SPC/UPC/APC, NEC-D3)
- FOA-328 = DIN 47256 (LSA) ultra-low-reflection: DIN 47256 (/PC/APC)
- FOA-332 = ST ultra-low-reflection: ST, ST (/PC/SPC/UPC)
- FOA-340 = Diamond HMS-0, HFS-3 (3.5 mm) ultra-low-reflection
- FOA-354 = SC ultra-low-reflection: SC, 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-392 = MTP ultra-low-reflection (OHS-1713-UH only)
- FOA-393 = MT-RJ ultra-low-reflection (OHS-1713-UH only)
- FOA-396 = E-2000 ultra-low-reflection: E-2000 (PC/APC)
- FOA-398 = LC ultra-low-reflection
- FOA-399 = MU ultra-low-reflection
- FOA-3000 = Adapter for BFA-3000
- FOA-8100 = Utility adapter

## Standard Accessories

User Guide; one fiber-optic adapter per channel;  
Certificate of Calibration

## Optional Accessories

BFA-3000 = Universal Bare Fiber Adapter  
GP-3010 = 1 meter interface cable  
GP-3011 = 2 meter interface cable

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