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IQS-1700/OHS-1700

POWER METER AND OPTICAL HEAD SERIES



40G

100G

SPEC SHEET

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

KEY FEATURES

Wide selection of power meter options, to better fulfill specific requirements

One, two or four detectors on a single module

Ultra-High-Power™ remote head for measurement up to 37 dBm

Continuous sampling rate of up to 5 kHz

PLATFORM COMPATIBILITY



Integrated Qualification System
IQS-600

EXFO

GET FAST, HIGH-PERFORMANCE POWER METER MEASUREMENTS



The IQS-1700/OHS-1700 Power Meter and Optical Head Series is EXFO's modular answer to all your power measurement requirements. Designed for the IQS-600 Integrated Qualification System, these power meters deliver speed, accuracy and flexibility in a platform-based solution.

Easy-to-Use Interface

The flexible graphical user interface (GUI) developed by EXFO allows easy control of the power meter settings. Get instant access to software buttons, such as those used to launch an acquisition, perform a min/max signal tracking or activate the Graph mode.

Graph Mode

The Graph mode provides user-configurable measurement displays. Up to four curves can be displayed at once. When operating in Continuous mode, the graph displays the measurements in real time.

High-Speed Acquisition with an Extended Range

The IQS-1700's unique, patented design* saves time, cuts costs and significantly enhances throughput with its Continuous-mode peak-acquisition speed of 5208 acquisitions per second. Its 80 dB range and 300 µs stabilization time allows you to simultaneously measure high and low signals on up to two channels. Test more components with a single, small-footprint module, thanks to the IQS-1700 High-Performance Power Meter's two-channel capability.

Data Acquisition

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

Min/Max Function

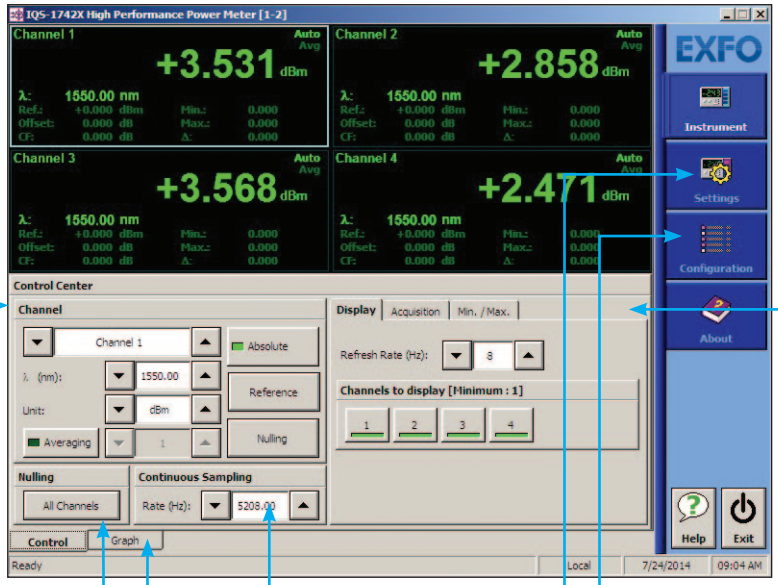
This special data acquisition mode lets you track the minimum and maximum values measured on each channel over a defined timespan, allowing for the measurement of a component's PDL or a source's power drift over time.

Easy Fiber Handling

Use the BFA-3000 Universal Bare Fiber Adapter to perform measurements for unconnectorized components using the OHS-1700 Optical Head. Select the FOA-3000 Adapter to connect the BFA-3000 to the power meter module.

* Protected by US patent 7,167,655.

POWER MEASUREMENTS: DISPLAY AND FEATURES



Channel

Define each channel's parameters: wavelength, power measurement unit, Absolute or Reference mode, and nulling from the control panel.

Display

Set the display characteristics, such as the number of channels and refresh rate. Launch a standard or min/max acquisition.

Nulling

Start your test session by performing nulling on all channels, and avoid the effects of electronic dark current.

Continuous Sampling

Select the required continuous sampling rate, up to 5208 Hz with the IQS-1700.

Configuration

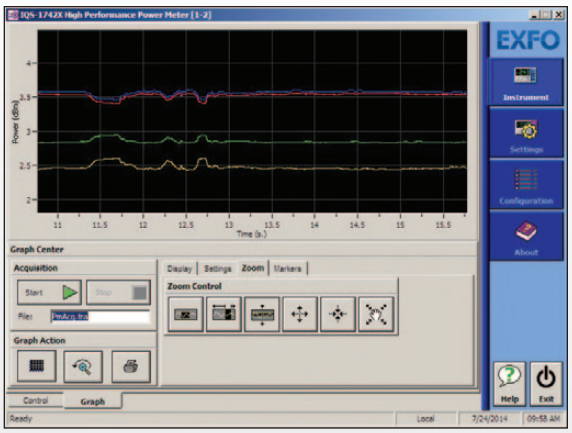
Save your power-measurement settings, and ensure you are up and running in no time whenever you need to perform a test session.

Graph

Choose the Graph mode and simultaneously display up to four channels while performing an acquisition.

Settings

Set the parameters for simultaneous multichannel testing, manage your list of most frequently used wavelengths, and set acquisition parameters.



The Graph mode offers unique real-time display of high-speed power-measurement results.

The IQS-1700: 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 IQS-1700 High-Performance Power Meter interface module. This patent-pending* 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.

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

› The IQS-17X3 models, which use InGaAs front panel detectors, provide an impressive -87 dBm sensitivity

› The IQS-17X2X models, which use GeX front-panel detectors, enable high-power measurements up to 25 dBM

› The OHS-1700-UH** Optical Head, which comes with an Ultra-High-Power™ detector for safe power measurements of up to 37 dBm

* Protected by US patent 6,621,067

** Protected by US patent 6,437,861

REMOTE HIGH-POWER TESTING MADE EASY



Ultra-High-Power capability

› Up to 37 dBm

› ± 4% uncertainty (accuracy)

› First-class linearity

SPECIFICATIONS [a] (IQS/OHS-1700 SERIES) Optical heads must be operated with the IQS-1710/1720/1740 High-Performance Interface Module.

Model	IQS-1712X/1722X/1742X	IQS-1713/1723/1743	OHS-1713-UH
Number of detectors	1/2/4	1/2/4	1
Detector type	GeX	InGaAs	InGaAs and integrating cavity
Detector size	2 mm detector	1 mm detector	9 mm input aperture
Wavelength range (nm)	800 to 1660	800 to 1700	930 to 1660
Power range (dBm) [b, h]	25 to –50	8 to –87	37 to –55
Uncertainty	±(5 % + 10 nW) [e, h]	±(5 % + 2 pW) [f, h]	±(4 % + 3 nW) [g, h]
Polarization-dependent responsivity (dB) [c]	N/A	N/A	(0 dBm to –50 dBm) ±0.008 typ.
Linearity [d]	±0.015 dB (10 dBm to –30 dBm)	±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)
Power resolution (dB) [h]	0.001 (25 dBm to –20 dBm)	0.001 (8 dBm to –50 dBm)	0.001 (37 dBm to –25 dBm)
Wavelength resolution (nm)	0.01	0.01	0.01
Stabilization time (ms)	0.3	0.3	0.3
Sampling rate (sample/s/channel)	up to 5208	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 ≤ 0.3	5/125 to 62.5/125 NA ≤ 0.4 (with BFA-3000)

GENERAL SPECIFICATIONS

	IQS-1710/1720/1740 IQS-1713/1723/1743 IQS-1712X/1722X/1742X	**OHS-1713-UH**
Size (H x W x D)	125 mm x 36 mm x 282 mm ($4^{15}/_{16}$ in x $1^{7}/_{16}$ in x $11^{1}/_{8}$ in)	42 mm x 79 mm x 190 mm ($1^{5}/_{8}$ in x $3^{1}/_{8}$ in x $7^{1}/_{2}$ in)
Weight	0.64 kg (1.4 lb)	0.5 kg (1.1 lb)
Temperature		
Operating [i]	0 °C to 40 °C (32 °F to 104 °F)	0 °C to 40 °C (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)
Number of ports	1/2/4	1
Relative humidity [j]	0 % to 80 % non-condensing	0 % to 80 % non-condensing
Remote control	With IQS-600: GPIB (IEEE-488.1, IEEE-488.2), Ethernet and RS-232.	
Instrument drivers	LabVIEW™, SCPI commands and COM/DCOM library drivers.	
Standard accessories	User guide, one fiber-optic adapter per channel, Certificate of Compliance and Certificate of Calibration.	

Notes

a. At 1550 nm (unless otherwise specified), with an FC angled connector and a warmup time of 20 minutes, followed by an offset nulling.

b. From 18 °C to 28 °C.

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

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

e. At 23 °C ± 1 °C with an FOA-322 and an FC non-angled connector, between 1000 nm and 1650 nm. Add 1 % to uncertainty below 1000 nm, and 3 % over 1650 nm.

f. 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.

g. 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.

h. Averaging time of 1 s.

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

j. From 0 °C to 40 °C.

ORDERING INFORMATION

Power meter module

IQS-17XX-FOA-XX

Number of channels
1 = One channel
2 = Two channels
4 = Four channels

Detector
0 = No detector, to be used with the OHS-1713-UH
2X = GeX detector
3 = InGaAs detector

Example: IQS-1743-FOA-322

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-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-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

OHS-1713-UH-FOA-XX-XM

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-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 ultra-low-reflection
FOA-393B = MT-RJ ultra-low-reflection
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
FOA-8100 = BFA adapter

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

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

OPTIONAL ACCESSORIES

BFA-3000 = Universal Bare Fiber Adapter, to be used with FOA-8100 [a]

GP-3010B = 1 m interface cable [b]

GP-3011B = 2 m interface cable [b]

Notes
a. For use with the OHS-1700 only.
b. For OHS-1713-UH only.

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