

**Aumictech**

Test & measurement • bought, sold, repaired, calibrated

Data Sheet

August 14, 2026

ADVANTEST

Advantest Q8221 " Optical Power Meter

Advantest Q8221 Optical Multi Power Meter The Advantest Q8221 is a two-channel plug-in optical power-meter mainframe. OEM Q8221 tables list 0.001 dB display resolution (0.0001 dB on GPIB), 100 measurements/s at 2 ms integration, 400-point record memory per channel, analog output 0 to plus 2 V, and a 212 × 88 × 360 mm 3.9 kg 50 VA package. Two-channel optical power, PDL (max-min), and production throughput measurements with Q822xx sensor heads. Sensor Channels: 2 channels A and B Display Resolution: 0.001 dB dBm or dB 0.0001 dB on GPIB The Advantest Q8221 is a two-channel plug-in optical power-meter mainframe. OEM Q8221 tables list 0.001 dB display resolution (0.0001 dB on GPIB), 100 measurements/s at 2 ms integration, 400-point record memory per channel, analog output 0 to plus 2 V, and a 212 × 88 × 360 mm 3.9 kg 50 VA package. Two-channel optical power, PDL (max-min), and production throughput measurements with Q822xx sensor heads. Sensor Channels: 2 channels A and B Display Resolution: 0.001 dB dBm or dB 0.0001 dB on GPIB Watt Counts: 199999 counts Wreadout 5.5 digit FL



MODEL

Advantest Q8221

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

Q8221

LISTING

<https://aumictechlabs.com/products/q8221-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Advantest Q8221 is a two-channel optical power meter designed for precise measurement and analysis of optical power across diverse applications. Its flexible plug-in system accommodates different optical sensors and light sources, enabling absolute power, relative

power, loss, and return loss measurements. The instrument delivers high accuracy with $\pm 2.5\%$ performance at the calibration point and $\pm 4.5\%$ across the broadband wavelength region when using sensitivity curve compensation. A 5-1/2 digit display presents measurements in watts (mW, μ W, nW, pW), dBm, or dB with 0.001 dB resolution on the display panel and 0.0001 dB via GPIB data output.

Technical Specifications

Channels: 2-channel plug-in configuration (Channels A and B)

Display: 5-1/2 digit, 7-segment FL device

Measurement Units: W (mW, μ W, nW, pW), dBm, dB

Resolution: 0.001 dB display / 0.0001 dB GPIB output; up to 199,999 counts in W display mode

Measurement Modes: CW or chopped light (270 Hz, 2 kHz, 4 kHz); absolute power, relative power, loss, return loss

Accuracy: $\pm 2.5\%$ at calibration point; $\pm 4.5\%$ across broadband wavelength region; $\pm 0.5\%$ linearity; ± 0.5 dB power accuracy

Power Range: -80 dBm to +10 dBm (standard); up to +27 dBm with Q82227 high-power sensor

Noise Floor: -94 dBm (high-sensitivity sensors)

Polarization Dependence: 0.003 dBp-p or less (Q82232, Q82233 sensors)

Return Loss: 60 dB or greater (APC/slanted rubbed connector); 45 dB typical (PC rubbed connector with high return loss adaptor)

Integration Time: 100, 20, 7, or 2 msec

Measurement Speed: Up to 100 measurements/sec (2 msec integration, single channel); 50 measurements/sec (other integration times or multi-channel operation)

Data Memory: 400 points per channel

Panel Memory: 5 per channel

Calculation Functions: A/B, B/A, scale, reference, max/min difference

Level Meter: 11-dot bar display

Dimensions: 88 (H) $\times$ 212 (W) $\times$ 360 (D) mm

Weight: 3.9 kg

Key Features

Wavelength sensitivity compensation via internal lookup tables

Maximum hold function captures peak measurement values

Dual-channel simultaneous operation

Selectable CW or chopped-light measurement modes

Interfaces

GPIB (100 measurements/sec output rate)

Analog output: 0–2 V BNC (both channels)

USB, RS-232C

Typical Applications

Optical power characterization, fiber optic testing, return loss measurement, multi-wavelength power analysis.

Q8221 Characteristics / Specifications

PARAMETER	VALUE
Sensor Channels	2 channelsAandBDisplay Resolution: 0.001 dB dBm or dB 0.0001 dB on GPIB
Watt Counts	199999 countsWreadout 5.5 digit FL
Measurement Modes	CW or chopped 270 Hz plus or minus 0.2 percent
Integration Times	100 ms 20 ms 7 ms 2 ms
Measurement Speed 2 ms	approx 100 measurements/s one channel
Measurement Speed 100 ms	approx 9 measurements/s one channel
Averaging	2 to 256 running average
Record Memory	400 points per channel
Setting Memory	5 settings per channel
Analog Output	0 to plus 2 V full scale per range
Analog Output Impedance	0.5 ohm or less BNC
Adc Error	plus or minus 0.01 percent plus 5 counts
Remote Interface	GPIB IEEE 488-1978
Line Power	100 to 240 VAC 48 to 66 Hz
Power Consumption	50 VA or less including plug-in and sensors
Dimensions	approx 212 W x 88 H x 360 D mm
Mass	3.9 kg or less including plug-in unit
Operating Temperature	0 to plus 40 C 85 percent RH or less
Storage Temperature	minus 25 to plus 70 C
Calculations	A/B B/A CF offset max hold
Level Meter	11 dot bar
Source Plug In	Q81212 1550 nm FP-LD 0 plus or minus 1 dBm optional
Sensor Noise Floor Class	minus 94 dBm with high sensitivity heads

Q8221 Specifications

PARAMETER	VALUE
Advantest Q8221 Optical Multi Power Meter	Overview
Applications	Two-channel optical power, PDL (max-min), and production throughput measurements with Q822xx sensor heads.
Two sensor channels A and B	100 readings per second
Technical Specifications	Sensor Channels: 2 channels A and B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 25 to plus 70 C
Operating temperature	0 to plus 40 C 85 percent RH or less
Operating Temperature	0 to plus 40 C 85 percent RH or less
Calculations	A/B B/A CF offset max hold
Level Meter	11 dot bar
Source Plug In	Q81212 1550 nm FP-LD 0 plus or minus 1 dBm optional
Sensor Noise Floor Class	minus 94 dBm with high sensitivity heads Notes From Advantest Q8221 optical multifunction power meter specification tables. Binding optical accuracy lives on the installed Q822xx sensor head.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Sensor Channels	2 channelsAandBDisplay Resolution: 0.001 dB dBm or dB 0.0001 dB on GPIB
Watt Counts	199999 countsWreadout 5.5 digit FL
Measurement Modes	CW or chopped 270 Hz plus or minus 0.2 percent
Integration Times	100 ms 20 ms 7 ms 2 ms
Measurement Speed 2 ms	approx 100 measurements/s one channel
Measurement Speed 100 ms	approx 9 measurements/s one channel
Averaging	2 to 256 running average
Record Memory	400 points per channel
Setting Memory	5 settings per channel
Analog Output	0 to plus 2 V full scale per range
Analog Output Impedance	0.5 ohm or less BNC
Adc Error	plus or minus 0.01 percent plus 5 counts
Remote Interface	GPIB IEEE 488-1978
Line Power	100 to 240 VAC 48 to 66 Hz
Power Consumption	50 VA or less including plug-in and sensors
Dimensions	approx 212 W x 88 H x 360 D mm
Mass	3.9 kg or less including plug-in unit
Operating Temperature	0 to plus 40 C 85 percent RH or less
Storage Temperature	minus 25 to plus 70 C
Calculations	A/B B/A CF offset max hold
Level Meter	11 dot bar
Source Plug In	Q81212 1550 nm FP-LD 0 plus or minus 1 dBm optional
Sensor Noise Floor Class	minus 94 dBm with high sensitivity heads
Notes	
From Advantest Q8221 optical multifunction power meter specification tables. Binding optical accuracy lives on the installed Q822xx sensor head.	

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 14, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.