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Data Sheet

August 14, 2026

ADVANTEST

Advantest Q82216 – Optical Sensor Head

The Advantest Q82216 is a cooled Ge 5 mm large-caliber medium-sensitivity sensor for the Q8221, intended for tape-fiber and multi-core measurements. OEM tables list 800 to 1750 nm, minus 77 to plus 10 dBm, plus or minus 2.5 percent CW accuracy at 1300 nm, and 5 mm input diameter. Collective power of up to 12-core tape fiber and medium-sensitivity 1310/1550 nm measurements. Calibration Wavelength: 1300 nm 1 mW 0 to 40 C CW Accuracy At Cal: plus or minus 2.5 percent Display Resolution Via Mainframe: 0.001 dB Optional Calibration: OPT82216+25 1550 nm Tape Fiber: collective measurement up to 12 cores From Advantest Q8221 optical sensor specification tables (Q82216 large-caliber medium-sensitivity column).



MODEL

Advantest Q82216

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

Q82216

LISTING

<https://aumictechlabs.com/products/q82216-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Advantest Q82216 is a dual-channel optical sensor head for precision optical power measurement and component testing. It delivers $\pm 2.5\%$ accuracy at calibration point with automatic wavelength sensitivity compensation, dual measurement modes (CW and 270 Hz $\pm 0.2\%$ chopped light), and onboard data storage for up to 400 measurements per channel. The unit integrates a visual 11-dot level meter, configurable averaging (2–256 $\times$), maximum hold functionality, and GPIB data access, making it suitable for demanding laboratory and production test environments. Technical Specifications Channels: 2 (A and B) Measurement Modes: CW or Chopped light at 270 Hz $\pm 0.2\%$ Accuracy: $\pm 2.5\%$ at calibration point; $\pm 4.5\%$ broadband

wavelength region with sensitivity curve compensation Linearity: $\pm 0.5\%$ Sampling Speed: Up to 100 times/sec Ranging Speed: 20–500 ms maximum Data Storage: 400 points per channel in backup memory Data Interface: GPIB Averaging: 2–256 $\times$ running average (configurable) Noise Level: -94 dBm (sensor dependent) Optical Fiber Compatibility: 10 μm core diameter, NA ≤ 0.19 Connector Options: FC, SC, ST, MU, LC, and plug-in types Display: 11-dot level meter Dimensions: 10 $\times$ 8 $\times$ 8 in Weight: 5 lbs

Key Features Dual-channel simultaneous measurement with independent data logging Automatic wavelength compensation eliminates manual recalibration across spectrum Selectable CW or modulated light measurement modes for diverse optical sources Onboard maximum hold captures transient peak power events Real-time visual feedback via dot-matrix display High sampling rate (100/sec) enables dynamic characterization

Typical Applications Optical component qualification (couplers, splitters, filters) Fiber-optic system commissioning and troubleshooting Wavelength-dependent power profiling Production line power verification Modulated optical signal measurement

Compatibility & Integration The Q82216 integrates with the Advantest Q8221 optical power measurement system series. Bare fiber and high return loss adapters (A08020, A08328, A08021) accommodate diverse fiber terminations. Calibration options available through OPT82216+25 and equivalent specifications. Operating Environment: 0 to +40°C, $\leq 85\%$ humidity, up to 2000 m altitude. Storage: -25 to +70°C.

Features & description

From manufacturer datasheet

Polarization Dependence: 0.03 dB p-p typical at 1550 nm

Return Loss High RI Adaptor: 60 dB or more Cw Max Min: 20 mW / 20 nW Chop Max Min: 20 mW / 20 nW Mainframe: Q8221 Interface Unit: Q82202 or Q82203 required Dimensions: approx 60 W x 43 H x 110 D mm Mass: 270 g or less Max Optical Input Diameter: 5 mm Mt Adaptor: A08187 mating to 12 pin SMF Operating Temperature: 0 to 40 C Display Resolution Via Mainframe: 0.001 dB Optional Calibration: OPT82216+25 1550 nm Tape Fiber: collective measurement up to 12 cores Distance To Input Surface: 3.1 mm Notes From Advantest Q8221 optical sensor specification tables (Q82216 large-caliber medium-sensitivity column).

Q82216 Characteristics / Specifications

PARAMETER	VALUE
Wavelength Range	800 to 1750 nm
Power Range	minus 77 to plus 10 dBm
Sensor Element	Ge 5 mm cooled
Calibration Wavelength	1300 nm 1 mW 0 to 40 C
Cw Accuracy At Cal	plus or minus 2.5 percent
Chop Accuracy At Cal	plus or minus 3.5 percent
Wideband Accuracy	plus or minus 4.5 percent CW 950 to 1600 nm 1 mW 0 to 40 C
Linearity 1 s Avg	plus or minus 0.5 percent plus 20 pW 47 to 10 dBm 23 plus or minus 3 C
Noise Level Slow	minus 77 dBm
Polarization Dependence	0.03 dB p-p typical at 1550 nm
Return Loss High RI Adaptor	60 dB or more
Cw Max Min	20 mW / 20 nW
Chop Max Min	20 mW / 20 nW
Mainframe	Q8221
Interface Unit	Q82202 or Q82203 required
Dimensions	approx 60 W x 43 H x 110 D mm
Mass	270 g or less
Max Optical Input Diameter	5 mm
Mt Adaptor	A08187 mating to 12 pin SMF
Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Tape Fiber	collective measurement up to 12 cores
Distance To Input Surface	3.1 mm
Return loss	High RI Adaptor: 60 dB or more

Q82216 Specifications

PARAMETER	VALUE
Advantest Q82216 Optical Sensor Head	Overview
Applications	Collective power of up to 12-core tape fiber and medium-sensitivity 1310/1550 nm measurements.
Key Features	Cooled Ge 5 mm
Tape fiber 12 core class	Minus 77 dBm noise
Optional 1550 nm calibration	Q82202/Q82203 interface
Technical Specifications	Wavelength Range: 800 to 1750 nm
Notes	From Advantest Q8221 optical sensor specification tables (Q82216 large-caliber medium-sensitivity column).

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 40 C
Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Tape Fiber	collective measurement up to 12 cores
Distance To Input Surface	3.1 mm Notes From Advantest Q8221 optical sensor specification tables (Q82216 large-caliber medium-sensitivity column).

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	
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PARAMETER	VALUE
Wavelength Range	800 to 1750 nm
Power Range	minus 77 to plus 10 dBm
Sensor Element	Ge 5 mm cooled
Calibration Wavelength	1300 nm 1 mW 0 to 40 C
Cw Accuracy At Cal	plus or minus 2.5 percent
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Wideband Accuracy	plus or minus 4.5 percent CW 950 to 1600 nm 1 mW 0 to 40 C
Linearity 1 s Avg	plus or minus 0.5 percent plus 20 pW 47 to 10 dBm 23 plus or minus 3 C
Noise Level Slow	minus 77 dBm
Polarization Dependence	0.03 dB p-p typical at 1550 nm
Return Loss High RI Adaptor	60 dB or more
Cw Max Min	20 mW / 20 nW
Chop Max Min	20 mW / 20 nW
Mainframe	Q8221
Interface Unit	Q82202 or Q82203 required
Dimensions	approx 60 W x 43 H x 110 D mm
Mass	270 g or less
Max Optical Input Diameter	5 mm
Mt Adaptor	A08187 mating to 12 pin SMF
Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Optional Calibration: OPT82216+25 1550 nm	
Tape Fiber: collective measurement up to 12 cores	
Distance To Input Surface: 3.1 mm	
Notes	
From Advantest Q8221 optical sensor specification tables (Q82216 large-caliber medium-sensitivity column).	

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

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.