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**Data Sheet**

August 14, 2026

ADVANTEST

## Advantest Q82233 – Sensor Head

The Advantest Q82233 is a long-wavelength high-sensitivity low-polarization optical sensor for the Q8221. OEM Q8221 literature groups Q82232/Q82233 as low polarization-dependency sensors at 0.003 dB p-p or less; the published Q82232 column in Advantest Q8221 optical sensor tables lists 900 to 1650 nm, minus 94 to plus 10 dBm, plus or minus 2.5 percent CW accuracy at 1550 nm, and minus 94 dBm noise. PDL-sensitive 1550 nm power measurements on the Q8221 where low polarization dependence is required. 0.003 dB p-p polarization dependence class Dimensions: approx 60 W x 43 H x 135 D mm Display Resolution Via Mainframe: 0.001 dB High Return Loss Adaptors: not used on this head From Advantest Q8221 optical sensor specification tables. OEM overview lists Q82232 and Q82233 together as low-PDL sensors at 0.003 dB p-p; numeric column published as Q82232 low-polarization high-sensitivity. Confirm faceplate model marking on the sensor.



MODEL

**Advantest Q82233**

CALIBRATION

**Available on request**

CONDITION

**Used**

STATUS

**In stock**

RFQ / SKU

**Q82233**

LISTING

<https://aumictechlabs.com/products/q82233-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

### This unit

The Advantest Q82233 is a sensor head designed for use with Advantest optical spectrum analyzers and power meters. It is a precision interface for acquiring optical data in laboratory and industrial environments, delivering high-resolution spectral analysis through advanced photodiode detection. Technical Specifications The Q82233 interfaces with the Advantest Q8221 main unit and

supports multiple measurement modes: CW (Continuous Optical Measurement) and Chopped light modes at 270 Hz  $\pm 0.2\%$ , 2 kHz, and 4 kHz. Optical fiber compatibility extends to core diameters of 10  $\mu\text{m}$  with NA 0.19 or less. The sensor head achieves sampling speeds up to 100 times/sec with ranging speeds as fast as 20 msec. Wavelength-specific sensitivity compensation is available when wavelength data is entered. The sensor head employs InGaAs photodiode cooling to attain high sensitivity and noise performance. Return loss specifications utilize slant-polished optical fibers, with configurations achieving 50 dB or greater; low-loss, high-return-loss adapters with PC polished connectors deliver 45 dB or more.

**Key Features**

- High-resolution optical spectrum analysis capability
- InGaAs photodiode cooling for enhanced sensitivity
- Multiple chopped light measurement frequencies (270 Hz, 2 kHz, 4 kHz)
- Wavelength-dependent sensitivity compensation
- Fast sampling and ranging performance
- Low-loss optical design with slant-polished fiber connectors
- Data storage capacity of up to 400 measurement points per channel
- GPIB interface support for automated data transfer

**Compatibility & Integration**

The Q82233 connects via multiple optical connector types: FC, SC, ST, MU, LC, and plug-in connectors. A sensor cable connector enables photoelectrically converted signal input. Integration occurs through GPIB interface for data retrieval, facilitating integration into automated test systems and laboratory control environments.

## Features & description

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From manufacturer datasheet

### **Polarization Dependence: 0.003 dB p-p or less at 1550 nm**

Calibration Wavelength: 1550 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 1000 to 1650 nm Linearity 1 s Avg: plus or minus 0.5 percent plus 0.4 pW 72 to 10 dBm 0 to 40 C Noise Level Slow: minus 94 dBm Return Loss Apc: 50 dB or more Cw Max Min: 20 mW / 200 pW Chop Max Min: 20 mW / 200 nW Fiber Input: core 10 um NA 0.19 PC rubbed Mainframe: Q8221 Interface Unit: Q82203 required Dimensions: approx 60 W x 43 H x 135 D mm Mass: 590 g or less Operating Temperature: 0 to 40 C Display Resolution Via Mainframe: 0.001 dB Measurement Modes: CW and 270 Hz chop Standard Adaptor: A08161 FC High Return Loss Adaptors: not used on this head GPIB Resolution Via Mainframe: 0.0001 dB Notes From Advantest Q8221 optical sensor specification tables. OEM overview lists Q82232 and Q82233 together as low-PDL sensors at 0.003 dB p-p; numeric column published as Q82232 low-polarization high-sensitivity. Confirm faceplate model marking on the sensor.

## Q82233 Characteristics / Specifications

| PARAMETER                        | VALUE                                                        |
|----------------------------------|--------------------------------------------------------------|
| Wavelength Range                 | 900 to 1650 nm                                               |
| Power Range                      | minus 94 to plus 10 dBm                                      |
| Polarization Dependence          | 0.003 dB p-p or less at 1550 nm                              |
| Calibration Wavelength           | 1550 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 1000 to 1650 nm                 |
| Linearity 1 s Avg                | plus or minus 0.5 percent plus 0.4 pW 72 to 10 dBm 0 to 40 C |
| Noise Level Slow                 | minus 94 dBm                                                 |
| Return Loss Apc                  | 50 dB or more                                                |
| Cw Max Min                       | 20 mW / 200 pW                                               |
| Chop Max Min                     | 20 mW / 200 nW                                               |
| Fiber Input                      | core 10 um NA 0.19 PC rubbed                                 |
| Mainframe                        | Q8221                                                        |
| Interface Unit                   | Q82203 required                                              |
| Dimensions                       | approx 60 W x 43 H x 135 D mm                                |
| Mass                             | 590 g or less                                                |
| Operating Temperature            | 0 to 40 C                                                    |
| Display Resolution Via Mainframe | 0.001 dB                                                     |
| Measurement Modes                | CW and 270 Hz chop                                           |
| Standard Adaptor                 | A08161 FC                                                    |
| High Return Loss Adaptors        | not used on this head                                        |
| GPIO Resolution Via Mainframe    | 0.0001 dB                                                    |
| Return loss                      | Apc: 50 dB or more                                           |

# Q82233 Specifications

| PARAMETER                            | VALUE                                                                                                |
|--------------------------------------|------------------------------------------------------------------------------------------------------|
| Advantest Q82233 Optical Sensor Head | Overview                                                                                             |
| Applications                         | PDL-sensitive 1550 nm power measurements on the Q8221 where low polarization dependence is required. |
| Key Features                         | 0.003 dB p-p polarization dependence class                                                           |
| Minus 94 dBm sensitivity             | 900 to 1650 nm                                                                                       |
| Plug in Q8221                        | Low PDL companion to Q82232                                                                          |
| Technical Specifications             | Wavelength Range: 900 to 1650 nm                                                                     |

# 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                                                                                                                                                                                                                                                                         |
| Measurement Modes                | CW and 270 Hz chop                                                                                                                                                                                                                                                               |
| Standard Adaptor                 | A08161 FC                                                                                                                                                                                                                                                                        |
| High Return Loss Adaptors        | not used on this head                                                                                                                                                                                                                                                            |
| GPIB Resolution Via Mainframe    | 0.0001 dB Notes From Advantest Q8221 optical sensor specification tables. OEM overview lists Q82232 and Q82233 together as low-PDL sensors at 0.003 dB p-p; numeric column published as Q82232 low-polarization high-sensitivity. Confirm faceplate model marking on the sensor. |

# 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                                                        |
| Wavelength Range                                                                                           | 900 to 1650 nm                                               |
| Power Range                                                                                                | minus 94 to plus 10 dBm                                      |
| Polarization Dependence                                                                                    | 0.003 dB p-p or less at 1550 nm                              |
| Calibration Wavelength                                                                                     | 1550 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 1000 to 1650 nm                 |
| Linearity 1 s Avg                                                                                          | plus or minus 0.5 percent plus 0.4 pW 72 to 10 dBm 0 to 40 C |
| Noise Level Slow                                                                                           | minus 94 dBm                                                 |
| Return Loss Apc                                                                                            | 50 dB or more                                                |
| Cw Max Min                                                                                                 | 20 mW / 200 pW                                               |
| Chop Max Min                                                                                               | 20 mW / 200 nW                                               |
| Fiber Input                                                                                                | core 10 um NA 0.19 PC rubbed                                 |
| Mainframe                                                                                                  | Q8221                                                        |
| Interface Unit                                                                                             | Q82203 required                                              |
| Dimensions                                                                                                 | approx 60 W x 43 H x 135 D mm                                |
| Mass                                                                                                       | 590 g or less                                                |
| Operating Temperature                                                                                      | 0 to 40 C                                                    |
| Display Resolution Via Mainframe                                                                           | 0.001 dB                                                     |
| Measurement Modes                                                                                          | CW and 270 Hz chop                                           |
| Standard Adaptor                                                                                           | A08161 FC                                                    |
| High Return Loss Adaptors                                                                                  | not used on this head                                        |
| GPIB Resolution Via Mainframe                                                                              | 0.0001 dB                                                    |
| Notes                                                                                                      |                                                              |
| From Advantest Q8221 optical sensor specification tables. OEM overview lists Q82232 and Q82233 together as |                                                              |

low-PDL sensors at 0.003 dB p-p; numeric column published as Q82232 low-polarization high-sensitivity.  
Confirm faceplate model marking on the sensor.

### Available from Aumictech

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

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

#### Aumictech

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NIST-traceable calibration · SAM registered ·  
30-day returns  
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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.