

Optical Measuring Instruments and Optical Device Test Systems

High Accuracy and High Resolution Optical Wavelength Meter

TQ8325

- High Resolution of 0.001 nm
- High Accuracy of 5 ppm
- Wide Bandwidth of 0.48 to 1.6 μm
- High Speed Sampling: 5 Times/Second
- Frequency Display Possible
- Auto Resolution Function
- Built-in level meter
- GPIB interface equipped as standard



TQ8325

Optical Wavelength Meter

TQ8325 is a digital optical wavelength meter capable of high-accuracy and high-resolution measurements on the central wavelength of the light from laser diodes and LEDs for optical telecommunication.

Using He-Ne laser as the reference wavelength and Michelson interference method, the TQ8325 assures high accuracy measurement. The level meter is quite useful for alignment of the optical axis.

■ High Accuracy Measurement

The use of He-Ne laser as the reference wavelength attains a high measurement accuracy of 5 ppm. The He-Ne laser provides oscillation with highly stable wavelengths, assuring the high accuracy over a long term without calibration.

■ High Resolution

Using the interference method, a maximum resolution of 0.001 nm can be achieved.

■ Wide Bandwidth

Short wavelength band (0.48 to 1.0 μm) and long wavelength band (1.0 to 1.6 μm) is easily switchable for measurement.

■ High Speed Sampling

The TQ8325 provides a high sampling rate of 5 times/second; variation in wavelength due to temperature fluctuation can be detected accurately.

■ Wavelength Measurement for Intensity-Modulated Light

The TQ8325 can measure the wavelength of intensity-modulated light with the modulation rate of 3 MHz or higher.

■ Built-In Auto Resolution Function

The TQ8325 is provided with the auto resolution function which automatically enables measurements with the optimum (or highest) resolution by means of the wavelength half-value width.

■ Display of Frequency and Deviation

The TQ8325 is capable of displaying not only the wavelength but frequency of the light under measurement, which is very useful for reading the light in frequency. The ability to display the deviation from the reference wavelength at the time of a key press makes it possible to observe wavelength variation due to temperature fluctuation with high resolution and accuracy.

■ Standard GPIB Interface

The standard GPIB interface allows the TQ8325 to be used as an automated measurement system component.

■ Applications

- Thanks to high accuracy, it can be used as the wavelength standard for calibration of spectroscope.
- Automated measurement of the wavelength-vs-temperature and wavelength-vs-current characteristics of laser diodes
- Can be used for selection of laser diodes and LEDs.
- Wavelength-modulated light measurement possible.
- Can be used for tuning of dye laser.
- Useful for wavelength monitor of variable wavelength light source.

Optical Measuring Instruments and Optical Device Test Systems

High Accuracy and High Resolution Optical Wavelength Meter

TQ8325

Specifications

Wavelength range:

0.48 to 1.0 μm (short wavelength band)
1.0 to 1.6 μm (long wavelength band)

Optical input level range:

-15 to +3 dBm (0.48 to 0.6 μm)
-23 to +3 dBm (0.6 to 1.6 μm)

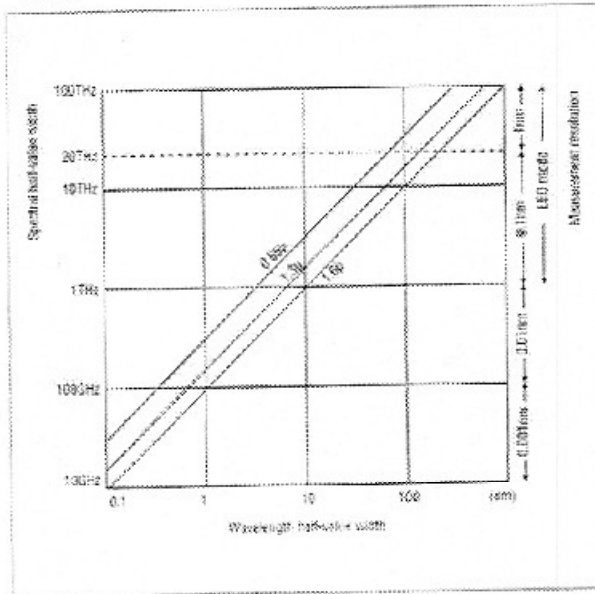
Display:

Decimal, 7 segment green LED
Wavelength and frequency display formats is switchable

Display resolution:

1, 0.1, 0.01, 0.001 nm
10G, 10, 1 MHz, 100 MHz

The measurement resolution adjusted automatically with the varying wavelength half-value width of the light under measurement.



Measured wavelength accuracy:

The following measurement accuracy is assured at $25 \pm 10^\circ\text{C}$.

$$\pm \text{Full width (nm) at half maximum} \times \frac{5}{100} \pm 5 \text{ ppm} \pm 1 \text{ count}$$

Measured wavelength stability:

± 1 count (with the AVG mode turned on)

Deviation display: Displays the deviation from the reference wavelength at the time of a key press.

AVG mode: Displays the moving average for 10 measurements.

Sampling rate: 200 ms

Optical input: FC Type connector

Analog output:

Outputs the lowest 3 digits in analog form (0 to -1 V)

GPB interface: Standard

Operating temperature and humidity: 0 to +40°C, 85%RH or less

Power supply: Specified at the time of ordering.

Option No	Standard	40
Line voltage	80 to 132 V	120 to 250 V

50/60 Hz, 52 VA or less

Dimensions: Approx. 300 (W) x 132 (H) x 450 (D) mm

Mass: 12 kg maximum

Standard Accessory:

Product name	Model	Remarks
Power cable	A01402	

Accessories (sold separately):

OCS-F2SPW-2 Optical fiber cord (Graded-index, 50/125 μm , 2 m)

OCS-F2SPS-2 Optical fiber cord (Single-mode, 10/125 μm , 2 m)

OPL-50-100/FC Fiber collimator (Graded-index, 50 μm)