




# Optical Measuring Instruments and Optical Device Test Systems

## High-Accuracy, High-Sensitivity and High-Speed Optical Power Meter

Q8221

							
Model		Q82214		Q82215		Q82216	
Product Type		Short Wavelength General-Purpose		Long Wavelength General-Purpose		Long Wavelength Large-Caliber Medium-Sensitivity	
Wavelength Range		400 to 1100 nm		800 to 1750 nm		800 to 1750 nm	
Power Range		-80 to +17 dBm <sup>*1</sup>		-60 to +10 dBm <sup>*1</sup>		-77 to +10 dBm <sup>*1</sup>	
Range <sup>*2</sup>							
Max.		CW	CHOP	CW	CHOP	CW	CHOP
Min.		200 mW	200 mW	20 mW	20 mW	20 mW	20 mW
		20 nW	20 nW	2000 nW	2000 nW	20 nW	20 nW
Sensor Element		Si 8mm φ		Ge 5mm φ		Ge 5mm φ Cooled	
Optical Input Form		Possible (Optical Input Diameter 8mm φ)		Possible (Optical Input Diameter 5mm φ)			
Beam		Core Diameter ≤100 μm, NA ≤0.3					
Fiber		PC, APC, and Slanted Rubbed Connectors (Use With Appropriate Connector Adaptor For Each)					
Measurement Accuracy <sup>*2</sup>		CW	CHOP	CW	CHOP	CW	CHOP
At Calibration Wavelength		±3.0%	±4.0%	±3.0%	±4.0%	±2.5%	±3.5%
		780 nm		1300 nm		1300 nm	
		1 mW		1 mW		1 mW	
		0 to 40°C		0 to 40°C		0 to 40°C	
At Wide Wavelength range		CW	CHOP	CW	CHOP	CW	CHOP
		±5.0%	±6.0%	±5.0%	±6.0%	±4.5%	±5.5%
		480 to 900 nm		950 to 1600 nm		950 to 1600 nm	
		1 mW		1 mW		1 mW	
		23±3°C		23±3°C		0 to 40°C	
Linearity (At Averaging Time : 1 sec.)		±0.5%±10 pW		±0.5%±1 nW		±0.5%±20 pW	
		-54 to +17 dBm		-37 to +10 dBm		-47 to +10 dBm	
		23±3°C		23±3°C		23±3°C	
		±1.0%±10 pW		±1.0%±1 nW		±1.0%±20 pW	
		-57 to +17 dBm		-40 to +10 dBm		-50 to +10 dBm	
		23±3°C		23±3°C		23±3°C	
Noise Level <sup>*3</sup>		At Averaging Time : 1 sec.		-80 dBm		-60 dBm	
		Without Averaging <sup>*4</sup>					
		SLOW (approx. 9/sec.)		-75 dBm		-55 dBm	
		FS-1 (approx. 30/sec.)		-71 dBm		-51 dBm	
		FS-2 (approx. 50/sec.)		-69 dBm		-48 dBm	
		FS-3 (approx. 100/sec.)		-66 dBm		-45 dBm	
Polarization Dependence (at wavelength 1550 nm)		-		0.03 dBp-p (Typical) <sup>*5</sup>		0.03 dBp-p (Typical) <sup>*5</sup>	
Return Loss		With APC, or slanted Rubbed Connector		60 dB or more			
		With high return loss adaptor <sup>*6</sup>		45 dB or more (Typical 47 dB)			
		With PC rubbed connector		approx. 14 dB			
Dimensions and Mass		Approx. 60(W) × 43(H) × 110(D) mm, 270 g or less					
Connectors to Adaptor Correspondence List		FC		A08012			
		SC		A08090			
		ST		A08096			
		MU		A08369			
		Plug-in		-			
		MT Adaptor (Mating to 12-pin SMF)		-		A08187 (Mating to 12-pin SMF)	
High Return Loss Adaptor Correspondence List <sup>*9</sup>		FC		A08328			
		SC		A08329			
		ST		A08330			
		Plug-in		A08331			
Connection to the Q8221 Main Unit		Q82202 or Q82203 Interface Plug-in Unit Required. Connection Cable Available as Accessory with Q82202, or Q82203					

\*1 Level at Max. is when optical input was received with entire sensor area.

\*2 CW : Continuous Optical Measurement Mode used. CHOP : 270 Hz Chopped light Measurement Mode used.

\*3 Noise Level with CW Mode and at calibration wavelength (With CHOP Mode, noise level at FS-1, FS-2, FS-3 is approx. the same as at SLOW.)

\*4 SLOW : Integration Time, 100 msec FS-1 : Integration Time, 20 msec FS-2 : Integration Time, 7 msec

\*5 FS-3 : Integration Time, 2 msec

\*6 Typical Figure (Not Specified)

\*7 When using PC rubbed connector with return loss 45 dB or more.