

**Handy size**

# Optical Power Meter

**AQ2170  
AQ2170H**



**AQ2180  
AQ2180H**



YOKOGAWA 

# Light Source

**AQ4280A  
AQ4280B  
AQ4280C**



## Two versions of Power Meters to suit test application

+10 dBm max. power for Standard version (AQ2170, AQ2180),  
+26 dBm max. power for High power version (AQ2170H, AQ2180H)

## Compact and lightweight

Fits in the palm of your hand or pocket...  
even with the standard protector  
installed.



## Versatile data storage and transfer

Large memory capacity stores up to  
999 measurement results  
USB port offers convenient data  
transfer to a PC in CSV format using  
the standard software supplied.

## Three versions of Light Sources based on wavelengths.

Three-wavelengths to  
address telecom service,  
plus additional wavelength  
for maintenance channel.

AQ4280A ; 1310/1550nm  
AQ4280B ; 1310/1490/1550nm  
AQ4280C ; 1310/1550,1490/1625nm  
(2 ports)

## Auto switching of measurement wavelength

Wavelength is automatically selected when the AQ4280 and AQ2180 are paired  
together. This feature eliminates the the extra step to manually setup the power  
meter wavelength and eliminates possibility of invalid measurements due to  
misconfigured wavelengths.

## Power source

Standard dry cell batteries are easily obtained (type : AAA, AQ2180, AQ4280: AQ2170 AA)  
Rechargeable batteries may also be used to reduce the operational cost. Auto power-saving feature also extends battery life.

## Basic items included as standard accessories.

- SC, FC or other connector adapter  
(Removable for convenient access for cleaning)
- AQ170/2180 : FC,SC, LC, Ferrule2.5φ, Ferrule1.25φ
- AQ4280 A/B/C : FC/PC, SC/PC, ST/PC
- Rubber protector to prevent damage when dropped
- Carrying pouch to house unit and connector adapters  
(Use the optional SU2006 pouch for housing the AQ2180, AQ4280 fitted with a protector)



Optical Light Source

Optical Power Meter

## Descriptions

	Model	AQ2170 Optical Power Meter	AQ2170H Optical Power Meter	AQ2180 Optical Power Meter	AQ2180H Optical Power Meter	
Sensor	Wavelength Setting	850/1300/1310/1490/ 1550/1625/1650 nm	1310/1490/1550/1625/1650 nm	850/1300/1310/1490/ 1550/1625/1650 nm	1310/1490/1550/1625/1650 nm	
	Photo Detector	InGaAs		InGaAs		
	Optical Fiber	SM (ITU-T G.652), GI(50/125 μm), GI(62.5/125 μm) In fiber	SM (ITU-T G.652) In fiber	SM (ITU-T G.652), GI(50/125 μm), GI(62.5/125 μm) In fiber	SM (ITU-T G.652) In fiber	
	Optical Connector	FC, SC, LC, ferrule 2.5φ, ferrule 1.25φ (Standard) FC,		FC, SC, LC, ferrule 2.5φ, ferrule 1.25φ (Standard)		
	Power Range	-70 ~ +10 dBm	-50 ~ +26 dBm	-70 ~ +10 dBm	-50 ~ +26 dBm	
	Noise Level	-60 dBm	-40 dBm	-60 dBm	-40 dBm	
	Uncertainty <sup>1</sup>	±5%	±5%	±5%	±5%	
General Specification	Display Resolution	0.01dB (> -60dBm), 0.1dB (≤ -60dBm)	0.01dB (> -40dBm), 0.1dB (≤ -40dBm)	0.01dB, 0.01dBm, 0.0001uW		
	Unit	ABS value: dBm, mW, μW / Relative value: dB		ABS value: dBm, mW, μW / Relative value: dB		
	Modulation	CW, CHOP(270Hz, 1kHz, 2kHz)		CW, CHOP (270Hz, 1kHz, 2kHz)		
	Measurement interval	approx.150 ms		approx.150 ms		
	Measurement mode	Absolute measurement, Relative measurement		Absolute measurement, Relative measurement		
	Memory function	-		999 records		
	I/O	-		USB-B (mini)		
	Power Source	Four AAA Cell batteries		Two AA Cell batteries		
		Battery life time <sup>2</sup>	40 hours		40 hours	
		Power save	Automatically power off in 10 minutes no operation key		Automatically power off in 10 minutes no operation key	
		Battery check	Low battery indicator		Low battery indicator	
	Ambient environment	Operating temperature: -10 ~ 50°C, Operating Humidity: 20 ~ 80% Storage temperature: -20 ~ +70°C, Storage Humidity: 5 ~ 95%		Operating temperature: -10 ~ 50°C, Operating Humidity: 20 ~ 80% Storage temperature: -20 ~ +70°C, Storage Humidity: 5 ~ 95%		
	Regulatory Compliance	Environment	RoHS, WEEE, REACH		RoHS, WEEE, REACH	
		Safety/EMC	CE marking, C-tick, KC		CE marking, C-tick, KC	
	Dimensions (mm) Weight <sup>3</sup>	63(W) × 116(H) × 35(D) approx.160g		76(W) × 153(H) × 43(D) approx.280g		
Accessory	Connector adapter, Four AAA Cell batteries, Carrying pouch, Protector, Operation Guide, User's Manual (CD)		Connector adapter, Two AA Cell batteries, Carrying pouch, Protector, Operation Guide, User's Manual (CD)			

	Model	AQ4280A Optical Light Source	AQ4280B Optical Light Source	AQ4280C Optical Light Source	
Light Source	Element	LD			
	Fiber	SM (ITU-T G.652)			
	Wavelength	1310/1550 ± 20 nm	1310/1550±20 nm, 1490±10 nm	1310/1550±20 nm, 1490/1625±10 nm	
	Spectral width <sup>4,5</sup>	< 5 nm(1310 nm), < 10 nm(1550 nm)	< 5nm (1310 nm, 1490 nm), < 10nm (1550 nm)	< 5nm (1310 nm, 1490 nm, 1625 nm) < 10nm (1550 nm)	
	Opt putt power level <sup>6</sup>	-5 dBm ± 1 dB	-5 dBm ± 1 dB	-5 dBm ± 1dB	
	Power stability(15min) <sup>4,6</sup>	< ± 0.05 dB	< ± 0.05 dB(1310/1550 nm) < ± 0.1 dB(1490 nm)	< ± 0.05 dB(1310/1550 nm) < ± 0.1 dB (1490/1625 nm)	
	Modulation	CW, CHOP (270Hz, 1kHz, 2kHz)			
	Optical connector	universal adapter (FC/PC, SC/PC, ST/PC Standard)			
General Specification	Power Source	Three AA Cell batteries			
		Battery life time <sup>7</sup>	25 hours		
		Power save	Automatically power off in 10 minutes no operation key		
	Battery check	Low battery indicator			
	Ambient environment	Operating temperature: -10 ~ 50°C, Operating Humidity: 20 ~ 80% Storage temperature: -20 ~ +70°C, Storage Humidity: 5 ~ 95%			
	Regulatory Compliance	Environment	RoHS, WEEE, REACH		
		Safety/EMC	CE, Ctick, KC, FDA		
	Laser Class	CLASS1(IEC 60825-1)			
Dimensions (mm) Weight <sup>3</sup>	76 (W) × 153(H) × 43(D) approx.300g				
Accessory	Connector adapter, Two AA Cell batteries, Carrying pouch, Protector, Operation Guide, User's Manual (CD)				

\*1: 23 ± 2°C ambient temperature reference conditions

Wavelength setting of Power Meter : 1310 nm  
Wavelength of light source to be measured : 1310 nm  
Spectral width of the light source to be measured : Less than 5 nm  
Power of measured light source : -10 dBm  
Modulation : CW  
Use Fiber : SM fiber (ITU-T G652)  
Connector Type : FC

Does not include the polarization dependence and polarization conditions  
1 year aging  
Including uncertainty in attaching and removing the adapter

\*2: 23 ± 2°C ambient temperature, when using the batteries, when the continuous measurement

\*3: except protector

\*4: stable temperature in the range of 23 ± 2°C, CW light

\*5: RMS (2σ, -20 dB)

\*6: When connected FC / PC 2m code

\*7: Using the battery, when continuous emission

23 ± 2°C, if not specified, when using the FC adapter

## Ordering Information

Models	Suffix code	Descriptions
AQ2170	-	Pocket size OPM
AQ2170H	-	Pocket size High power OPM
AQ2180	-	Handy OPM
AQ2180H	-	Handy High power OPM
AQ4280A	-	1310/1550nm Optical Light Source
AQ4280B	-	1310/1490/1550nm Optical Light Source
AQ4280C	-	1310/1550,1490/1625nm Optical Light Source
Calibration	/CAL	Calibration (The Certificate should be ordered aside from)

• Please order products with /CAL option and additional Calibration certificate if calibration certificate required. Specify /CAL to order a AIST traceable Calibration Certificate. Check with local supplier on other standards if required.

• Please specify need for calibration certificate at time of order since it is impossible to add this option after product is shipped.

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