

**Aumictech**

Test &amp; measurement · bought, sold, repaired, calibrated

**Data Sheet**

July 29, 2026

YOKOGAWA

## Yokogawa AQ2212 Frame Controller, 9 Slots

■ Macro programming Function Convenient solution for automated measurements eliminating need for an external PC controller. ■ Remote interfaces : GP-IB, Ethernet, and USB ■ Hot-swappable modules Bulletin AQ2200-20EN AQ2200Series Multi Application Test System Multi Application Test System Frame Controller AQ2211 Frame controller (3 slots) AQ2212 Frame controller (9 slots) Light Source AQ2200-112 LS module (DFB, 1/2 channels) AQ2200-131 Grid TLS module (C/L band, 1 channel) AQ2200-132 Grid TLS module (C/L band, 2 channels) Optical Sensor AQ2200-212 Sensor module AQ2200-222 Dual sensor module (2 channels) AQ2200-215 Sensor module (high power +30 dBm) AQ2200-232 Optical sensor head (long wavelength) ■ Remote interfaces : GP-IB, Ethernet, and USB ■ Hot-swappable modules Bulletin AQ2200-20EN AQ2200Series Multi Application Test System Multi Application Test System Frame Controller AQ2211 Frame controller (3 slots) AQ2212 Frame controller (9 slots) Light Source AQ2200-112 LS module (DFB, 1/2 channels) AQ2200-131 Grid TLS module (C/L band, 1 channel) AQ2200-132 Grid TLS module (C/L band, 2 channels) Optical Sensor AQ2200-212 Sensor module AQ2200-222 Dual sensor module (2 channels) AQ2200-215 Sensor module (high power +30 dBm) AQ2200-232 Optical sensor head (long wavelength)

No photo

MODEL

**Yokogawa AQ2212**

CALIBRATION

**N/A — off-catalog  
OEM datasheet**

CONDITION

**See OEM  
documentation**

STATUS

**Not listed on  
Aumictech  
inventory**

RFQ / SKU

**AQ2212**

LISTING

**Off-catalog — OEM dat  
asheet only**

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

## AQ2212 Characteristics / Specifications

| PARAMETER                        | VALUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wide                             | 100 MHz (typ.) SMSR35 dB or more RIN-135 dB/Hz (typ.) Attenuation range6 dB (resolution 0.01 dB (typ.)) Fiber typeSMF (ITU-T G.652) Optical connectorFC/Angled PC Laser safety standard classClass 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014) ILaser Safety Information This laser light source is classified into "IEC60825-1: 2007; Class 1M".                                                                                                                   |
| Output monitor accuracy          | ±5% or less Optical return loss (with PC connector) 45 dB or more20 dB or more45 dB or more20 dB or more Polarization dependence0.08 dBp-p or less-0.1 dBp-p or less- Maximum input power+23 dBm-+23 dBm- Shutter isolation90 dB or more Applicable optical fiberSMF (ITU-T G.652) MMF (GI 50/125) (ITU-T G651.1) or MMF (GI 62.5/125) (IEC 60793-2)                                                                                                                                     |
| Blindian standard, rated voltage | 250 V -UIEC Plug Type B, rated voltage: 250 V AQ2200-112 LS Module ModelSuffixDescriptions AQ2200112AQ2200-112 LS Module - D300DFB-LD, 1310 nm -D500DFB-LD, 1550 nm -D600DFB-LD, 1625 nm -D700DFB-LD, 1650 nm -D3D3DFB-LD, Ch1: 1310 nm, Ch2: 1310 nm -D3D5DFB-LD, Ch1: 1310 nm, Ch2: 1550 nm -D3D6DFB-LD, Ch1: 1310 nm, Ch2: 1625 nm -D3D7DFB-LD, Ch1: 1310 nm, Ch2: 1650 nm                                                                                                            |
| D5D5DFB-LD, Ch1                  | 1550 nm, Ch2: 1550 nm -D5D6DFB-LD, Ch1: 1550 nm, Ch2: 1625 nm - D5D7DFB-LD, Ch1: 1550 nm, Ch2: 1650 nm -D6D6DFB-LD, Ch1: 1625 nm, Ch2: 1625 nm -D6D7DFB-LD, Ch1: 1625 nm, Ch2: 1650 nm - D7D7DFB-LD, Ch1: 1650 nm, Ch2: 1650 nm AQ2200-131 Grid TLS Module ModelSuffixDescriptions AQ2200131AQ2200-131 Grid TLS Module -CC-band -LL-band -T6Advanced type                                                                                                                                |
| PAOptical fiber                  | PMF -FCCOptical connector: FC/PC -FCAOptical connector: FC/Angled PC AQ2200-132 Grid TLS Module ModelSuffixDescriptions AQ2200132AQ2200-132 Grid TLS Module -CCCh1: C-band, Ch2: C-band -LLCh1: L-band, Ch2: L-band -CLCh1: C-band, Ch2: L-band - T6Advanced type - PAOptical fiber: PMF -FCCOptical connector: FC/PC -FCAOptical connector: FC/Angled PC AQ2200-212/-222 Sensor Module ModelSuffixDescriptions AQ2200212AQ2200-212 Sensor Module AQ2200222AQ2200-222 Dual Sensor Module |
| G6Optical fiber                  | MMF (GI 62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC AQ2200-411 OSW Module ModelSuffixDescriptions 735141AQ2200-411 OSW Module -04Port configuration: 1 × 4 -08Port configuration: 1 × 8 -SAOptical fiber: SMF -G5Optical fiber: MMF (GI 50/125) -G6Optical fiber: MMF (GI 62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC                                                                                                            |
| Wavelength range                 | to 1700 nm 970 to 1660 nm Power range (CW light) -90 to +15 dBm-70 to +30 dBm Applicable fiber≤62.5/125 μm (GI), NA ≤0.275 Uncertainty                                                                                                                                                                                                                                                                                                                                                   |

| PARAMETER           | VALUE                                                                                                                                                                                                                                                           |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | Under reference conditions $\pm 2.5\%$ $\pm 3\%$ Total uncertainty $\pm 5\%$ $\pm 5$ pW $\pm 5\%$ $\pm 2.0$ nW Polarization dependence 0.02 dBp-p (typ.)                                                                                                        |
| Optical Return Loss | (ORL) Control functions Macro programming, Multi-user, Remote viewer support Operation environment Ambient temperature 5 to 40°C Ambient humidity 20 to 80% RH (no condensation) Storage environment Ambient temperature -20 to 60°C Ambient humidity 20 to 80% |
| Linewidth           | kHz (typ.)                                                                                                                                                                                                                                                      |
| Attenuation         | range 6 dB (resolution: 0.01 dB (typ.)) Spectral linewidth 100 kHz (typ.)                                                                                                                                                                                       |
| Humidity            | to 80% RH (no condensation) Storage environment Ambient temperature -20 to 60°C Ambient humidity 20 to 80% RH (no condensation) Power requirement 100 to 240 Vac, 50/60 Hz Power Consumption (including modules) 170 VA 580 VA                                  |
| Return loss         | (ORL) Control functions Macro programming, Multi-user, Remote viewer support Operation environment Ambient temperature 5 to 40°C Ambient humidity 20 to 80% RH (no condensation) Storage environment Ambient temperature -20 to 60°C Ambient humidity 20 to 80% |

## AQ2212 Specifications

| PARAMETER                                        | VALUE                                                                                                             |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Macro programming Function                       | Convenient solution for automated measurements eliminating need for an external PC controller.                    |
| Frame Controller                                 | AQ2211 Frame controller (3 slots)                                                                                 |
| Light Source                                     | AQ2200-112 LS module (DFB, 1/2 channels)                                                                          |
| Optical Sensor                                   | AQ2200-212 Sensor module                                                                                          |
| Optical Attenuator (ATTN)                        | AQ2200-312 ATTN module (standard)                                                                                 |
| Optical Switch (OSW)                             | AQ2200-421 OSW module (1×2/2×2, 2 channels)                                                                       |
| Optical Transceiver Test                         | AQ2200-642 Transceiver interface module                                                                           |
| LAN                                              | User 1                                                                                                            |
| User 5                                           | User 2                                                                                                            |
| Optical Devices and Optical Transmission Systems | The AQ2200 Multi Application Test System is the ideal system for measuring and evaluating a wide range of optical |
| application.                                     | AQ2211 Frame Controller Screen (SUMMARY)                                                                          |
| Frame controller with convenient functions       | AQ2211 Frame Controller Screen (DETAIL)                                                                           |
| PC application software.                         | Step 2: Install the macro program into Frame                                                                      |
| controller.                                      | AQ2211/12 screen                                                                                                  |
| Create MACRO for an                              | application on AQ2200                                                                                             |
| Macro editor                                     | STEP 1                                                                                                            |
| STEP 2                                           | STEP 3                                                                                                            |
| Install MACRO to Frame controller.               | Macro Programming Function                                                                                        |
| Graph Display Screen                             | 03                                                                                                                |
| Module Lineup                                    | Standard Sensor (AQ2200-212)                                                                                      |
| port                                             | • Wavelength range: 800 to 1700 nm                                                                                |
| module.                                          | • Wavelength range: 800 to 1700 nm                                                                                |
| Optical Sensor Improved measurement throughput   | Optical Sensor Head (AQ2200-232/-242)                                                                             |

| PARAMETER                                                | VALUE                                                                                    |
|----------------------------------------------------------|------------------------------------------------------------------------------------------|
| Module                                                   | [AQ2200-232]                                                                             |
| MT Connector Adapter (AQ9440C)                           | <ul style="list-style-type: none"> <li>Fiber count: 2, 4, 8, 12 and 24 fibers</li> </ul> |
| Multicore connector adapter (AQ9340 / AQ9436C / AQ9440C) | MPO Connector Adapter (AQ9340)                                                           |
| pins                                                     | Ribbon Fiber Adapter (AQ9436C)                                                           |
| fusion splicer.                                          | <ul style="list-style-type: none"> <li>Fiber count: 2, 4, 8 and 12 fibers</li> </ul>     |
| Output level deviation (dB)                              | AQ2200-112 Output level stability (typical, 1550 nm)                                     |
| Time (minutes)                                           | 04                                                                                       |
| Optical Switch Superior switching reproducibility        | 1×2, 2×2 Dual Optical Switch                                                             |
| slot size module                                         | <ul style="list-style-type: none"> <li>SMF (10/125 μm) or MMF</li> </ul>                 |
| directly setting the optical power                       | <ul style="list-style-type: none"> <li>SMF (10/125 μm) or MMF (50/125 μm or</li> </ul>   |
| or less                                                  | <ul style="list-style-type: none"> <li>SMF (10/125 μm) or MMF (50/125 μm or</li> </ul>   |
| DUT                                                      | AQ2200-421                                                                               |
| OSW                                                      | (1 × 2)                                                                                  |
| ATTN                                                     | AQ2200-132                                                                               |
| MUX                                                      | AQ2212 Frame Controller                                                                  |
| Grid TLS                                                 | AQ2200-312                                                                               |
| amplifier                                                | AQ6370D                                                                                  |
| Analyzer                                                 | AQ6370D Measurement Screen                                                               |
| WDM                                                      | coupler 1                                                                                |
| coupler 2                                                | AQ2202 Frame Controller                                                                  |
| ONU                                                      | ONU 1                                                                                    |
| ONU 2                                                    | ONU 8                                                                                    |
| ONU 9                                                    | ONU 10                                                                                   |
| Transceiver Measurement System                           | The 10Gbit/s optical transceiver modules such as XFP or SFP+ are                         |
| optical transceiver modules.                             | The AQ2200 Multi Application Test System allows for building a space                     |
| OPM                                                      | AQ2200-642                                                                               |

| PARAMETER                                            | VALUE                                                                                                               |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Measurement Applications                             | 06                                                                                                                  |
| alignment is most time consuming work.               | The optical sensor head AQ2200-232/-242 is compatible with the                                                      |
| marketplace.                                         | 3-wavelength Optical Filter Measurement System for GE-PON                                                           |
| source                                               | (1490 nm)                                                                                                           |
| AQ2212 Frame Controller                              | (1)                                                                                                                 |
| system can be easily configured.                     | 0 5 10 15 20 25 30                                                                                                  |
| I th                                                 | 0.10                                                                                                                |
| Fanout cable                                         | AQ9340                                                                                                              |
| ItemsSpecifications                                  | Product nameA2211AQ2212                                                                                             |
| Display                                              | [*1]                                                                                                                |
| Remote interface                                     | GPIBIEEE-488 compatible, protocol: IEEE-488.2 compatible                                                            |
| External storage interface                           | USB (USB Rev2.0 compatible, connector: USB type A × 1, applicable device: USB mass storage class flash              |
| Operation                                            | environment                                                                                                         |
| Storage                                              | environment                                                                                                         |
| Ambient humidity20 to 80% RH (no condensation)       | Power requirement100 to 240 Vac, 50/60 Hz                                                                           |
| Power Consumption (including modules)170 VA580 VA    | Dimension (excluding protrusions)Approx. 212 (W ) × 132.5 (H) × 400 (D) mmApprox. 425 (W ) × 132.5 (H) × 500 (D) mm |
| MassApprox. 6 kgApprox. 11 kg                        | Recommended calibration period1 year (include modules)                                                              |
| ItemsSpesifications                                  | Number of channelAQ2200-131: 1, AQ2200-132: 2                                                                       |
| Frequency (Wavelength) tuning time30 sec. or less    | Optical output level+12.5 dBm or more                                                                               |
| Spectral linewidth100 kHz (typ.)                     | SMSR45 dB (typ.)                                                                                                    |
| Optical connectorSelect any of FC/PC or FC/Angled PC | Laser safety standard classClass 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014)                   |
| Number of channel1 or 2 channels                     | Device typeDFB-LD                                                                                                   |
| Spectral linewidth                                   | Narrow: 10 MHz (typ.)                                                                                               |
| SMSR35 dB or more                                    | RIN-135 dB/Hz (typ.)                                                                                                |

| PARAMETER                                         | VALUE                                                                                             |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Attenuation range6 dB (resolution 0.01 dB (typ.)) | Fiber typeSMF (ITU-T G.652)                                                                       |
| Optical connectorFC/Angled PC                     | Laser safety standard classClass 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014) |
| ILaser Safety Information                         | This laser light source is classified into "IEC60825-1: 2007; Class 1M".                          |
| Product Specifications                            | *For details, please refer to the Data sheet (AQ2200-21EN Data sheet).                            |
| Number of channels121                             | Detector typeInGaAs                                                                               |
| Wavelength range800 to 1700 nm 970 to 1660 nm     | Power range (CW light) -90 to +15 dBm-70 to +30 dBm                                               |
| conditions                                        | ±2.5%±3%                                                                                          |

# Full OEM specifications

Complete technical content extracted from the manufacturer datasheet

([https://www.testunlimited.com/pdf/YKG\\_AQ2212\\_Datasheet.pdf](https://www.testunlimited.com/pdf/YKG_AQ2212_Datasheet.pdf)). Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance sensors in a module.

- Wavelength range: 800 to 1700 nm • Uncertainty:  $\pm 2.5\%$  • Power range: -90 to +15 dBm • Averaging time (min.): 100  $\mu$ s Light Source Ideal Reference Light Sources for Optical Device Measurements LS Module (AQ2200-112) • Laser type: DFB-LD • Wavelength: 1310, 1550, 1625 or 1650 nm • 1 channel or 2 channels • Optical output level: +10 dBm or more

- Output level stability:  $\pm 0.005$  dB or less Grid Tunable Laser Source (AQ2200-131/-132) • Frequency (Wavelength) range: C/L-band • 1 and 2 channel modules • Grid spacing: min. 25 GHz (0.2 nm) and manual (0.1 GHz) Optical Sensor Improved measurement throughput Optical Sensor Head (AQ2200-232/-242) • Large-diameter sensor head for free-space measurement - Free space measuring system can be constructed easily by supporting cage system - Large-diameter PD enables multi-core connector and cable measurement • Excellent uncertainty • High stability by temperature control • Averaging time: 100  $\mu$ s (minimum sampling intervals) • Two sensor heads can be connected to the AQ2200-202 Interface Module [AQ2200-232] • Detector: InGaAs 5 mm dia, • Wavelength range: 800 to 1700 nm

- Power range: -90 to +15 dBm • Uncertainty:  $\pm 1.8\%$  [AQ2200-242] • Detector: Si  $\square$  5.8 mm • Wavelength range: 400 to 1100 nm • Power range: -90 to +10 dBm • Uncertainty:  $\pm 2.5\%$  \*An AQ2200-202 Interface module is required.

High-Power (AQ2200-215) • High power measurement: +30 dBm • Wavelength range: 970 to 1660 nm • Power range: -70 to +30 dBm • Averaging time (min.): 100  $\mu$ s MT Connector Adapter (AQ9440C) • Fiber count: 2, 4, 8, 12 and 24 fibers • Applicable sensor: AQ2200-232 and

AQ2200-242 Multicore connector adapter (AQ9340 / AQ9436C / AQ9440C) MPO Connector Adapter (AQ9340) •

Applicable connector: 12-fiber or 24-fiber (AQ9340-12) 16-fiber or 32-fiber (AQ9340-16) • Applicable sensor: AQ2200-232 and

AQ2200-242 • Compatible with both with and without guide pins Ribbon Fiber Adapter (AQ9436C) • Adapter for ribbon fiber folder of fusion splicer.

- Fiber count: 2, 4, 8 and 12 fibers • Applicable sensor: AQ2200-232 and

AQ2200-242 0.010 0.005 0.000 -0.005 -0.010 0 10 20 30 40 50 60 Output level deviation (dB) AQ2200-112 Output level stability (typical, 1550 nm) Time (minutes) 04 Optical spectral example (1550 nm)

Optical Switch Superior switching reproducibility 1x2, 2x2 Dual Optical Switch (AQ 220 0 - 421) • Compact: Two optical switches in a one-slot size module • SMF (10/125  $\mu$ m) or MMF (50/125  $\mu$ m or 62.5/125  $\mu$ m) • Low insertion loss: 1.0 dB (typ.)

- Switching reproducibility:  $\pm 0.01$  dB 1x4, 1x8 Optical Switch (AQ2200-411) • SMF (10/125  $\mu$ m) or MMF (50/125  $\mu$ m or 62.5/125  $\mu$ m) • Switching reproducibility:  $\pm 0.01$  dB • Low insertion loss: 1.0 dB (typ.)

1x16 Optical Switch (AQ2200-412) • SMF (10/125  $\mu$ m) or MMF (50/125  $\mu$ m) • Switching reproducibility:  $\pm 0.01$  dB • Low insertion loss: 1.0 dB (typ.)

Optical Transceiver Test Simplifying 10G transceiver test environment Transceiver I/F module (AQ2200-642) • Compatible with XFP, SFP+, XENPAK, etc.

- Power supply and current monitor • I 2 C/MDIO interfaces • Control signal transmission • Status signal monitor • Resistance value monitor Optical Attenuator Providing low insertion loss and fast control One-Channel (AQ2200-332) • Built-in monitor power meter • Attenuation accuracy: within  $\pm 0.1$  dB • The output monitor function allows for directly setting the optical power

- SMF (10/125  $\mu$ m) or MMF (50/125  $\mu$ m or 62.5/125  $\mu$ m) • Built-in optical shutter: 90 dB or more One-Channel (AQ2200-312) • Low insertion loss: 1.0 dB (typ.)

- Wide attenuation range: 0 to 60 dB (in steps of 0.001 dB) • Monitor output (optional) • Low polarization dependence loss: 0.1 dBp-p or less • SMF (10/125  $\mu$ m) or MMF (50/125  $\mu$ m or

62.5/125  $\mu$ m) 05

Optical Fiber Amplifier Measurement System An optical fiber amplifier is an indispensable device for WDM transmission systems. This measurement system characterizes gains and noise figures (NF) of the fiber amplifier by measuring input light to an optical fiber amplifier, which was multiplexed using multiple light sources, as well as amplified output light with an optical spectrum analyzer. A high-power sensor allows for measuring total output power.

[Measurement items] • Gain, NF, and total output power DUT

AQ2200-421 (2/2) OSW (1  $\times$  2)

AQ2200-421 (1/2) OSW (1  $\times$  2)

AQ2200-312 ATTN

AQ2200-132  $\times$ 8 MUX AQ2212 Frame Controller Grid TLS Grid TLS Grid TLS Grid TLS

AQ2200-312 ×16 ATTN ATTN ATTN ATTN

AQ2200-215 high-power OPM Optical Fiber amplifier AQ6370D Optical Spectrum Analyzer AQ6370D Measurement Screen  
GE-PON Test System

AQ2200-332 ATTN

AQ2200-332 ATTN

AQ2200-421 OSW (1 × 2)

AQ2200-412 OSW (1 × 16) Optical coupler WDM coupler 1 WDM coupler 2 AQ2202 Frame Controller IP traffic tester

OLT Master ONU ONU 1 ONU 2 ONU 8 ONU 9 ONU 10 ONU 16 LAN 1.31 μm 1.49 μm

AQ2200-212 OPM To evaluate GE-PON systems used for FTTH networks, optical characteristics and IP traffic tests are performed. Since GE-PON consists of OLTs and multiple ONUs, efficient measurement of multiple ports is required. Utilizing the multiple port AQ2200-4xx optical switch makes it possible to build an efficient automated measurement system by distributing the signal in a custom test network. Since the AQ2200-332 Optical Attenuator is equipped with a monitor power meter, the ONU optical receiving level can be adjusted without changing the fiber connection.

Transceiver Measurement System The 10Gbit/s optical transceiver modules such as XFP or SFP+ are frequently used in transmission systems and Ethernet systems.

The measuring system for such modules requires many instruments including controller, power supplies and multi-meters to control optical transceiver modules.

The AQ2200 Multi Application Test System allows for building a space saving test system with a variety of plug-in modules.

Rx Transceiver (DUT) Tx

AQ2200-332 ATTN AQ6370D Optical Spectrum analyzer AQ2212 Frame controller Tx 10G BERT Rx

AQ2200-411 OSW (1 × 4)

AQ2200-212 OPM

AQ2200-642 Transceiver I/F Measurement Applications 06

In experiments of free-space optics, optical devices are set on an optical bench or a breadboard, and the adjustment of optical alignment is most time consuming work.

The optical sensor head AQ2200-232/-242 is compatible with the 60 mm cage system. It makes it easy to build an optical experiment system by combining with various cage system parts in the marketplace.

3-wavelength Optical Filter Measurement System for GE-PON A 3-wavelength optical filter for GE-PON splits 1490 nm and 1550 nm optical signals, and passes a 1310 nm optical signal in the return direction.

This measurement system measures the insertion losses of wavelengths passing between ports and the isolation of wavelengths blocked.

[Measurement items] • Insertion loss: (1) to (2) 1490 nm, (1) to (3) 1550 nm, (2) to (1) 1310 nm • Isolation: (1) to (2) 1550 nm, (1) to (3) 1490 nm, (2) to (3) 1310 nm

AQ2200-212 OPM Light source (1490 nm)

AQ2200-112 LS (1550 nm)

AQ2200-411 OSW (1 × 4)

AQ2200-421 OSW (1 × 2)

AQ2200-112 LS (1310 nm)

AQ2200-222 (1/2) OPM

AQ2200-222 (2/2) OPM 1310 nm 1490 nm 1310 nm 1550 nm DUT 1490 nm 1550 nm 3-wavelength WDM Filter AQ2212 Frame Controller (1) (3) (2) Free-space optics experiment system I-L curve of LD module The I-L curve, drive current – optical power characteristics, of laser diodes can be measured accurately, quickly and seamlessly. Because,

the single-range power range of an optical sensor and sensor head is as wide as 30 dB. It enables to measure signals close to a threshold value at high resolution without changing the gain of amplifier circuit which takes extra time.

Compatible with a cage system Multicore fiber loss measurement MPO connector adapter, MT connector adapter and ribbon fiber adapter enable the measurement of the multi-fiber output directly.

With the optical switch module, a multi-fiber loss measurement system can be easily configured.

0 5 10 15 20 25 30 Optical power [mW] I-L curve measurement sample of LD module Current [mA] 1.0 0.9 0.8 0.7 0.6 0.5 0.4 0.3 0.2 0.1 0.0 0 5 10 15 I th 0.10 0.09 0.08 0.07 0.06 0.05 0.04 0.03 0.02 0.01 0.00

AQ2200-112 LS (1310 nm)

AQ2200-112 LS (1550 nm)

AQ2200-411 OSW (1 × 4)

AQ2200-412 OSW (1 × 16)

AQ2200-232 OPM

AQ2200-112 LS (1625 nm) #1 #12 AQ2212 Frame Controller Fanout cable AQ9340 MPO Connector Adapter Ribbon Fiber MPO connector DUT 07

Frame Controller (AQ2211/2212) Item Specifications Product name AQ2211AQ2212 Number of slots 39 Display [\*1]

Color LCD, 320 × 240 dot Remote interface GPIB IEEE-488 compatible, protocol: IEEE-488.2 compatible

Ethernet IEEE802.3 compatible, connector: RJ-45 × 1, transmission method: Ethernet (100BASE-TX), protocol:

TCP/IP USB USB Rev1.1 compatible, connector: USB type B × 1, protocol: USB-TMC External storage interface USB (USB Rev2.0 compatible, connector: USB type A × 1, applicable device: USB mass storage class flash

memory) Interlock connector BNC connector Functions Preset applications Stability, Logging, Swept, Optical return loss (ORL) Control functions Macro programming, Multi-user, Remote viewer support Operation environment Ambient temperature 5 to 40°C Ambient humidity 20 to 80% RH (no condensation) Storage environment Ambient temperature -20 to 60°C Ambient humidity 20 to 80% RH (no condensation) Power requirement 100 to 240 Vac, 50/60 Hz Power Consumption (including modules) 170 VA 580 VA

Dimension (excluding protrusions) Approx. 212 (W) × 132.5 (H) × 400 (D) mm Approx. 425 (W) × 132.5 (H) × 500 (D) mm Mass Approx. 6 kg Approx. 11 kg Recommended calibration period 1 year (include modules) [\*1] The LCD may include a few defective pixels (within 0.004% over the total number of pixels including RGB).

Grid TLS Module (AQ2200-131/-132) Items Specifications Number of channels AQ2200-131: 1, AQ2200-132: 2 Device type Advanced type (-T6) Frequency band C-Band L-Band Frequency (Wavelength) range 196.25 to 191.50 THz (1527.60 to 1565.50 nm) 190.95 to 186.35 THz (1570.01 to 1608.76 nm) Grid spacing 100 GHz, 50 GHz, 25 GHz and Manual (min. 0.1 GHz) Frequency (Wavelength) setting resolution 0.1 GHz (0.8 pm@1550 nm) 0.1 GHz (0.8 pm@1590 nm) Frequency (Wavelength) fine turning range ±6 GHz (typ.) (±48 pm@1550 nm) ±6 GHz (typ.) (±51 pm@1590 nm) Absolute frequency (Wavelength) accuracy ±2.5 GHz (±20 pm@1550 nm) ±2.5 GHz (±21 pm@1590 nm) Frequency (Wavelength) stability (@24 hours, ±0.5°C) ±0.3 GHz (typ.) (±2.4 pm@1550 nm) ±0.3 GHz (typ.) (±2.5 pm@1590 nm) Frequency (Wavelength) tuning time 30 sec. or less Optical output level +12.5 dBm or more Output level stability ±0.03 dB (typ.) (@24h, ±0.5°C) Attenuation range 6 dB (resolution: 0.01 dB (typ.)) Spectral linewidth 100 kHz (typ.)

SMSR 45 dB (typ.) RIN -145 dB/Hz (typ.) Applicable optical fiber PANDA PMF (Slow axis, in line with connector key) Optical connector Select any of FC/PC or FC/Angled PC Laser safety standard class Class 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014) LS Module (AQ2200-112) Items Specifications Number of channels 1 or 2 channels Device type DFB-LD Center Wavelength 1310 nm ±5 nm, 1550 nm ±5 nm, 1625 nm ±5 nm, 1650 nm ±5 nm

Optical output level +10 dBm or more Output level stability (5 minutes) ±0.005 dB Spectral linewidth Narrow: 10 MHz (typ.)

Wide: 100 MHz (typ.) SMSR 35 dB or more RIN -135 dB/Hz (typ.)

Attenuation range 6 dB (resolution 0.01 dB (typ.)) Fiber type SMF (ITU-T G.652) Optical connector FC/Angled PC Laser safety standard class Class 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014) Laser Safety Information This laser light source is classified into "IEC 60825-1: 2007; Class 1M".

This specification complies with "21CFR 1040.10" except for deviation points arising from strict observation of "Laser Notice No. 50" issued on June 24, 2007.

Laser class 1M label Using an optical instrument, such as a loupe, magnifying glass, or microscope, when observing the laser beam from a distance of less than 100 mm may cause eye injury.

Product Specifications \*For details, please refer to the Data sheet (AQ2200-21EN Data sheet).

08

Sensor Module (AQ2200-212/-222/-215) Items Specifications Product name AQ2200-212 AQ2200-222 AQ2200-215 Number of channels 121 Detector type InGaAs Wavelength range 800 to 1700 nm 970 to 1660 nm Power range (CW light) -90 to +15 dBm -70 to +30 dBm Applicable fibers ≤62.5/125 μm (GI), NA ≤0.275 Uncertainty Under reference conditions ±2.5% ±3% Total uncertainty ±5% ±5 pW ±5% ±2.0 nW Polarization dependence 0.02 dBp-p (typ.) 0.03 dBp-p (typ.) Linearity ±0.02 dB ±5 pW ±0.05 dB ±2.0 nW Noise level 5 pW or less 2.0 nW or less Averaging time (min.) 100 μs Optical connector AQ9335C (\*) connector adapter Optical Sensor Head (AQ2200-232/-242) Items Specifications Product name AQ2200-232 [\*1]

AQ2200-242 [\*1] Number of channels 1 Detector type InGaAs 5 mm dia. Si 5.8 mm Wavelength range 800 to 1700 nm 400 to 1100 nm Power range (CW light) -90 to +15 dBm -90 to +10 dBm Applicable fibers ≤62.5/125 μm (GI), NA ≤0.275 Uncertainty Under reference conditions ±1.8% ±2.5% Total uncertainty ±5% ±5 pW Polarization dependence 0.025 dBp-p (typ.) - Linearity ±0.015 dB ±5 pW ±0.04 dB ±5 pW

Noise level 5 pW or less Averaging time (min.) 100 μs Optical connector AQ9335C (\*) connector adapter [\*1] Have to be operated with the AQ2200-202 Interface module. Two sensor heads can be connected to the AQ2200-202.

AT TN Module (AQ2200 -312/-332) Items Specifications Product name AQ2200-312 AQ2200-332 Number of channels 1 Wavelength range 1200 to 1700 nm 800 to 1370 nm 1200 to 1700 nm 800 to 1370 nm Insertion loss 1.0 dB (typ.) 1.6 dB or less 1.9 dB (typ.) 2.3 dB or less Maximum attenuation 60 dB 45 dB 60 dB 45 dB Attenuation accuracy ±0.1 dB or less Repeatability ±0.01 dB or less

Output monitor accuracy -±5% or less Optical return loss (with PC connector) 45 dB or more 20 dB or more 45 dB or more 20 dB or more Polarization dependence 0.08 dBp-p or less -0.1 dBp-p or less - Maximum input power +23 dBm - +23 dBm - Shutter isolation 90 dB or more Applicable optical fiber SMF (ITU-T G.652) MMF (GI 50/125) (ITU-T G651.1) or MMF (GI 62.5/125) (IEC 60793-2)

SMF (ITU-T G.652) MMF (GI 50/125) (ITU-T G651.1) or MMF (GI 62.5/125) (IEC 60793-2) Optical connector FC/PC or SC/PC Monitor port option Monitor port output -13 dB (typ.)

Insertion loss 2.3 dB or less Polarization dependence 0.1 dBp-p or less - MPO Connector Adapter (AQ9340) Items Specifications Model name AQ9340-12 AQ9340-16 Applicable sensor AQ2200-232 / -242 AQ2200-242 Applicable connector 12-fiber, 24-fiber (IEC-61754-7) 16-fiber, 32-fiber Fiber count 2, 4, 8, 12 and 24 fibers 16, 32 fibers Applicable fiber SM (9.5/125 μm), GI (50/125 μm) GI (50/125 μm) Ribbon Fiber Adapter (AQ9436C) / MT Connector Adapter (AQ9440C)

Items Specifications Model name AQ9436C AQ9440C Applicable sensor AQ2200-232 / -242 AQ2200-232 / -242 Fiber count 2, 4, 8 and 12 fibers 2, 4, 8, 12 and 24 fibers Applicable fiber SM (9.5/125 μm), GI (50/125 μm) SM

(9.5/125  $\mu$ m), GI (50/125  $\mu$ m) \*For details, please refer to the Data sheet (AQ2200-21EN Data sheet).

09

Transceiver I/F Module (AQ2200-642) lMonitoring Specifications Items RatingMeasurement Range Accuracy  
UpperLowerUpperLower Resolu- tion Power supply voltage monitor PS1+7.5 V-0.5 V+6 V+2 V 1 mV $\pm$ (0.2% of reading  
+ 1 mV ) PS2+7.5 V-0.5 V+4 V+2 V PS3+7.5 V-0.5 V+2.5 V+0.5 V PS4-7.5 V+0.5 V-2 V-6 V PS5+7.5 V-0.5 V+6 V+2 V  
Power supply current monitor PS1

-- 1.8 A0 A 1 mA $\pm$ (1% of reading + 2 mA)

PS23 A0 A PS31.8 A0 A

PS43 A0 A

PS52 A0 A Status signal monitorAIN1 to AIN6+7.5 V-0.5 V+6 V+0 V0.01 V $\pm$ (1% of reading + 20 mV ) Resistance  
value monitorR1--10000  $\Omega$  01  $\Omega$  $\pm$ (0.5% of reading +2  $\Omega$ ) Power consumption monitorPSPower--28 W0 W0.1 WSee the  
values for the voltage and current monitors.

lPower Supply Specifications NameVoltage RangeCurrent Limit Range PS1+4.750 to +5.250 V0.10 to 1.80 A

PS2+3.135 to +3.465 V0.10 to 3.00 A PS3+0.800 to +1.890 V0.10 to 1.80 A PS4-5.460 to -4.940 V0.10 to 3.00 A

PS55.0 or 3.3 V 0.10 to 1.00 A (when 5.0 V is selected) 0.10 to 2.00 A (when 3.3 V is selected)

OSW Module (AQ2200-411/-412) ItemsSpecifications Product nameAQ2200-411AQ2200-412 Port configuration1  $\times$  41  $\times$   
81  $\times$  41  $\times$  81  $\times$  16 Number of switch1 Wavelength1310 nm/1550 nm850 nm/1310 nm1310 nm/1550 nm850 nm/1310 nm

Insertion loss1 dB (typ.) 1.4 dB or less Repeatability $\pm$ 0.01 dB or less Crosstalk60 dB or more50 dB or more60  
dB or more50 dB or more

Optical return loss45 dB or more20 dB or more45 dB or more20 dB or more Polarization dependence0.08 dBp-p or

less-0.08 dBp-p or less- Applicable optical fiberSMF (ITU-T G.652) Select any of MMF (GI 50/125) (ITU-T  
G651.1) or MMF (GI 62.5/125) (IEC 60793-2) SMF (ITU-T G.652) MMF (GI 50/125) (ITU-T G651.1) Optical

connectorSelect any of FC/PC or SC/PC

OSW Module (AQ2200-421) ItemsSpecifications Product nameAQ2200-421 Port configuration1  $\times$  22  $\times$  21  $\times$  22  $\times$  2

Number of switch2 Wavelength1310 nm/1550 nm850 nm/1310 nm Insertion loss1 dB (typ.) 1.4 dB or less

Repeatability $\pm$ 0.01 dB or less Crosstalk50 dB or more Optical return loss45 dB or more20 dB or more

Polarization dependence0.08 dBp-p or less- Applicable optical fiberSMF (ITU-T G.652)

Select any of MMF (GI 50/125) (ITU-T G651.1) or MMF (GI 62.5/125) (IEC 60793-2) Optical connectorSelect any  
of FC/PC or SC/PC Product Specifications \*For details, please refer to the Data sheet (AQ2200-21EN Data  
sheet).

10

AQ2211/AQ2212 Frame Controller ModelSuffixDescriptions 735101AQ2211 Frame Controller 735102AQ2212 Frame  
Controller -DUL/CSA standard and PSE compliant, rated voltage: 125 V -FVDE/Korean standard, rated voltage:  
250 V -RAustralian standard, rated voltage: 250 V -QBritish standard, rated voltage: 250 V -HChinese  
standard, rated voltage: 250 V -NBrazilian standard, rated voltage: 250 V -TTaiwanese standard, rated  
voltage: 125 V

-BIndian standard, rated voltage: 250 V -UIEC Plug Type B, rated voltage: 250 V AQ2200-112 LS Module

ModelSuffixDescriptions AQ2200112AQ2200-112 LS Module -D300DFB-LD, 1310 nm -D500DFB-LD, 1550 nm -D600DFB-LD,

1625 nm -D700DFB-LD, 1650 nm -D3D3DFB-LD, Ch1: 1310 nm, Ch2: 1310 nm -D3D5DFB-LD, Ch1: 1310 nm, Ch2: 1550 nm

-D3D6DFB-LD, Ch1: 1310 nm, Ch2: 1625 nm -D3D7DFB-LD, Ch1: 1310 nm, Ch2: 1650 nm

-D5D5DFB-LD, Ch1: 1550 nm, Ch2: 1550 nm -D5D6DFB-LD, Ch1: 1550 nm, Ch2: 1625 nm -D5D7DFB-LD, Ch1: 1550 nm,

Ch2: 1650 nm -D6D6DFB-LD, Ch1: 1625 nm, Ch2: 1625 nm -D6D7DFB-LD, Ch1: 1625 nm, Ch2: 1650 nm -D7D7DFB-LD,

Ch1: 1650 nm, Ch2: 1650 nm AQ2200-131 Grid TLS Module ModelSuffixDescriptions AQ2200131AQ2200-131 Grid TLS

Module -CC-band -LL-band -T6Advanced type

- PAOptical fiber: PMF -FCCOptical connector: FC/PC -FCAOptical connector: FC/Angled PC AQ2200-132 Grid TLS

Module ModelSuffixDescriptions AQ2200132AQ2200-132 Grid TLS Module -CCCh1: C-band, Ch2: C-band -LLCh1: L-

band, Ch2: L-band -CLCh1: C-band, Ch2: L-band -T6Advanced type - PAOptical fiber: PMF -FCCOptical connector:

FC/PC -FCAOptical connector: FC/Angled PC AQ2200-212/-222 Sensor Module ModelSuffixDescriptions

AQ2200212AQ2200-212 Sensor Module AQ2200222AQ2200-222 Dual Sensor Module

/FCCAQ9335C (FC) Connector Adapter /SCCAQ9335C (SC) Connector Adapter /LCCAQ9335C (LC) Connector Adapter

/MUCAQ9335C (MU) Connector Adapter AQ2200-215 Sensor Module ModelSuffixDescriptions 735125AQ2200-215 Sensor

Module -NONWithout optical connector adapter -FCCAQ9335C (FC) Connector Adapter -SCCAQ9335C (SC) Connector

Adapter -LCCAQ9335C (LC) Connector Adapter -MUCAQ9335C (MU) Connector Adapter AQ2200-232/-242 Optical Sensor

Head ModelSuffixDescriptions AQ2200232AQ2200-232 Optical Sensor Head AQ2200242AQ2200-242 Optical Sensor Head

-L1Connection cable, length 1 m -L4Connection cable, Length 4 m /FCCAQ9335C (FC) Connector Adapter

/SCCAQ9335C (SC) Connector Adapter /LCCAQ9335C (LC) Connector Adapter /MUCAQ9335C (MU) Connector Adapter

AQ2200-202 Interface Module ModelSuffixDescriptions

AQ2200202 AQ2200-202 Interface Module (for Optical Sensor Head, 2-channel) AQ2200-312 ATTN Module

ModelSuffixDescriptions AQ2200312AQ2200-312 AT TN Module -SAOptical fiber: SMF -G5Optical fiber: MMF (GI

50/125) -G6Optical fiber: MMF (GI 62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC

/MONMonitor port AQ2200-332 ATTN Module ModelSuffixDescriptions AQ2200332AQ2200-332 AT TN Module -SAOptical

fiber: SMF -G5Optical fiber: MMF (GI 50/125)

-G6Optical fiber: MMF (GI 62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC AQ2200-411

OSW Module ModelSuffixDescriptions 735141AQ2200-411 OSW Module -04Port configuration: 1  $\times$  4 -08Port

configuration: 1  $\times$  8 -SAOptical fiber: SMF -G5Optical fiber: MMF (GI 50/125) -G6Optical fiber: MMF (GI

62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC  
AQ2200-412 OSW Module ModelSuffixDescriptions 735143AQ2200-412 OSW Module -16Port configuration: 1 × 16 -  
SAOptical fiber: SMF -G5Optical fiber: MMF (GI 50/125) -FCCOptical connector: FC / PC -SCCOptical connector:  
SC / PC AQ2200-421 OSW Module ModelSuffixDescriptions 735142AQ2200-421 OSW Module -21Port configuration: Dual  
1 × 2 -22Port configuration: Dual 2 × 2 -SAOptical fiber: SMF -G5Optical fiber: MMF (GI 50/125)  
-G6Optical fiber: MMF (GI 62.5/125) -FCCOptical connector: FC / PC -SCCOptical connector: SC / PC AQ2200-642  
Transceiver I/F Module ModelSuffixDescriptions 735162AQ2200-642 Transceiver I/F Module Accessories  
ModelProduct NameDescriptions AQ2200901AQ2200-901 Blank Panel1 slot size 735182-03Rackmount kit for  
AQ2211Left-side mounting 735182-09Rackmount kit for AQ2212 AQ9335C-FCCAQ9335C (FC) Connector Adapter FC  
connector, for optical sensors (A light shielding cap is not included)  
\*1 AQ9335C-SCCAQ9335C (SC) Connector Adapter SC connector, for optical sensors (A light shielding cap is not  
included) \*1 AQ9335C-LCCAQ9335C (LC) Connector Adapter LC connector, for optical sensors (Withadust  
protection cap) AQ9335C-MUCAQ9335C (MU) Connector Adapter MU connector, for optical sensors (Withadust  
protection cap) AQ9340-12AQ9340 MPO Connector Adapter12-fiber or 24-fiber (IEC-61754-7) AQ9340-16AQ9340 MPO  
Connector Adapter16-fiber or 32-fiber  
AQ9436CAQ9436C Ribbon Fiber Adapter2, 4, 8 and 12 fibers AQ9440CAQ9440C MT Connector Adapter2, 4, 8, 12 and  
24 fibers M3407HALight shielding cap (FC)For FC connector M3407HBLight shielding cap (SC)For SC connector  
M3407HDDust protection cap (LC)For LC connector M3407HEDust protection cap (MU)For MU connector \*1 When  
executes the ZERO-SET of optical sensors, usealight shielding cap (option).  
Ordering Information 11

The contents in this catalog is as of July 2020. Subject to change without notice.

## Specifications

| PARAMETER                                 | VALUE                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------|
| YOKOGAWA ENGINEERING ASIA PTE. LTD. Phone | +65-6241-9933 E-mail: TMI@sg.yokogawa.com Facsimile: +65-6241-9919        |
| YOKOGAWA INDIA LTD. Phone                 | +91-80-4158-6396 E-mail: tmi@in.yokogawa.com Facsimile: +91-80-2852-1442  |
| YOKOGAWA ELECTRIC CIS LTD. Phone          | +7-495-737-78-68 E-mail: info@ru.yokogawa.com Facsimile: +7-495-737-78-69 |
| YOKOGAWA AMERICA DO SUL LTDA. Phone       | +55-11-3513-1300 E-mail: tm@br.yokogawa.com                               |

## Laser Safety

---

Laser safety standard class Class 1M (IEC 60825-1:2007, GB 7247.1-2012), Class 1 (EN 60825-1:2014) LS Module (AQ2200-112) Items Specifications Number of channel 1 or 2 channels Device type DFB-LD Center Wavelength 1310 nm  $\pm$ 5 nm, 1550 nm  $\pm$ 5 nm, 1625 nm  $\pm$ 5 nm, 1650 nm  $\pm$ 5 nm Optical output level +10 dBm or more Output level stability (5 minutes)  $\pm$ 0.005 dB Spectral linewidth Narrow: 10 MHz (typ.) Wide: 100 MHz (typ.) SM

### Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: N/A — off-catalog OEM datasheet. See OEM documentation · Not listed on Aumictech inventory.

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

#### Aumictech

788 S 500 E, Pleasant Grove, UT 84062  
[sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341  
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·  
30-day returns  
NAICS 423690 · 811210 · 541380  
Generated July 29, 2026

Technical content source: external OEM (oem-pdf) · [https://www.testunlimited.com/pdf/YKG\\_AQ2212\\_Datasheet.pdf](https://www.testunlimited.com/pdf/YKG_AQ2212_Datasheet.pdf) · Unit photo/stock from Aumictech listing when available (off-catalog = OEM only). · Specifications subject to OEM documentation and unit condition.