# General Specifications

AQ7277B-B01
Remote OTDR

**GS AQ7277B-B01EN**

## ■ Overview

The AQ7277B is a high performance OTDR module for RFTS (Remote Fiber Test System).

## ■ Main Feature

- Measurement at 1650 nm (Maintenance wavelength)
- Built-in 1310/1490/1550 nm cut filter for live-fiber monitoring
- Allow to test PON system through high-port-count splitter
- Alarm signaling function is provided

## ■ Interface specifications

Remote control interface

USB port: USB2.0 TYPE B (mini) x 1
LAN port: Ethernet x 1
Flow control: IEEE802.3 compliant
Transmission mode: 10BASE-T/100BASE-TX
Communication protocol: TCP/IP
Connector type: RJ45

Other interface

DC power input ports:
12 V DC supply LGP6531-1550FC (equivalent)
Connector for LED: LED drive signal
(power, optical output, alarm)

## ■ OTDR Specifications

Wavelength: 1650 ±5 nm*1 1650 ±10 nm*2

Pulse optical output: +15 dBm or less

Event dead zone*3: 0.6 m (typ.) 0.7 m

Attenuation dead zone*4: 4 m (typ.)

Dynamic range*5: 40 dB (typ.) 37 dB

Distance range: 200 m, 500 m, 1 km, 2 km, 5 km, 10 km, 20 km, 30 km, 50 km, 100 km, 200 km, 300 km, 400 km, 512 km

Pulse width*6: 3 ns, 10 ns, 20 ns, 30 ns, 50 ns, 100 ns, 200 ns, 300 ns, 500 ns, 1 µs, 2 µs, 4 µs, 5 µs, 10 µs, 20 µs

Distance measurement accuracy:

± (0.75 m + measurement distance x 2 x $10^{-5}$ + sampling resolution)

Loss measurement accuracy: ±0.03 dB

Sampling resolution: Min. 2 cm

Readout resolution: horizontal 1 cm (Min.), vertical 0.001 dB (Min.)

Number of sampling data: Max. 256,000 points

Group refractive index: 1.30000 to 1.79999 (0.00001 steps)

Unit of distance: km

Measurement functions: Distance, Loss, Return loss

Applicable fiber: SM (ITU-T G.652)

Optical connector: SC (fixed)


AQ7277B-B01

Laser safety standards:

Class 1M (IEC/EN60825-1:2007, GB7247.1-2012)*7
FDA 21CFR1040.10*8
Wavelength: 1650 nm
Optical output: 32 mW or less
Pulse width: 20 µs or less (duty: 3.0% or less)

## ■ General Specifications

Operating environment

Temperature: -10 to +50°C
Humidity: 0 to 90%RH or less (no condensation)
Altitude: 4000 m or less

Storage environment

Temperature: -20 to +60°C
Humidity: 0 to 90%RH or less (no condensation)
Altitude: 4000 m or less

DC Power supply

Power requirements: 12 V DC 2.5 A or less
Rated power supply voltage: 12 V ±10% DC

Warm-up time: 30 minutes or more

Dimensions & Weight

Dimensions: 230 (W) x 140 (D) x 50 (H) mm
(excluding projections)

Weight: Approximately 1 kg

Accessories: User's Manual 1 set

*1 At a point -20 dB from the pulse output peak.
*2 At a point -60 dB from the pulse output peak.
*3 pulse width: 3 ns, return loss: 55 dB or more, at a point 1.5 dB below the peak value (not saturated). IOR = 1.50
*4 pulse width: 10 ns, return loss: 55 dB or more, at a point where the backscatter level is within ±0.5 dB of the normal value. IOR = 1.50
*5 SNR=1, pulse width: 20 µs, distance range: 200 km, sampling resolution: 8 m, measurement time: 3 minutes.
*6 pulse width setting range depends on the distance range.
*7 CLASS 1M
*8 21CFR1040.1

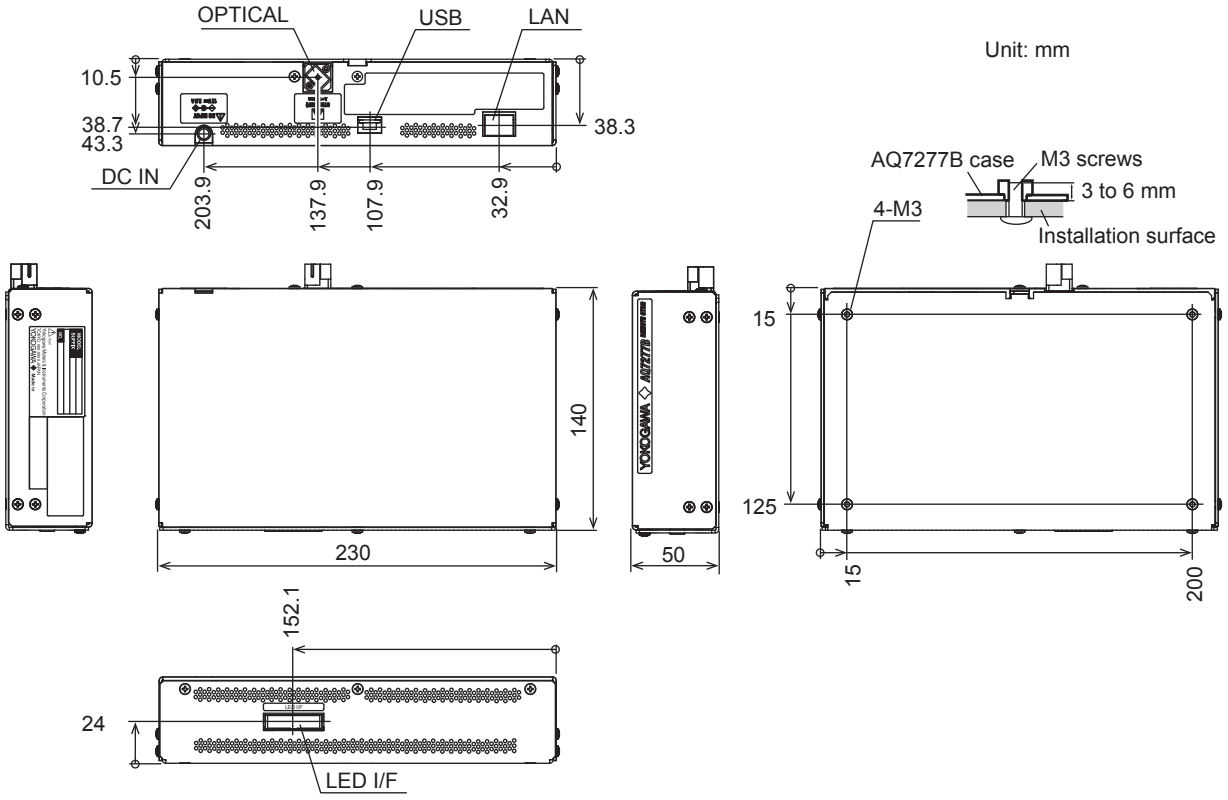

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No.50, dated June 24, 2007
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, Japan

Note: The specifications apply to the temperature range 23°C ±2°C

## ■ Model Numbers

| Model | Suffix | Descriptions |
|---|---|---|
| AQ7277B | | Remote OTDR |
| | -B01 | Wavelength 1650 nm |

## ■ External Diagrams




## ■ Recommended Replacement Parts

The one-year warranty applies only to the main unit of the instrument (starting from the day of delivery).

The items below are expendable items. We recommend the parts be replaced according to the period indicated below.

Contact your nearest YOKOGAWA dealer to have parts replaced.

| Parts Name | Recommended Replacement Period* | Notes |
|---|---|---|
| Ferrule of the optical connector | 500 times | Factory-replicable |
| Optical connector adapter | 500 times | Factory-replicable |
| DC power connector | 5000 times | Factory-replicable |
| USB connector | 1500 times | Factory-replicable |
| RJ-45 connector | 200 times | Factory-replicable |

* The recommended replacement periods above are estimates only: actual periods can vary greatly depending on operating conditions and frequency of use.

## ■ Calibration

Periodic calibration is a good way to maintain the performance of the instrument over an extended period and to find problems in an early stage. We recommend that the AQ7277B be calibrated once a year.