

# General Specifications

## AQ7277B-B02 Remote OTDR

### GS AQ7277B-B02EN

#### ■ Overview

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

#### ■ Main Feature

- Measurement at 1550 nm
- Allow to test a long distance fiber by high dynamic range
- 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: 1550 nm  $\pm$ 25 nm
- Event dead zone\*1: 0.6 m (typ.) 0.7 m
- Attenuation dead zone\*2: 4 m (typ.)
- Dynamic range\*3: 50 dB (typ.) 44 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\*4: 3 ns, 10 ns, 20 ns, 30 ns, 50 ns, 100 ns, 200 ns, 300 ns, 500 ns, 1  $\mu$ s, 2  $\mu$ s, 4  $\mu$ s, 5  $\mu$ s, 10  $\mu$ s, 20  $\mu$ s
- Distance measurement accuracy:
  - $\pm$  (0.75 m + measurement distance x 2 x 10<sup>-5</sup> + sampling resolution)
- Loss measurement accuracy:  $\pm$ 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-B02

Laser safety standards:

- Class 1M (IEC/EN60825-1:2007, GB7247.1-2012)\*5
- FDA 21CFR1040.10\*6
- Wavelength: 1550 nm
- Optical output: 500 mW or less
- Pulse width: 20  $\mu$ s 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  $\pm$ 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 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

\*2 pulse width: 10 ns, return loss: 55 dB or more, at a point where the backscatter level is within  $\pm$ 0.5 dB of the normal value. IOR = 1.50

\*3 SNR=1, pulse width: 20  $\mu$ s, distance range: 200 km, sampling resolution: 8 m, measurement time: 3 minutes.

\*4 pulse width setting range depends on the distance range.

\*5 CLASS 1M

\*6 21CFR1040.1



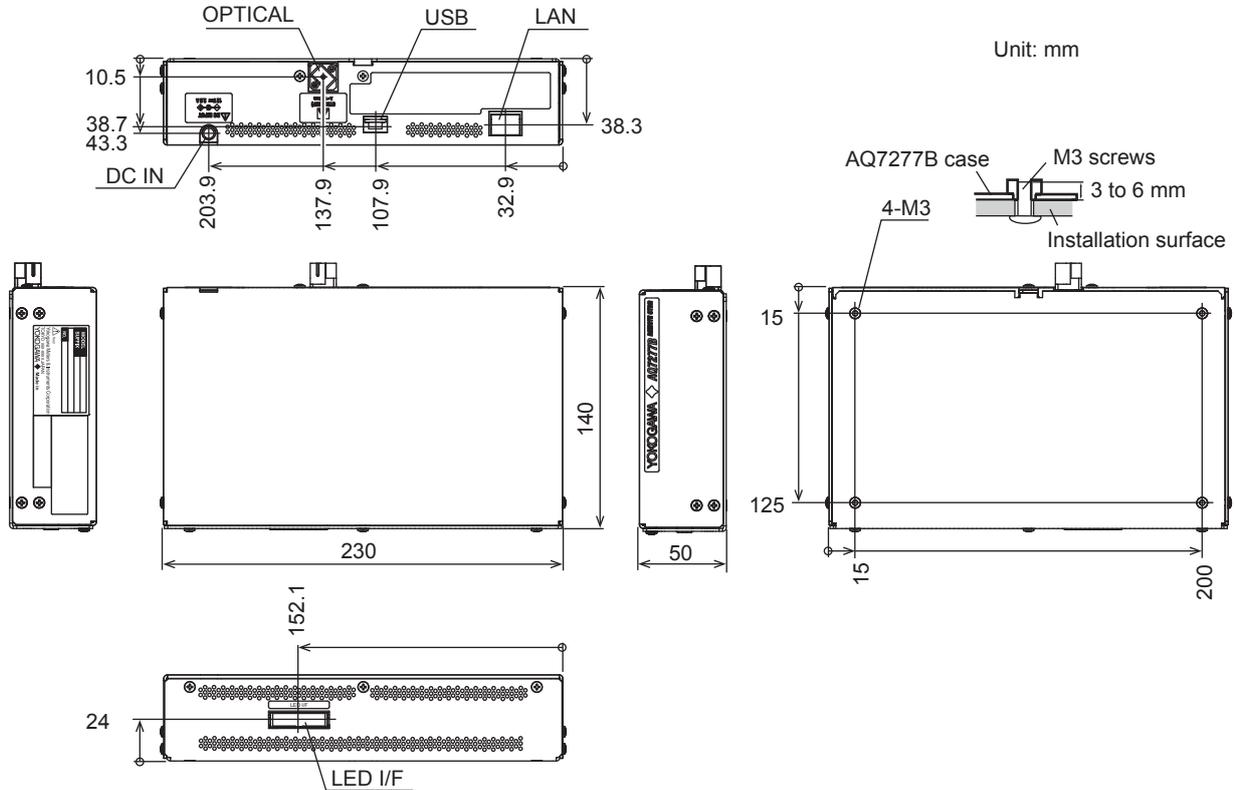
Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No.50, dated June 24, 2007  
2-9-32 Nakacho, Musashino-shi, Tokyo 180-8750, Japan

Note: The specifications apply to the temperature range 23°C  $\pm$ 2°C

### Model Numbers

Model	Suffix	Descriptions
AQ7277B		Remote OTDR
	-B02	Wavelength 1550 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.