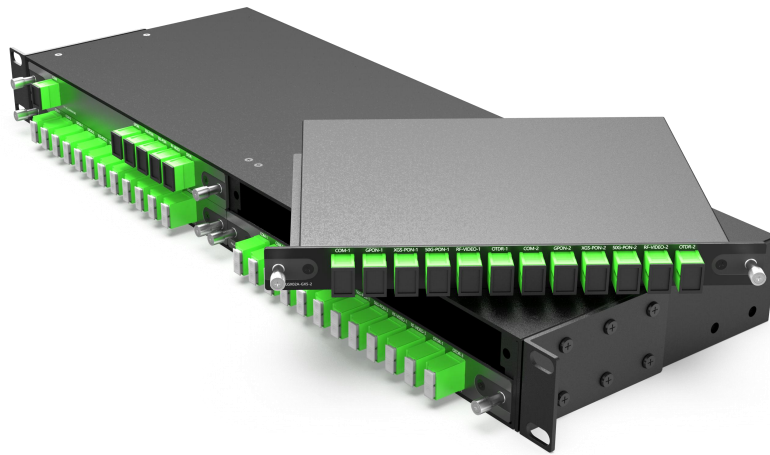


**5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR Plug-in LGX Box 215\*150\*20MM  
FW-4G-LGX02A-GX5**

In the era of digital transformation, the demand for high-speed, reliable, and flexible communication networks has never been higher. Passive Optical Networks (PON) have become a cornerstone of modern communication infrastructure, supporting a wide range of applications from home broadband to enterprise networks and beyond. To meet the growing bandwidth needs and ensure future-proof network deployments, the integration of 5CH WDM (Five-Channel Wavelength Division Multiplexing) with GPON, XGS-PON, 50G-PON, RF Video, and OTDR technologies offers a comprehensive solution that maximizes fiber utilization and enhances service delivery capabilities.

**GPON (Gigabit-Capable Passive Optical Network)**

**Features:** GPON supports downstream rates of up to 2.5Gbps and upstream rates of up to 1.25Gbps, with split ratios ranging from 1:16 to 1:128. It uses WDM technology to simultaneously transmit video, data, and voice over the same fiber.

**Application Scenarios:** Ideal for home broadband access, GPON is widely deployed in residential areas to provide reliable internet services. It is also used in enterprise networks and smart city applications, offering a cost-effective solution for high-speed data transmission.

**XGS-PON (10G Symmetric PON)**

**Features:** XGS-PON supports symmetrical 10Gbps uplink and downlink rates, with split ratios ranging from 1:16 to 1:256. It uses Time and Wavelength Division Multiplexing (TWDM) technology to coexist with GPON on the same fiber.

**Application Scenarios:** XGS-PON is designed for applications requiring high-bandwidth symmetrical transmission, such as enterprise networks, data center interconnection, and 5G fronthaul. It is particularly useful in scenarios where both high-speed data and low-latency services are critical.

**50G-PON (50-Gigabit-capable Passive Optical Network)**

**Features:** 50G-PON uses a single wavelength to deliver 50 Gb/s symmetric bandwidth on the same fiber plant. It supports split ratios from 1:16 to 1:256, a link budget of 29 dB, and co-exists

with GPON & XGS-PON through TWDM. A ready-to-deploy ONU ecosystem and ITU-T G.hsp.50gpd standards guarantee multi-vendor interoperability.

Application Scenarios: 50G-PON is purpose-built for multi-gigabit homes, 8K/VR cloud gaming, industrial machine-vision upload, 5G small-cell fronthaul, and high-rise enterprise campuses that demand <1 ms latency and 99.99 % availability. It future-proofs the outside plant for a decade, offering a seamless upgrade path to 100G-PON without touching the ODN.

### RF Video

Features: RF Video technology allows the transmission of analog video signals over fiber, enabling the delivery of high-quality video content. It is often used in conjunction with PON technologies to provide integrated video services.

Application Scenarios: RF Video is commonly used in cable TV networks, video-on-demand services, and other applications where high-quality video delivery is essential. It can be seamlessly integrated with PON networks to offer a comprehensive solution for both data and video services.

### OTDR (Optical Time Domain Reflectometer)

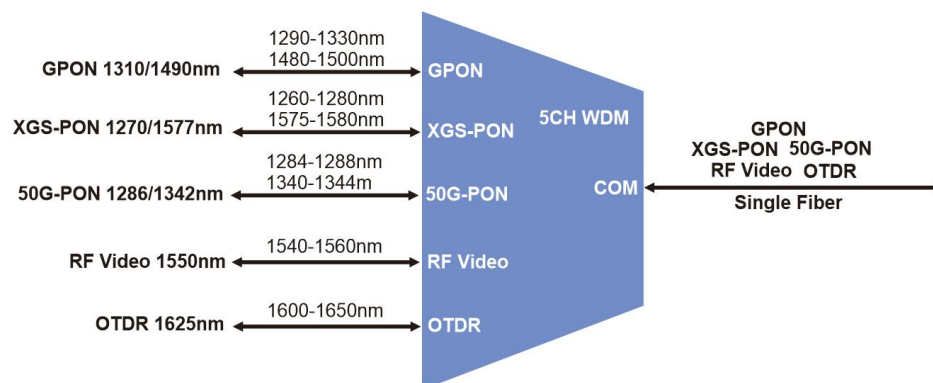
Features: OTDR is a tool used for fiber optic network fault diagnosis and maintenance, capable of detecting breaks, losses, and reflection points in the fiber.

Application Scenarios: It is widely used in the installation, maintenance, and troubleshooting of fiber optic networks, ensuring the reliability and performance of the network.

### Advantages

- ◆ **Bandwidth Increase:** By adding wavelength channels, the transmission bandwidth of the fiber is significantly increased.
- ◆ **Cost-Effective:** It increases network capacity without adding extra fibers, reducing deployment costs.
- ◆ **Flexibility:** It supports the coexistence of multiple PON technologies, such as GPON, XGS-PON, 50G PON, RF Video, OTDR

### Application



## Product Panel



**5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR, SC/APC Plug-in LGX Box**  
**215\*150\*20MM**



**2X5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR, SC/APC Plug-in LGX Box**  
**215\*150\*20MM**



**4X5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR, LC/APC Plug-in LGX Box**  
**215\*150\*20MM**

## Specifications

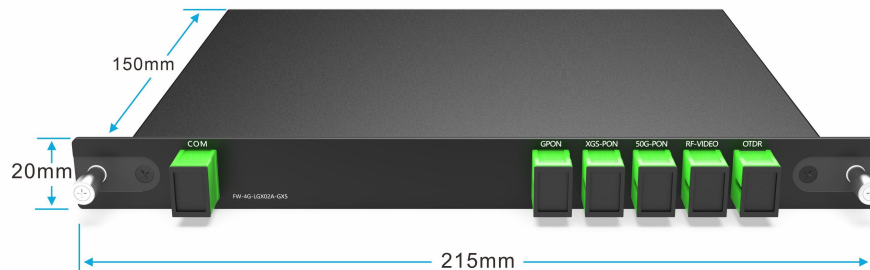
| Parameter                         |                | Specification       | Unit |
|-----------------------------------|----------------|---------------------|------|
| Bandpass                          | GPON           | 1290-1330/1480-1550 | nm   |
|                                   | XGS-PON        | 1260-1280/1575-1580 | nm   |
|                                   | 50G-PON        | 1284-1288/1340-1344 | nm   |
|                                   | RF-Video       | 1540-1560           | nm   |
|                                   | OTDR           | 1600-1650           | nm   |
| Insertion Loss                    | COM - GPON     | <0.9                | dB   |
|                                   | COM - XGS-PON  | <1.1                | dB   |
|                                   | COM - 50G-PON  | <1.3                | dB   |
|                                   | COM - RF Video | <1.5                | dB   |
|                                   | COM - OTDR     | <1.7                | dB   |
| Wavelength Isolations             | COM - GPON     | >30                 | dB   |
|                                   | COM - XGS-PON  | >30                 | dB   |
|                                   | COM - 50G-PON  | >30                 | dB   |
|                                   | COM - RF Video | >30                 | dB   |
|                                   | COM - OTDR     | >30                 | dB   |
| Unifomit                          |                | <0.8                | dB   |
| Return Loss                       |                | >55                 | dB   |
| Directivity                       |                | >55                 | dB   |
| PDL (Polarizarion Dependant Loss) |                | <0.3                | dB   |
| (Polarization Mode Dispersion)    |                | <0.2                | PS   |
| Optical Power Handling            |                | <300                | mW   |

|                                                                                          |                                                 |      |
|------------------------------------------------------------------------------------------|-------------------------------------------------|------|
| Operating Temperature                                                                    | -40 to +85                                      | °C   |
| Operating Relative Humidity                                                              | 5 to 90                                         | % RH |
| Storage Temperature                                                                      | -40 to +85                                      | °C   |
| Operating Relative Humidity                                                              | 5 to 90                                         | % RH |
| Net Weight                                                                               | LGX Box: 0.5KG<br>2slot 1U Rack: 2.5KG          | KG   |
| Dimensions                                                                               | LGX Box: 215*150*20mm<br>1U Rack : 440*160*44mm | mm   |
| Insertion Loss includes WDL, TDL and PDL WITH two sets of mated connectors at both ends. |                                                 |      |

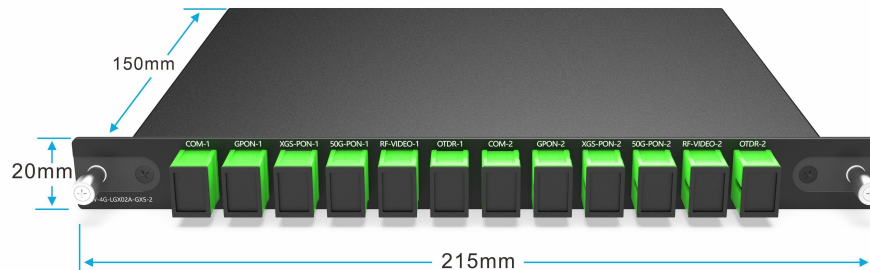
## Package Information

### LGX BOX Plug in 4-Slot 1U Rack

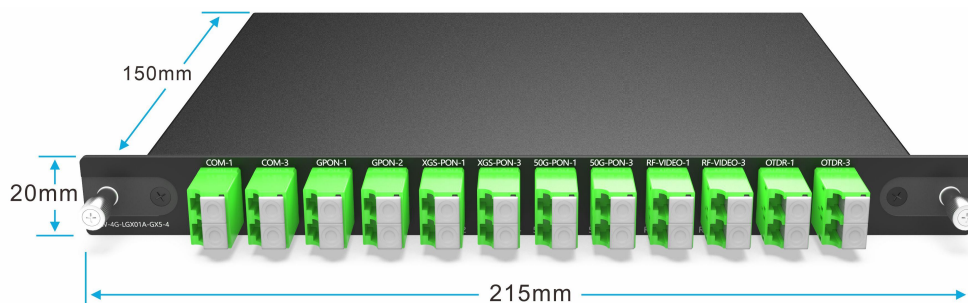
#### 5CH WDM



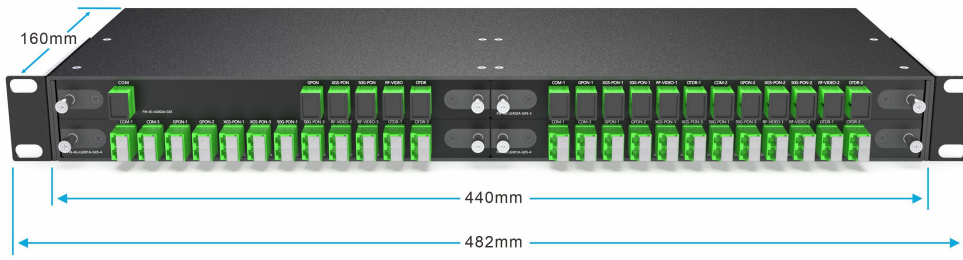
#### 2x5CH WDM



#### 4x5CH WDM



#### 4-Slot 1U Rack for LGX BOX



#### Order Information

| Product No.       | Product description                                                                  |
|-------------------|--------------------------------------------------------------------------------------|
| FW4G-LGX02A-GX5   | 5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR,SC/APC Plug-in LGX Box 215*150*20MM   |
| FW4G-LGX02A-GX5-2 | 2x5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR,SC/APC Plug-in LGX Box 215*150*20MM |
| FW4G-LGX01A-GX5-4 | 4x5CH WDM GPON XGS-PON 50G-PON RF Video And OTDR,LC/APC Plug-in LGX Box 215*150*20MM |
| 1U02-4LGX         | 19" inch 1U rack with 4 slot for Plug-in LGX box, 440*160*44mm                       |

**Note: We Support Customized Design, please contact us by email.**