

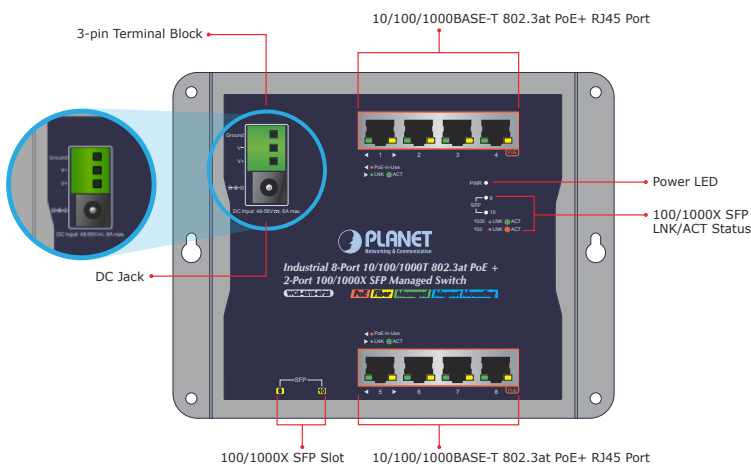
## Industrial 8-Port 10/100/1000T 802.3at PoE+ 2-Port 100/1000X SFP Wall-mounted Managed Switch



### Easily-deployed and Expanded Network

Designed to be installed in a wall enclosure or simply mounted on a wall in any convenient location, PLANET WGS-4215-8P2S, an innovative **Industrial 8-port 10/100/1000T 802.3at PoE + 2-port 100/1000X SFP Wall-mounted Managed Switch**, offers IPv6/IPv4 dual stack management, **intelligent Layer 2 management functions**, and **user-friendly interface**. The WGS-4215-8P2S is able to operate reliably, stably and quietly in any environment without affecting its performance. With a total power budget of up to **200 watts** for different kinds of PoE applications and featuring ultra networking speed and operating temperature ranging from **-40 to 75 degrees C** in a compact but rugged IP30 metal housing, the WGS-4215-8P2S is an ideal solution to meeting the demand for the following network applications:

- Building/Home automation network
- Internet of things (IoT)
- IP surveillance
- Wireless LAN



### Cybersecurity Network Solution to Minimize Security Risks

The WGS-4215-8P2S supports SSHv2 and TLS protocols to provide strong protection against advanced threats. It includes a range of cybersecurity features such as **DHCP**

### Physical Port

- **8 10/100/1000BASE-T** Gigabit RJ45 copper ports with **IEEE 802.3at PoE+** injector function
- **2 100/1000BASE-X mini-GBIC/SFP** ports

### Power over Ethernet

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 8 ports of IEEE 802.3af/802.3at devices powered
- 200-watt PoE budget
- Supports PoE power up to 36 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters in standard mode and 250m in extend mode
- PoE management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PD alive check
  - PoE schedule

### Industrial Case and Installation

- Compact size with fixed wall-mounted, magnetic wall-mounted or DIN-rail design
- IP30 metal case
- Supports -40 to 75 degrees C operating temperature
- Supports ESD 8KV DC Ethernet protection
- Dual power input design
  - 48V~56V DC wide power input with reverse polarity protection
  - 3-pin terminal block or DC jack connector

### Switching

- Hardware-based 10/100Mbps, half/full duplex and 1000Mbps full duplex mode, flow control and auto-negotiation and auto MDI/MDI-X
- Features Store-and-Forward mode with wire-speed filtering and forwarding rates
- IEEE 802.3x flow control for full duplex operation and back pressure for half duplex operation
- 8K MAC address table size

**Snooping, IP Source Guard, dynamic ARP Inspection Protection, 802.1x port-based network access control, RADIUS and TACACS+ user accounts management, SNMPv3 authentication, and so on to complement it as an all-security solution.**



**Redundant Ring, Fast Recovery for Critical Network Applications**

The WGS-4215-8P2S supports redundant ring technology and features strong, rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-T **G.8032 ERPS (Ethernet Ring Protection Switching)** technology, Spanning Tree Protocol (802.1s MSTP) into customer’s network to enhance system reliability and uptime in various environments.

**Built-in Unique PoE Functions for Powered Devices Management**

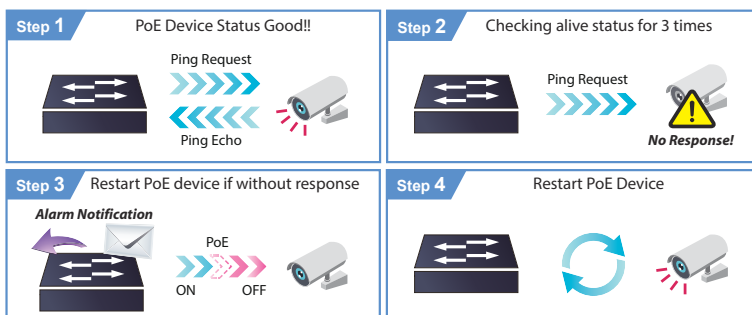
As it is the managed PoE switch for surveillance, wireless and VoIP networks, the WGS-4215-8P2S features the following special PoE management functions:

- PD alive check
- Scheduled power recycling
- PoE schedule
- PoE usage monitoring
- PoE extension

**Intelligent Powered Device Alive Check**

The WGS-4215-8P2S can be configured to monitor connected PD (Powered Device) status in real time via ping action. Once the PD stops working and responding, the WGS-4215-8P2S will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD’s power source and reducing administrator management burden.

**PD Alive Check**



- 10K jumbo frame
- Automatic address learning and address aging
- Supports CSMA/CD protocol

**Layer 2 Features**

- Supports **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Provider bridging (VLAN Q-in-Q, IEEE 802.1ad) support
  - Protocol VLAN
  - Voice VLAN
  - Private VLAN (Protected port)
  - Management VLAN
  - GVRP
- Supports **Spanning Tree Protocol**
  - STP (Spanning Tree Protocol)
  - RSTP (Rapid Spanning Tree Protocol)
  - MSTP (Multiple Spanning Tree Protocol)
  - STP BPDU Guard, BPDU Filtering and BPDU Forwarding
- Supports **Link Aggregation**
  - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (static trunk)
- Provides port mirror (many-to-1)
- Loop protection to avoid broadcast loops
- Supports ERPS (Ethernet Ring Protection Switching)

**Quality of Service**

- Ingress/Egress Rate Limit per port bandwidth control
- Traffic classification
  - IEEE 802.1p CoS
  - TOS/DSCP/IP precedence of IPv4/IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

**Multicast**

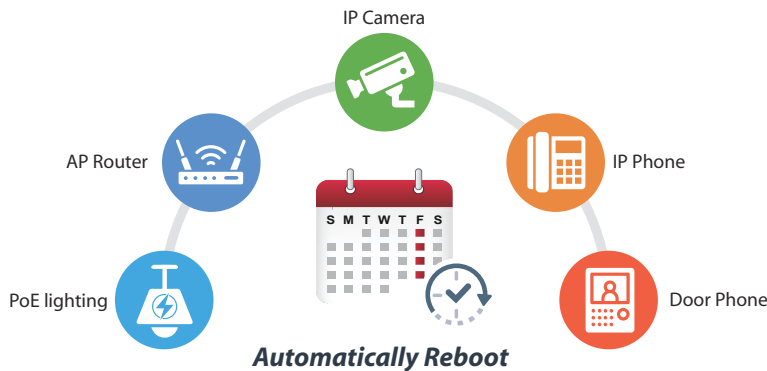
- Supports IPv4 IGMP snooping v2, v3
- Supports IPv6 MLD snooping v1, v2
- IGMP querier mode support
- IGMP snooping port filtering
- MLD snooping port filtering

**Security**

- Storm Control support
  - Broadcast/Unknown unicast/Unknown multicast
- Authentication
  - IEEE 802.1X port-based network access authentication
  - Built-in RADIUS client to cooperate with the RADIUS servers
  - DHCP Option 82
  - RADIUS/TACACS+ authentication
- Access Control List
  - IPv4/IPv6 IP-based ACL

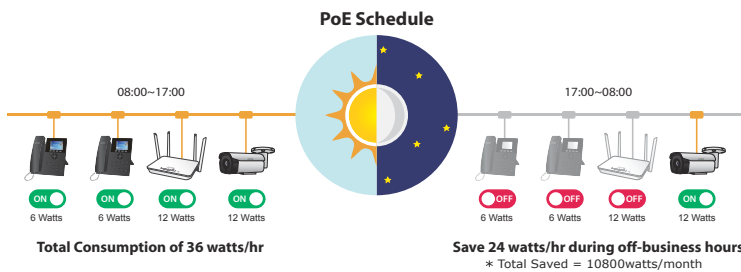
### Scheduled Power Recycling

The WGS-4215-8P2S allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specified time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.



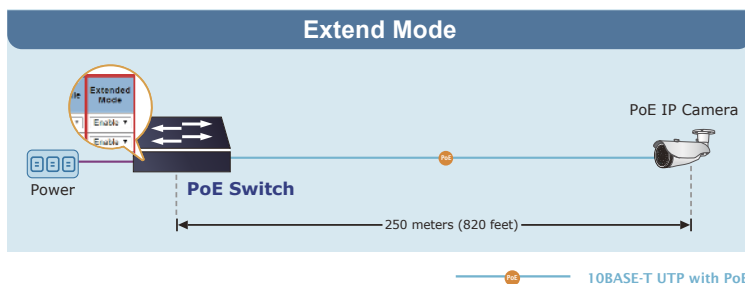
### PoE Schedule for Energy Savings

Under the trend of energy saving worldwide and contributing to environmental protection, the WGS-4215-8P2S can effectively control the power supply besides its capability of giving high watts power. The “PoE schedule” function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and budget. It also increases security by powering off PDs that should not be in use during non-business hours.



### 802.3at PoE+ Power and Ethernet Data Transmission Distance Extension

In the “Extend” operation mode, the WGS-4215-8P2S operates on a per-port basis at 10Mbps duplex operation but can support 20-watt PoE power output over a distance of up to 250 meters overcoming the 100m limit on Ethernet UTP cable. With this brand-new feature, the WGS-4215-8P2S provides an additional solution for 802.3at/af PoE distance extension, thus saving the cost of Ethernet cable installation.



- IPv4/IPv6 IP-based ACE
- MAC-based ACL
- MAC-based ACE
- MAC Security
  - Static MAC
  - MAC filtering
- Port security for source MAC address entries filtering
- DHCP snooping to filter distrusted DHCP messages
- Dynamic ARP inspection discards ARP packets with invalid MAC address to IP address binding
- IP source guard prevents IP spoofing attacks
- DoS attack prevention

### Management

- IPv4 and IPv6 dual stack management
- Switch Management Interface
  - Web switch management
  - Telnet Command Line Interface
  - SNMP v1 and v2c switch management
  - SSHv2, TLSv1.2 and SNMP v3 secure access
- SNMP Management
  - SNMP trap for interface Link Up and Link Down notification
  - Four RMON groups (history, statistics, alarms and events)
- User privilege levels control
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment
- System Maintenance
  - Firmware upload/download via HTTP/TFTP
  - Configuration upload/download through HTTP/TFTP
  - Dual images
  - Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Network Diagnostic
  - Cable diagnostics
  - ICMPv6/ICMPv4 Remote Ping
  - SFP-DDM (Digital Diagnostic Monitor)
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- Event message logging to remote syslog server
- PLANET Smart Discovery Utility for deployment management
- PLANET NMS system and CloudViewer for deployment management

*Innovative Wall-mount Installation*

The WGS-4215-8P2S is specially designed to be installed in a narrow environment, such as wall enclosure. The compact, flat and wall-mounted design fits easily in any space-limited location. It adopts the user-friendly “**Front Access**” design, making the installing, cable wiring, LED monitoring and maintenance of the WGS-4215-8P2S placed in an enclosure very convenient for technicians. The WGS-4215-8P2S can be installed by **fixed wall mounting**, **magnetic wall mounting** or **DIN rail**, thereby making its usability more flexible.



## All-New Industrial Flat-type Ethernet

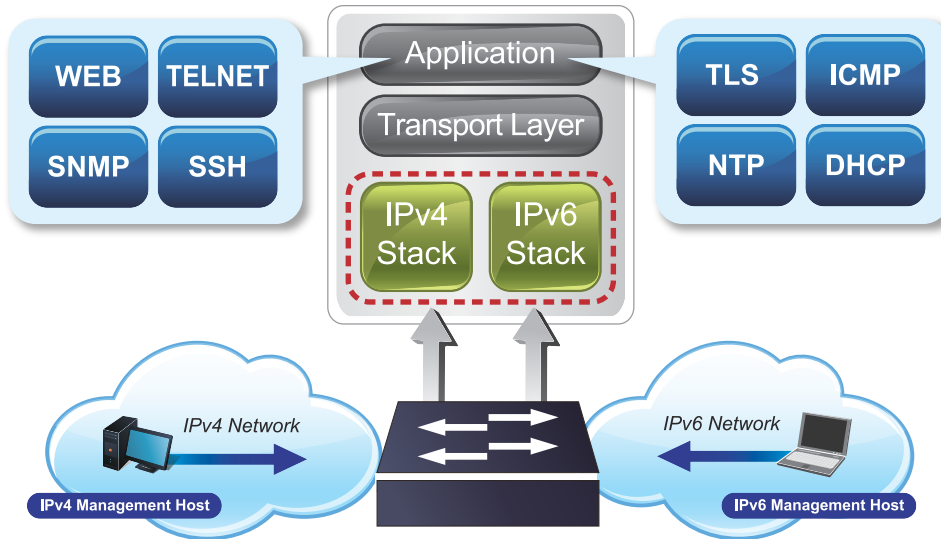
*Environmentally Hardened Design*

With IP30, flat but rugged metal housing protection, the WGS-4215-8P2S provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb-side traffic control cabinets without air conditioner. Being able to operate under the temperature range from -40 to 75 degrees C, the WGS-4215-8P2S can be placed in almost any difficult environment.



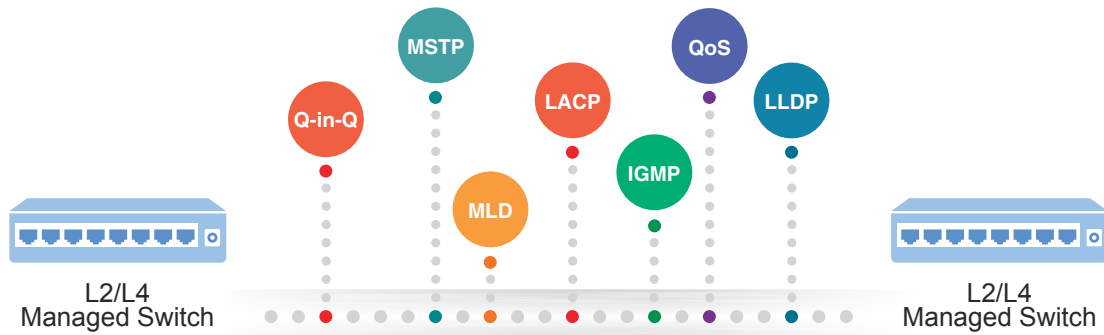
*IPv6/IPv4 Dual Stack Management*

Supporting both IPv6 and IPv4 protocols, the WGS-4215-8P2S helps the SMBs to step in the IPv6 era with the lowest investment as its network facilities need not be replaced or overhauled if the IPv6 FTTx edge network is set up.



*Robust Layer 2 Features*

The WGS-4215-8P2S can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN, **Q-in-Q VLAN**, **Multiple Spanning Tree Protocol (MSTP)**, Loop and **BPDU Guard**, **IGMP Snooping**, and **MLD Snooping**. Via the link aggregation, the WGS-4215-8P2S allows the operation of a high-speed trunk to combine with multiple ports such as a 16Gbps fat pipe, and supports fail-over as well. Also, the **Link Layer Discovery Protocol (LLDP)** is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.



*Efficient Traffic Control*

The WGS-4215-8P2S is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast/multicast/unicast **storm control**, per port **bandwidth control**, 802.1p/CoS/IP DSCP QoS priority and remarking. It guarantees the best performance in VoIP and video stream transmission, and empowers the enterprises to take full advantage of the limited network resources.

*Powerful Security*

PLANET WGS-4215-8P2S offers comprehensive **IPv4/IPv6** Layer 2 to Layer 4 **Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises **802.1X port-based** user and device authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. With the **protected port** function, communication between edge ports can be prevented to guarantee user privacy. Furthermore, **Port security** function allows to limit the number of network devices on a given port. The network administrators can now construct highly-secure corporate networks with considerably less time and effort than before.

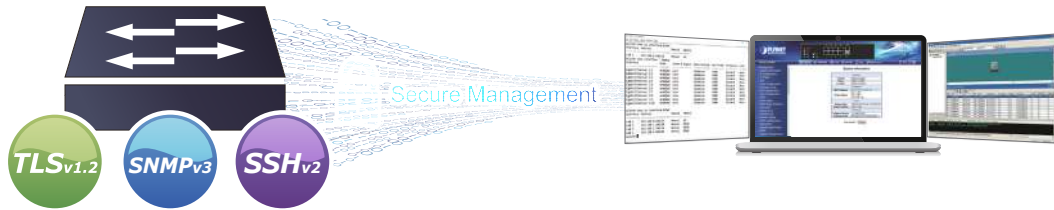


*Friendly and Secure Management*

For efficient management, the WGS-4215-8P2S is equipped with Command line, Web and SNMP management interfaces.

- With the built-in **Web-based** management interface, the WGS-4215-8P2S offers an easy-to-use, platform-independent management and configuration facility.
- For **text-based** management, it can be accessed via Telnet and the console port.
- By supporting the standard SNMP protocol, the switch can be managed via any SNMP-based management software.

Moreover, the WGS-4215-8P2S offers secure remote management by supporting SSHv2, TLSv1.2 and SNMP v3 connections which encrypt the packet content at each session.

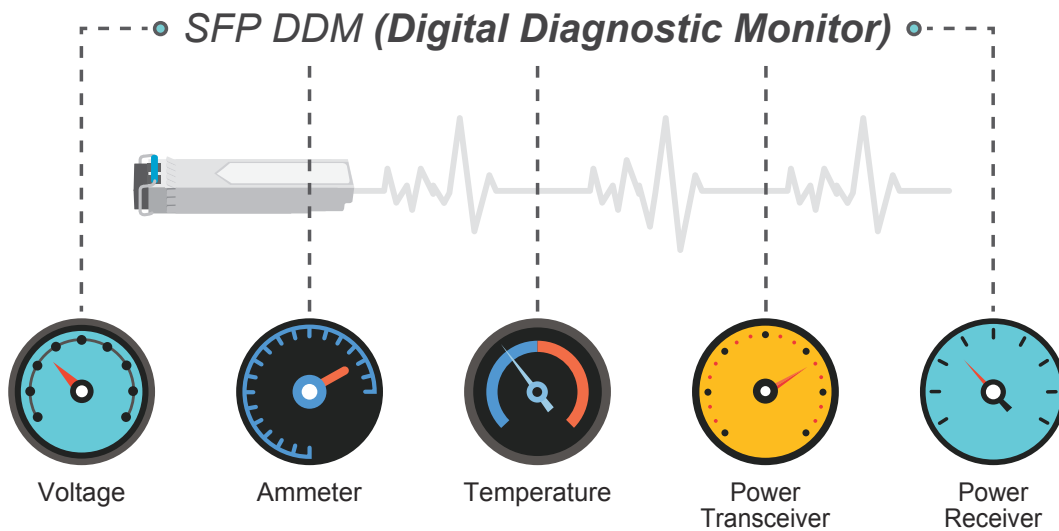


*Flexibility and Long-distance Extension Solution*

The two mini-GBIC slots built in the WGS-4215-8P2S support SFP auto-detection and dual speed as it features **100BASE-FX** and **1000BASE-SX/LX SFP** (Small Form-factor Pluggable) fiber transceivers to uplink to backbone switch and monitoring center in long distance. The distance can be extended from 550 meters to 2 kilometers (multi-mode fiber) and to 10/20/40/60/80/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

*Intelligent SFP Diagnosis Mechanism*

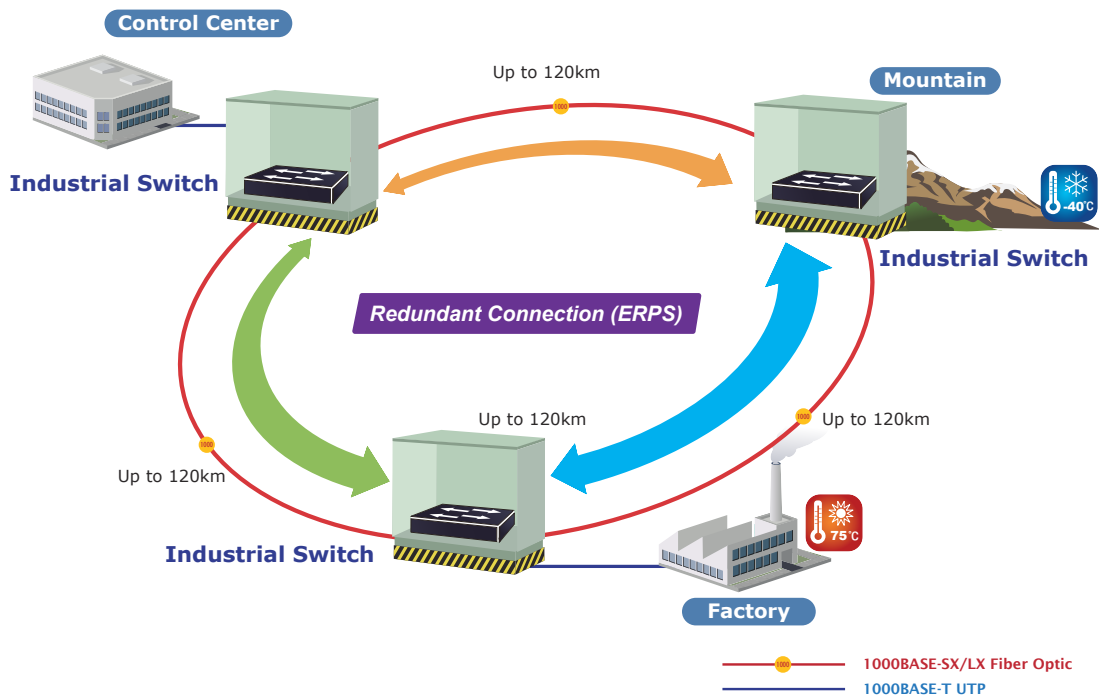
The WGS-4215-8P2S supports **SFP-DDM (Digital Diagnostic Monitor)** function that can easily monitor real-time parameters of the SFP for the network administrator, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.



## Applications

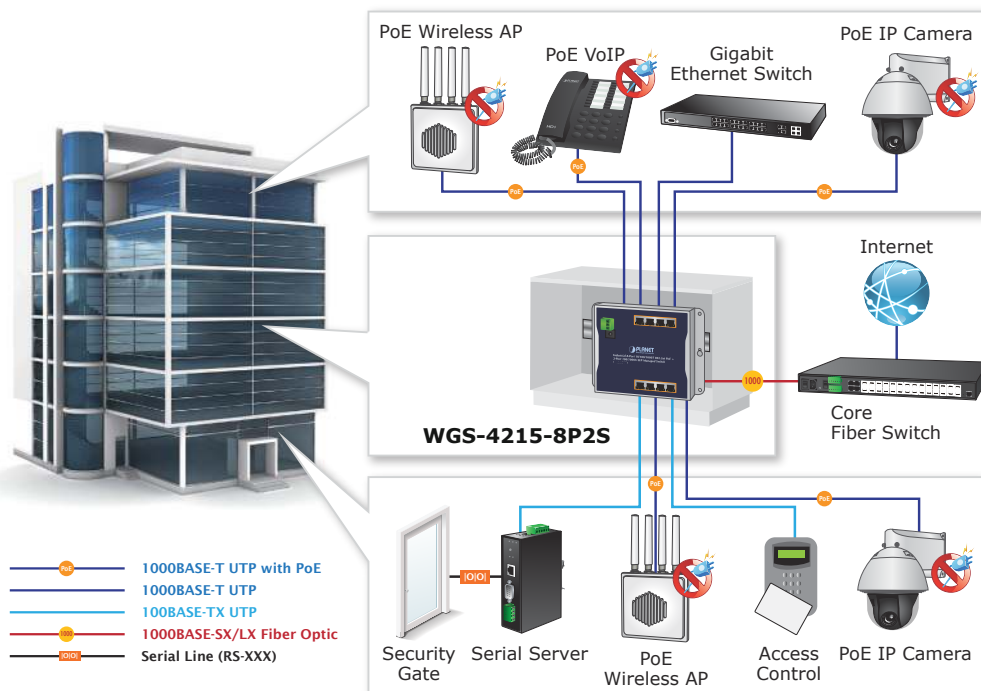
### ITU-T G.8032 ERPS Makes Data Transmission Uninterrupted

The WGS-4215-8P2S features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates **ITU-T G.8032 ERPS (Ethernet Ring Protection Switching)** technology into customer's automation network to enhance system reliability and uptime. Applying the IEEE 802.3at Power over Ethernet standard, the WGS-4215-8P2S can directly connect with any IEEE 802.3at end-nodes like PTZ (Pan, Tilt & Zoom) network cameras and speed dome cameras. The WGS-4215-8P2S can easily help system integrators with the available network infrastructure to build wireless AP, IP camera and VoIP systems where power can be centrally-controlled.



### Security Building Automation Switch

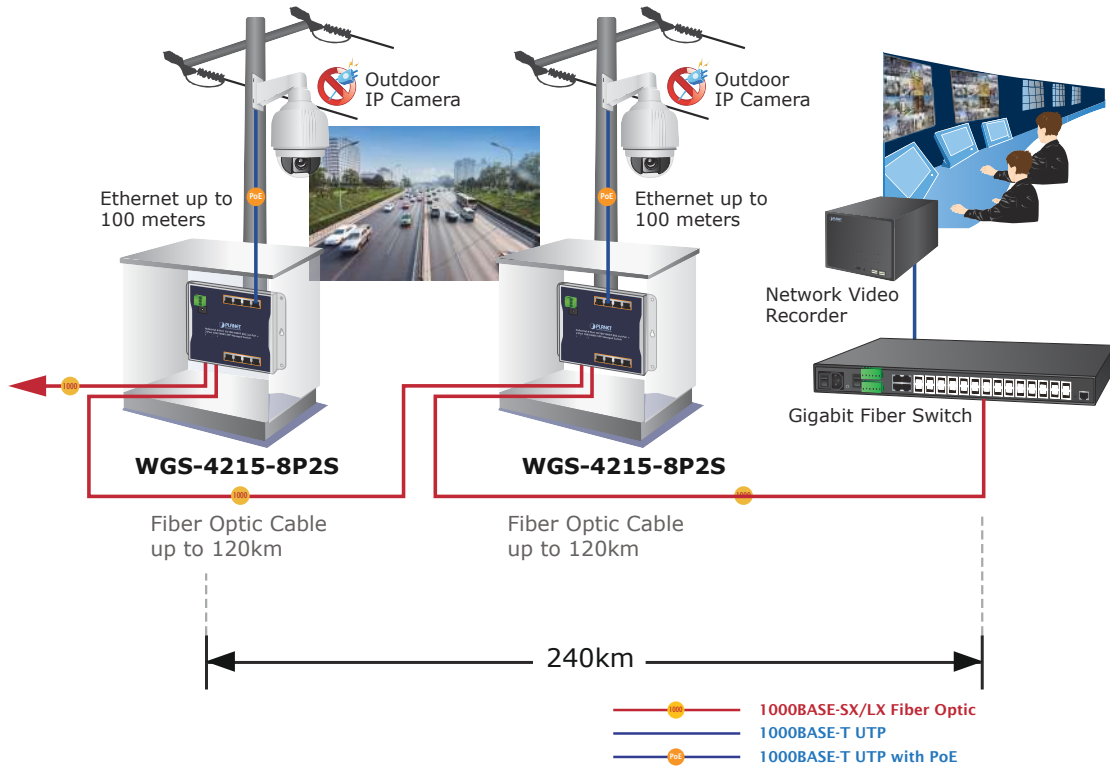
Suitable for buildings where security is strictly to be enforced, the WGS-4215-8P2S Industrial Wall-mount Managed Switch offers a comprehensive Layer 2 to Layer 4 Access Control List (ACL). The switch can restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. With the WGS-4215-8P2S, a tightly-controlled network can be easily had in no time.



*Perfect Integration Solution for IP PoE Camera and NVR System*

The WGS-4215-8P2S provides 8 10/100/1000Mbps 802.3at PoE ports which can offer sufficient PoE power to 8 PoE IP cameras at the same time. In addition, with the 2 100/1000BASE-X SFP interfaces, the WGS-4215-8P2S can connect to a core fiber switch and send video streams to an NVR and monitoring center. Through the high-performance switch architecture, the WGS-4215-8P2S facilitates the recorded video files from the 8 PoE IP cameras to be saved in the NVR systems. Furthermore, the NVR systems can be controlled and monitored both in the local LAN and the remote site via Internet. The WGS-4215-8P2S undoubtedly brings an ideal secure surveillance system at a lower total cost.

**Extending Ethernet Distance**





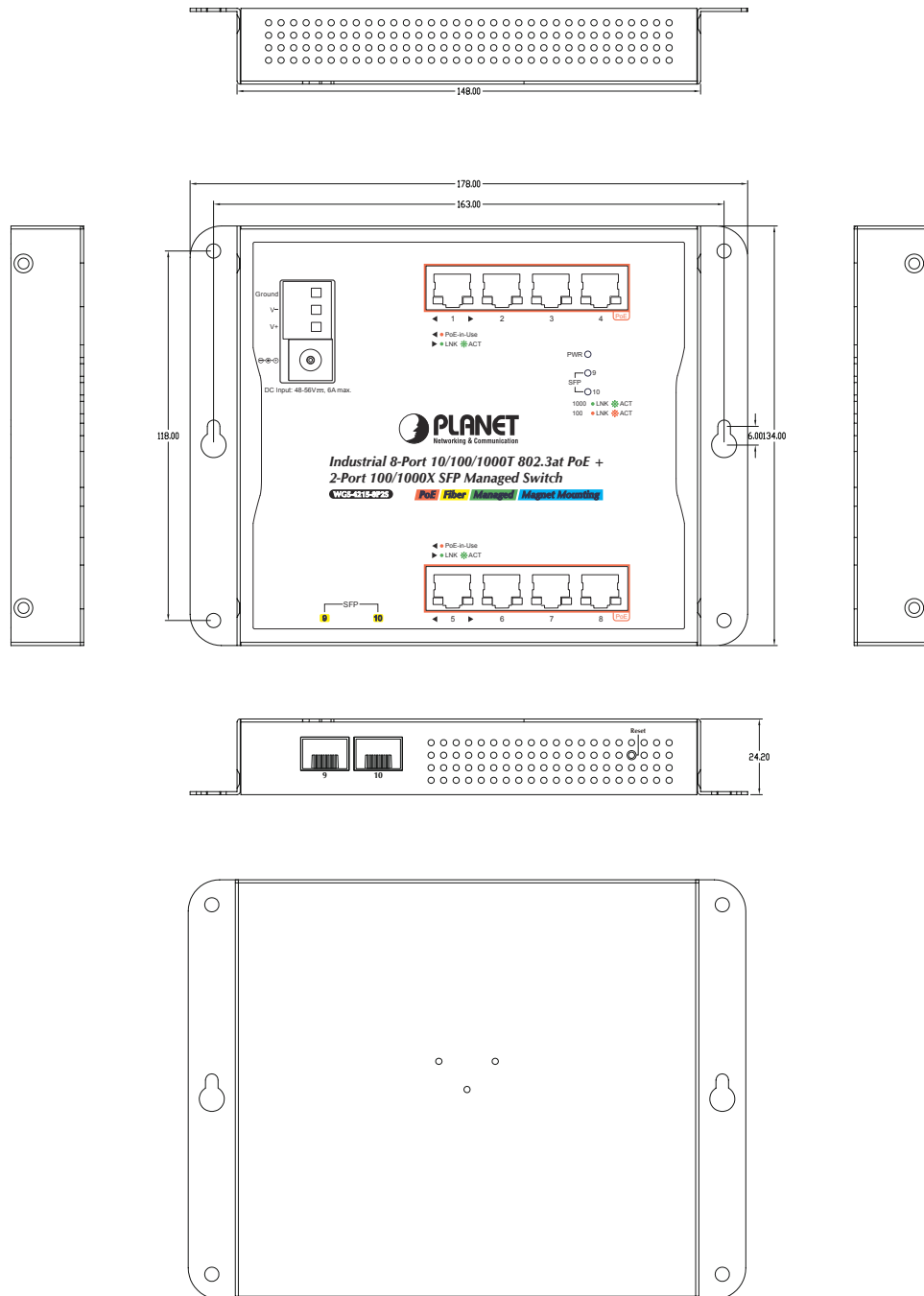
## Specifications

Product	WGS-4215-8P2S	
<b>Hardware Specifications</b>		
Copper Ports	Eight 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
PoE Inject Port	Eight with 802.3at PoE+ injector function (Ports1 to 8)	
SFP/mini-GBIC Slots	Two 100/1000BASE-X SFP interfaces, supporting 100/1000Mbps dual mode	
Reset Button	< 5 sec: System reboot > 5 sec: Factory default	
LED	<b>Power LED:</b>	Power (Green)
	<b>PoE Port (Port-1 to Port-8):</b>	PoE-in-Use (Orange) LNK/ACT (Green)
	<b>100/1000X SFP Ports (Port 9 to Port 10):</b>	1000 LNK/ACT (Green) 100 LNK/ACT (Orange)
Connector	<ul style="list-style-type: none"> <li>■ Removable 3-pin terminal block for power input <ul style="list-style-type: none"> <li>- Pin 1/2 for Power (Pin 1: V+ / Pin 2: V-)</li> <li>- Pin 3 for earth ground</li> </ul> </li> <li>■ DC power jack with 2.0mm central pole</li> </ul>	
Power Requirements	48~56V DC, 5A (max.) terminal block power input 48~56V DC, 5A (max.) DC jack power input  Note: The two power input interfaces don't support power redundant function.	
Power Consumption/ Dissipation	Max. 210 watts/716 BTU	
Dimensions (W x D x H)	178 x 25 x 134 mm	
Weight	640g	
ESD Protection	Contact Discharge 6KV DC Air Discharge 8KV DC	
Enclosure	IP30 metal	
Installation	Fixed wall mount, magnetic wall mount or DIN rail	
<b>Switch Specifications</b>		
Switch Architecture	Store-and-Forward	
Switch Fabric	20Gbps/non-blocking	
Switch Throughput@64 bytes	14.8Mpps @64 bytes	
MAC Address Table	8K entries	
Shared Data Buffer	4.1 megabits	
Flow Control	IEEE 802.3x pause frame for full duplex Back pressure for half duplex	
Jumbo Frame	10KB	
<b>Power over Ethernet</b>		
PoE Standard	IEEE 802.3af/802.3at Power over Ethernet PSE	
PoE Power Supply Type	End-span	
PoE Power Output	IEEE 802.3af Standard - Per port 48V~56V DC (depending on the power supply), max. 15.4 watts	
	IEEE 802.3at Standard - Per port 50V~56V DC (depending on the power supply), max. 36 watts	
Power Pin Assignment	1/2(+), 3/6(-)	
PoE Power Budget	200 watts (depending on power input)	
Max. Number of Class 2 PDs	8	
Max. Number of Class 3 PDs	8	
Max. Number of Class 4 PDs	7	
<b>PoE Management Functions</b>		
PoE Management	PD Alive Check Scheduled Power Recycling PoE Schedule PoE Usage Monitoring PoE Extension	
Active PoE Device Live Detection	Yes	
PoE Power Recycling	Yes, daily or predefined schedule	
PoE Schedule	4 schedule profiles	
PoE Extend Mode	Yes, max. up to 250 meters	
<b>Layer 2 Functions</b>		
Port Mirroring	TX/RX/Both Many-to-1 monitor	

VLAN	<p>802.1Q tagged-based VLAN</p> <p>Up to 256 VLAN groups, out of 4094 VLAN IDs</p> <p>802.1ad Q-in-Q tunneling (VLAN stacking)</p> <p>Voice VLAN</p> <p>Protocol VLAN</p> <p>Private VLAN (Protected port)</p> <p>GVRP</p> <p>Management VLAN</p>
Link Aggregation	<p>IEEE 802.3ad LACP and static trunk</p> <p>Supports 1 groups with 2 SFP ports per trunk</p>
Spanning Tree Protocol	<p>IEEE 802.1D Spanning Tree Protocol (STP)</p> <p>IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)</p> <p>IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)</p> <p>STP BPDU guard, BPDU filtering and BPDU forwarding</p>
IGMP Snooping	<p>IPv4 IGMP (v2/v3) snooping</p> <p>IGMP querier</p> <p>Up to 256 multicast groups</p>
MLD Snooping	<p>IPv6 MLD (v1/v2) snooping, up to 256 multicast groups</p>
QoS	<p>8 mapping IDs to 8 level priority queues</p> <ul style="list-style-type: none"> <li>- Port Number</li> <li>- 802.1p priority</li> <li>- DSCP/IP precedence of IPv4/IPv6 packets</li> </ul> <p>Traffic classification based, strict priority and WRR</p> <p>Ingress/Egress Rate Limit per port bandwidth control</p>
Ring	<p>Supports ERPS, and complies with ITU-T G.8032</p>
<b>Security Functions</b>	
Access Control List	<p>IPv4/IPv6 IP-based ACL/MAC-based ACL</p> <p>IPv4/IPv6 IP-based ACE/MAC-based ACE</p>
Port Security	<p>IEEE 802.1X – Port-based authentication</p> <p>Built-in RADIUS client to co-operate with RADIUS server</p> <p>RADIUS/TACACS+ user access authentication</p>
MAC Security	<p>IP-MAC port binding</p> <p>MAC filter</p> <p>Static MAC address</p>
Enhanced Security	<p>DHCP Snooping and DHCP Option82</p> <p>STP BPDU guard, BPDU filtering and BPDU forwarding</p> <p>DoS attack prevention</p> <p>ARP inspection</p> <p>IP source guard</p>
<b>Management Functions</b>	
Basic Management Interfaces	<p>Web browser; Telnet; SNMP v1, v2c</p>
Secure Management Interfaces	<p>SSHv2, TLS v1.2, SNMPv3</p>
Switch Management	<p>Firmware upgrade by HTTP/TFTP protocol through Ethernet network</p> <p>Configuration upload/download through HTTP/TFTP</p> <p>Remote/Local Syslog</p> <p>System log</p> <p>LLDP protocol</p> <p>SNTP</p> <p>PLANET Smart Discovery Utility</p> <p>PLANET NMS System/CloudViewer</p>
SNMP MIBs	<p>RFC 1213 MIB-II</p> <p>RFC 1215 Generic Traps</p> <p>RFC 1493 Bridge MIB</p> <p>RFC 2674 Bridge MIB Extensions</p> <p>RFC 2737 Entity MIB (Version 2)</p> <p>RFC 2819 RMON (1, 2, 3, 9)</p> <p>RFC 2863 Interface Group MIB</p> <p>RFC 3635 Ethernet-like MIB</p> <p>RFC 3621 Power Ethernet MIB</p>
<b>Management Functions</b>	
Regulatory Compliance	<p>FCC Part 15 Class A, CE</p>

Stability Testing	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX/100BASE-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000BASE-T IEEE 802.3x Flow Control and Back Pressure IEEE 802.3ad Port Trunk with LACP IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus RFC 768 UDP RFC 783 TFTP RFC 793 TCP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP v1 RFC 2236 IGMP v2 RFC 3376 IGMP v3 RFC 2710 MLD v1 RFC 3810 MLD v2 ITU G.8032 ERPS Ring
<b>Environment</b>	
Operating	Temperature: -40 ~ 75 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -40 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
<b>Accessories</b>	
Standard Accessories	<ul style="list-style-type: none"> <li>■ Quick Installation Guide x 1</li> <li>■ 3-pin Terminal Block Connector x 1</li> <li>■ Wall-mounted Kit x 1</li> <li>■ DIN-rail Kit x 1</li> <li>■ Magnet Kit x 1</li> <li>■ RJ45 Dust Cap x 8</li> <li>■ SFP Dust Cap x 2</li> </ul>

## Dimensions



Unit: mm

## Ordering Information

WGS-4215-8P2S

Industrial 8-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mounted Managed Switch (-40~75 degrees C)

## Accessories

PWR-120-48	120W 48V DC Single Output Industrial DIN-rail Power Supply (-10 ~ 60 degrees C)
PWR-240-48	240W 48V DC Single Output Industrial DIN-rail Power Supply (-10 ~ 60 degrees C)
PWR-480-48	480W 48V DC Single Output Industrial DIN-rail Power Supply (-25 ~ 70 degrees C)

## Related Products

WGS-5225-8UP2SV	Industrial L2+ 8-Port 10/100/1000T 802.3bt PoE + 2-Port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen
WGS-5225-8P2SV	Industrial 8-port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Wall-mount Managed Switch with LCD Touch Screen
WGS-5225-8P2S	Industrial 8-port 10/100/1000T 802.3at PoE + 2-port 1G/2.5G SFP Wall-mount Managed Switch
WGS-804HPT	Industrial 8-Port 10/100/1000T Wall-mount Managed Switch with 4-Port PoE+ (-40~75 degrees C)
WGS-4215-16P2S	Industrial 16-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mounted Managed Switch
WGS-4215-8HP2S	Industrial 4-Port 10/100/1000T 802.3bt PoE + 4-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Wall-mount Managed Switch (-40~75 degrees C)
WGS-804HP	8-Port 10/100/1000T Wall Mounted Gigabit Ethernet Switch with 4-Port PoE+
WGS-814HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit Switch with 4-port PoE+
WGS-818HP	Industrial 8-Port 10/100/1000T Wall-mounted Gigabit PoE+ Switch

## Available 1000Mbps Modules

### Gigabit Ethernet Transceiver (1000BASE-X SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MGB-GT	--	1000	Copper	--	100m	--	0 ~ 60 degrees C
MGB-SX(V2)	YES	1000	LC	Multi Mode	550m	850nm	0 ~ 60 degrees C
MGB-SX2(V2)	YES	1000	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MGB-LX(V2)	YES	1000	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MGB-L40	YES	1000	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MGB-L80	YES	1000	LC	Single Mode	80km	1550nm	0 ~ 60 degrees C
MGB-L120(V2)	YES	1000	LC	Single Mode	120km	1550nm	0 ~ 60 degrees C

### Gigabit Ethernet Transceiver (1000BASE-BX, Single Fiber Bi-directional SFP)

Model	DDM	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MGB-LA10(V2)	YES	1000	WDM(LC)	Single Mode	10km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB10(V2)		1000	WDM(LC)	Single Mode	10km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA20(V2)	YES	1000	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB20(V2)		1000	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA40(V2)	YES	1000	WDM(LC)	Single Mode	40km	1310nm	1550nm	0 ~ 60 degrees C
MGB-LB40(V2)		1000	WDM(LC)	Single Mode	40km	1550nm	1310nm	0 ~ 60 degrees C
MGB-LA80	YES	1000	WDM(LC)	Single Mode	80km	1490nm	1550nm	0 ~ 60 degrees C
MGB-LB80		1000	WDM(LC)	Single Mode	80km	1550nm	1490nm	0 ~ 60 degrees C

## Available 100Mbps Modules

### Fast Ethernet Transceiver (100BASE-X SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (nm)	Operating Temp.
MFB-FX	100	LC	Multi Mode	2km	1310nm	0 ~ 60 degrees C
MFB-F20	100	LC	Single Mode	20km	1310nm	0 ~ 60 degrees C
MFB-F40	100	LC	Single Mode	40km	1310nm	0 ~ 60 degrees C
MFB-F60	100	LC	Single Mode	60km	1310nm	0 ~ 60 degrees C
MFB-F120	100	LC	Single Mode	120km	1310nm	0 ~ 60 degrees C

### Fast Ethernet Transceiver (100BASE-BX, Single Fiber Bi-directional SFP)

Model	Speed (Mbps)	Connector Interface	Fiber Mode	Distance	Wavelength (TX)	Wavelength (RX)	Operating Temp.
MFB-FA20	100	WDM(LC)	Single Mode	20km	1310nm	1550nm	0 ~ 60 degrees C
MFB-FB20	100	WDM(LC)	Single Mode	20km	1550nm	1310nm	0 ~ 60 degrees C