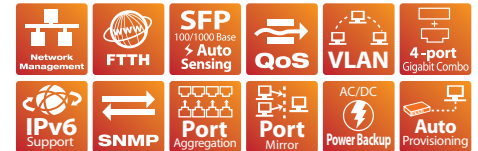


GigaConnect[®] Fiber Switch

24-Slot Gigabit SFP Aggregation Switch



BEC FGS-2024-4S



The BEC FGS-2024-4S is a 24-slot Gigabit SFP Aggregation Switch with Four Combo Ports – featuring all Gigabit interfaces, Redundant Power Option, RS-232 Console, QoS, Security and Gigabit uplink interfaces. The gateway offers a Gigabit solution with its 24 slot multi-rate SFP ports and 4 Combo ports to provide robust stability and performance to carry video, data and voice services to subscribers simultaneously. With 100Base and 1000Base auto-sensing function in each SFP slot port, all 24 slot ports adapt variety of Small Form-Factor Pluggable (SFP) transceivers. The 4 combo ports, each paired port (SFP or Ethernet) offers up to a gigabit uplink connection to the backbone or servers. The BEC FGS-2024-4S also equipped with multiple field replaceable redundant power supplies, Dual AC / Dual 48VDC / AC+48VDC / AC+12V DC Battery, to minimize downtime due to power supply failing, power shortage during brownout / blackout or network failure. The built-in comprehensive set of features including, robust security, VLAN, QoS, management features helps to secure network connectivity and access, accommodate up to 8 trunk groups with LACP link aggregation to expand network bandwidth and capacity, offer flexibility to control each SFP slot interface, provide easy management access via Web/SNMP to the BEC FGS-2024-4S locally or remotely. The advanced software features and high-performance hardware fulfill different needs for Telecom, Service Provider, Enterprise and increase efficiency and performance of the network.

Simple Management Options

The BEC FGS-2024-4S contains an advanced management capability that can be remotely accessed by Web Browser and SNMP. The RS-232 console port allows service provider to troubleshooting and manage ports give flexible network management and monitoring options.

Quality of Service (QoS) Control for Traffic Management

The BEC FGS-2024-4S contain robust QoS features such as Port-based, 802.1p priority and also IP TOS/DSCP, it guarantees the best performance at VoIP and Video stream transmission and empowers the service provider, enterprises to take full advantages of the limited network resources.

Multi-Services Availability

The BEC FGS-2024-4S offers many advanced features to provide reliable connectivity, secure network and user data. The Dual-Homing ensure network always available with two independent uplink paths. The GARP / GVRP provide better control of VLAN and prevent unnecessary traffic. With speedy recovery technology, the Xpress Ring can recover link failures in less than 50ms to minimizing downtime and ensuring data; the DHCP Option82 (known as a DHCP Relay Agent) offer additional security to the network by limiting and controlling of IP addresses to prevent possible attacks. The BEC FGS-2024-4S support Code Redundancy to store firmware code and configuration settings in two separate flash images to reduce the risk firmware upgrade failure or losing configuration. To reduce time and human error, the Auto Provisioning simplify the complexity of manual firmware / configuration upgrades

Path to the Future

The BEC FGS-2024-4S fully supports IPv6 (Internet Protocol Version 6.0), version II. Implementation of IPv6 is growing significantly and multiple transition methods are required to support the coexistence and migration from IPv4. With BEC IPv6 enabled devices, service providers easily adapt IPv6 and expand in scope and size of their network.

Performance

- 24 Gigabit open SFP slots accommodate a wide variety of 100/1000Base-X SFP transceivers
- 4 Gigabit Combo Interfaces (10/100/1000Mbps RJ-45 or 1000Mbps SFP)
- Switch Fabric Speed: 56Gbps
- Layer2 Forwarding Rate: 41.7Mbps
- 32K MAC Address Entries
- Multiple Redundant Power Options
- Code Redundancy

Security

- Multilayer (L2,L3,L4) ACL Security Protection
- DHCP Option 82 for additional LAN network security
- RADIUS users access authentication
- Link Aggregation support

QoS (Quality of Service)

- IEEE 802.1Q Tag-based VLAN
- Port / MAC / Protocol-based VLAN
- Q-in-Q Tunneling
- 802.1P / DSCP / ToS and Rate limiting support

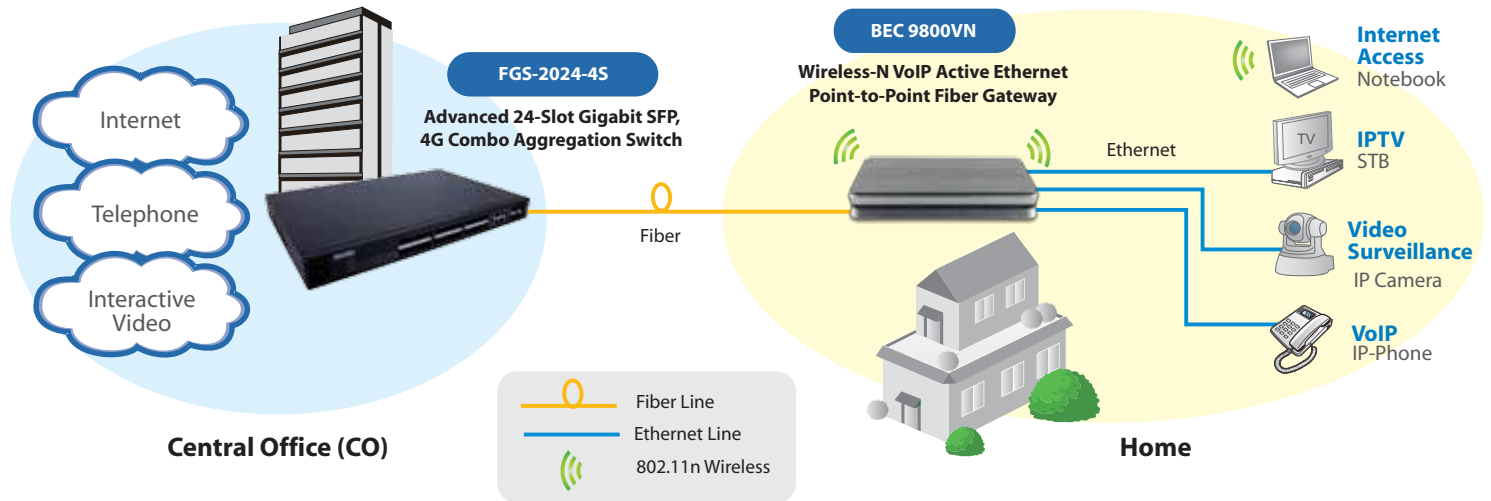
Management and Monitoring

- Web-base GUI, Telnet, RS-232c Console for local management
- SNMP v1 and v2 and Trap support
- DHCP Option 82 for Auto-Provisioning support
- Port Mirroring / Configuration to manage and monitor specific ports
- SFP DDMI support

Ideal For

- Central Office for Telecom, ISP (Internet Service Provider)
- Large-scale networks: Enterprises, Campuses, etc.

Application Diagram



Features & Specifications

Standards

- IEEE 802.3u: 100Base-TX Ethernet
- IEEE 802.3ab: 1000Base-T Ethernet
- IEEE 802.3z: 1000Base-SX/LX/LHX
- IEEE 802.3: 10Base-T Auto-negotiation
- IEEE 802.3x: flow control
- IEEE 802.3ad: link aggregation
- IEEE 802.1d: spanning tree protocol
- IEEE 802.1w: rapid spanning tree protocol
- IEEE 802.1p: CoS prioritization
- IEEE 802.1Q: VLAN tagging
- IEEE 802.1x: Prot authentication

Availability and Performance

- Auto-negotiation on all 1000Base-TX ports
- Auto MDI/MDI-X on all 1000Base-TX ports
- Wavelength 1310nm (multi-mode)
- 1310/1550nm (single-mode)
- Maximum distances:
 - 100/1000Base-TX up to 100m
 - Distances RS-232 up to 15m
 - Fiber optic Up to 110km
- Switching fabric: 56Gbps
- L2 forwarding: 41.7Mpps
- MAC entries: 32k Bytes
- Jumbo frame size: 13 Bytes
- Packet buffer size: 2Mbits
- Throughput
 - 148,800 pps to 100Mbps ports
 - 1,488,000 pps to 1000Mbps ports

Network Protocols and Features

- IPv4, IPv6 Phase II.
- LACP support
- Static link trunking
- Spanning tree protocol
- Rapid spanning tree protocol
- MVR
- Loop detection
- Port-based VLAN
- 802.1q VLAN
- VLAN stacking (Q in Q)
- Management VLAN
- IGMP snooping (v1/v2/v3)
- IGMP querier

Security

- MAC filtering
- ACL L2/L3/L4
- Port isolation
- DHCP snooping
- DHCP relay/option 82
- ARP inspection
- 802.1x supported

Quality of Service Control

- Hardware queues
- SP/WRR
- Network storm control
- Rate limiting
- 802.1p/DSCP/ToS support

Management

- RS-232c local console
- Telnet CLI
- SNMP v1,v2c
- Web-based GUI
- RMON (1,2,3,9)
- Port mirroring
- Firmware upgradeable
- Configuration backup/restore
- Port configuration, status, statistics

Hardware Specifications:

Physical Interface

- 24 x 100/1000Base-FX/SFP
- 4 x GbE combo
- 1 x RS-232 console (DB-9, female)

Physical Specifications

- Dimensions (W x H x D): 17.32" x 1.73" x 11.18" (440 mm x 44 mm x 284 mm)
- Weight: 4.5kg

Power Requirements

- Input: 100 ~ 240V AC
- Power Consumption: 55W

Operating Environment

- Operating temperature: 0°C to 50°C
- Storage temperature: -20°C to 70°C
- Operating humidity
 - Relative humidity: 10% to 80%
 - Storage humidity: 5% to 90%