



CX4800-56F

48-port 10G/25G L3 Aggregation Fiber Switch with 8 100G Uplinks

Zyxel introduces a new 100GbE enabled switch CX4800-56F, which is a high performance Layer 3 managed switches for well preparation to path the way for next generation network demands. Design with high density 48-port SFP28 that carries the flexibility to fit into today's 10GbE network demand as well as future 25GbE network upgrades, the switch also comes with 8-port 100GbE QSFP28 to support large uplink even for cross stack bandwidth delivery. With 1U height and front-to-rear airflow, the CX4800-56F is suitable for Enterprise and campus aggregation network environments.

Benefits

Scalable 10G to 100G solution

The CX4800-56F boasts upgradable SFP28 ports (run for both 10GbE and 25GbE) and 100GbE uplink, as well as high-performance switching capacity of up to 4.0Tbps with forwarding rates of up to 2.0Bpps. A future-proof network designed for growing demands must be prepared for increased bandwidth requirements. Organizations with high data volumes, such as video production companies and scientific research institutions, rely on faster data transfer speeds to boost productivity. Enterprises that rely on cloud-based services generate a surging demand for networks that can handle high bandwidth while offering top application performance. Networks that support real-time applications, such as VoIP, video conferencing, and virtualized environments, require low latency to deliver the best user experience.



NebulaFlex Pro allows users to switch between standalone management and intuitive Nebula cloud managed mode with 1-YEAR Pro Pack bundled



High-density 48-port 10GbE/25GbE SFP28, and 8-port 100GbE QSFP28 uplinks



Up to 2-unit stacking with Layer 3 static, policy-based, and dynamic routing



Meets the requirements for advanced Layer 2 switching



High-resiliency, hot-swappable dual power modules and four fan trays



Tailor-made Networked AV mode brings efficiency to setup professional 4K streaming AVoIP networks

Future proof aggregation and core switch

CX4800-56F offers a non-blocking architecture that delivers full 25GbE throughput on every port, even under heavy traffic conditions. This Switch runs with sophisticated firmware to support both on premises and cloud managed network requirements. With the on premises operation, the CX4800-56F continues to carry out the complete Layer 2 features of VLAN, ACL, port aggregation, mirroring and with all the necessary security features to protect your network for day to day operation.

NebulaFlex Pro – simply manage it your way!

The NebulaFlex Pro provides extended flexibility, especially for those who hesitate to step up for cloud networking. You can switch easily between Cloud Managed or Standalone Management. Included with a 1-Year Pro Pack License Bundled, the NebulaFlex Pro even allows you to change your mind at any time without additional cost while protecting previous investments on wired technology. You can have the privilege to use advanced features with professional pack for one year upon registration on Nebula; these features include advanced IGMP technology, comprehensive IPTV reports that provide insights to channel usage information, network analytics alert to optimize network performance along with more upcoming new features on NCC and its app.

Resiliency and availability

The CX4800-56F is engineered for robust network redundancy. Its 2-unit physical stacking enables a redundant ring that preserves data integrity even if one switch fails. Dual hot-swappable power supplies and hot-swappable fan trays ensure uninterrupted operation during power or cooling issues. These components can be replaced without planned downtime, simplifying maintenance and reducing the risk of service disruption. With its high-resiliency design, the switch helps lower operational costs while keeping business-critical services running smoothly.

Dedicated networked AV mode

The standard switch interface includes an abundance of generic networking features to address a wide variety of applications, making it a challenge for traditional AV system integrators to setup an IP-based network that needs to run Audio and Video services. The tailor-made networked AV mode begins with an intuitive wizard that prompts for high-level requirement for network infrastructure, followed up with AI-intelligent to apply all the necessary details to setup a professional AVoIP system. With the intuitive graphical status overview of the key AV network elements such as IGMP and IP information, accompanied with condensed function menu helps you manage and monitor the system with ease. Apart from the software, the hardware design of CX4800-56F is capable of lossless and latency-free 4K video streaming over a 10GbE network.

Product Overview

Front



Rear

AC version

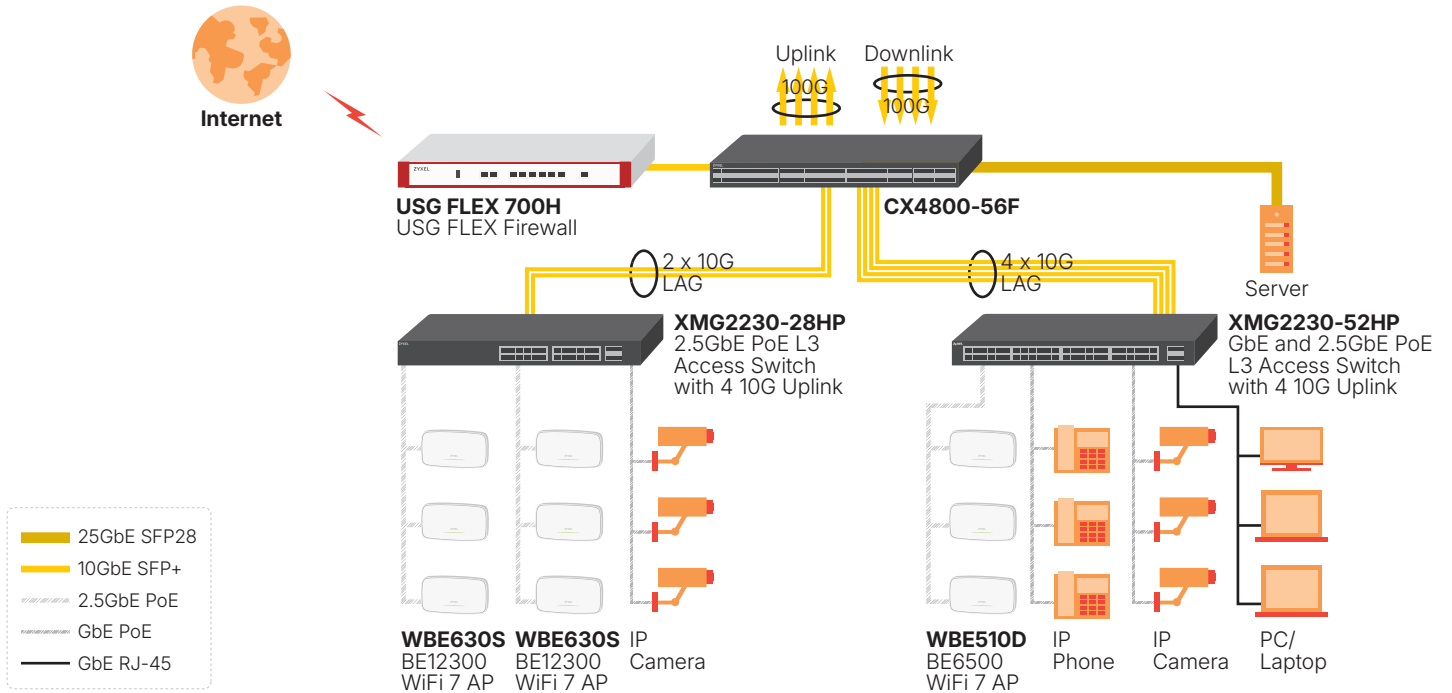


DC version

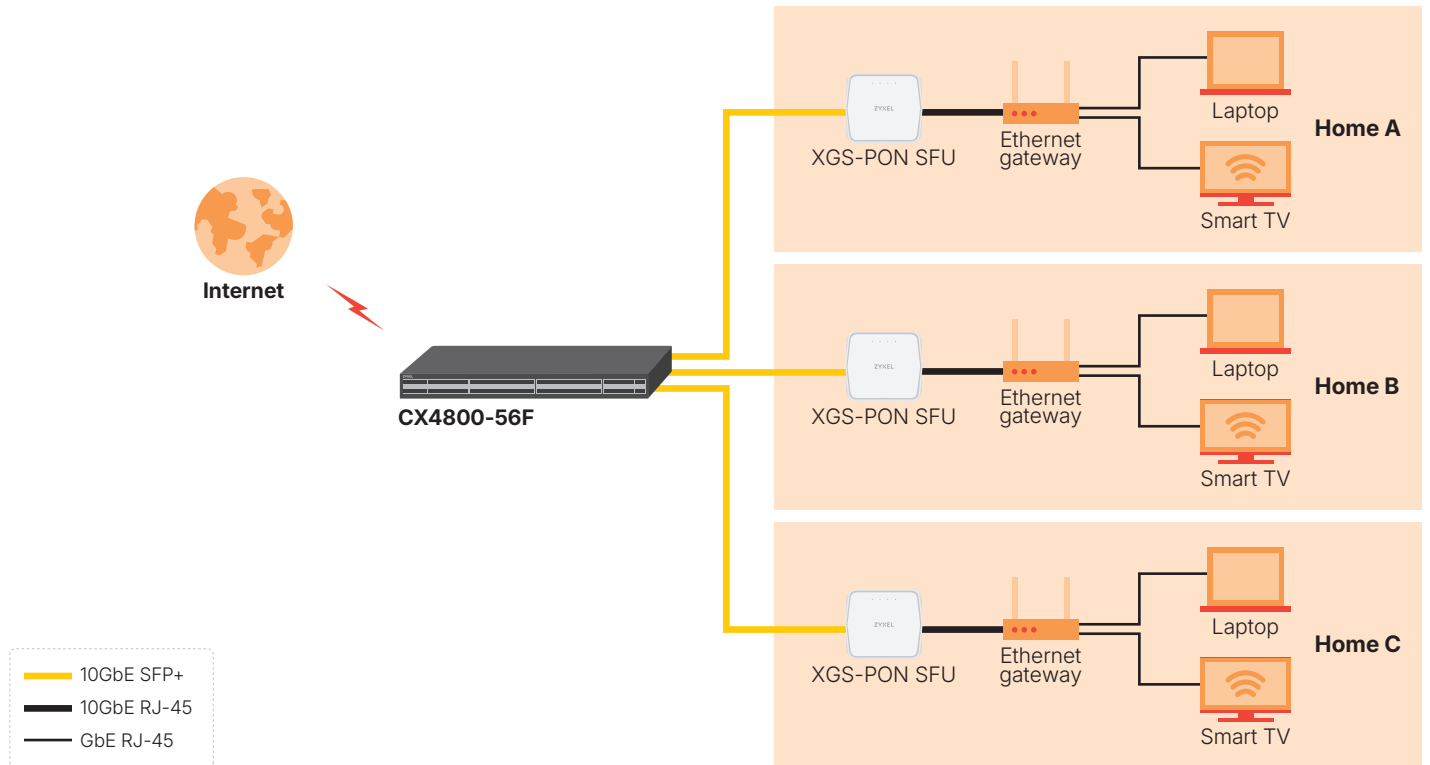


Application Diagram

Standalone Management: For Enterprise

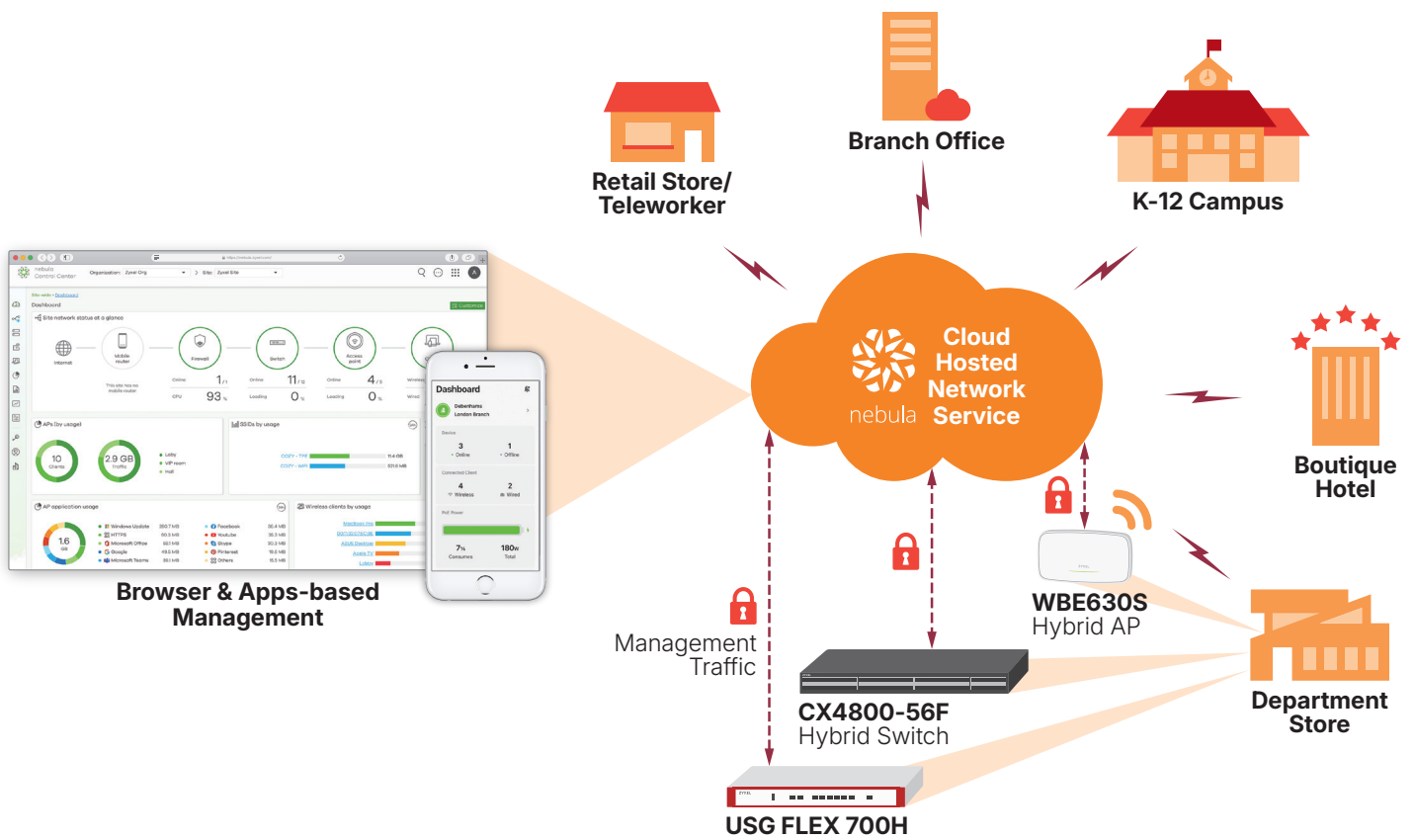


Standalone Management: For Service Provider




The Nebula Ecosystem

The support of Zyxel Nebula allows your business to experience a unified cloud network from Switch, AP, Firewall to 5G/LTE routers anytime with just a few simple clicks.



Specifications

Model	CX4800-56F	
Product name	48-port 10G/25G L3 Aggregation Fiber Switch with 8 100G Uplinks	
		
Switch class	Layer 3 Aggregation	
Port Density		
Total port count	56	
10G/25G SFP28 ports	48	
100G QSFP28 ports	8	
Management port	100/1000BASE-T RJ-45 port for out-of-band IP management	
Console	RJ-45	
USB	2*	
Performance		
Switching capacity (Tbps)	4.0	
Forwarding rate (Bpps)	2.0	
Packet buffer (byte)	32MB	
MAC address table	32K	
Jumbo frame (byte)	9K	
L3 forwarding table	Max. 8K IPv4 entries; Max. 4K IPv6 entries	
Routing table	Max. 12K IPv4 entries; Max. 1K IPv6 entries	
VLAN routing	Yes	
IP interface	256	
Flash/RAM	64MB/8GB	
Power		
Input	Dual hot-swappable AC/DC power supply modules	
Min. power consumption (watts) Without any port connection	89.6	
Max. power consumption (watts) All ports full load without PoE	323.0	
Fan		
Modular fan	Up to 4 field-replaceable, hot-swappable fans	
Physical Specifications		
Item	Dimensions (WxDxH)(mm/in.)	440 x 489 x 45/17.32 x 19.25 x 1.77
	Weight (kg/lb)	8.62/7.5
Included accessories	<ul style="list-style-type: none">• Power cord• Rack mounting kit	
ESD/Surge Protections		
Power supply	Line-GND	2KV
surge protection	Line-Line	1KV
ESD protection (air/contact)	8KV/4KV	
Environmental Specifications		
Operating	Temperature	0°C to 40°C/32°F to 104°F
	Humidity	10% to 95% (non-condensing)
Storage	Temperature	-20°C to 70°C/-4°F to 158°F
	Humidity	10% to 95% (non-condensing)
MTBF (hr @ 25°C)	590,181.1	
Heat dissipation (BTU/hr)	1,122	
Acoustic noise @ 25°C (min/max, dBA)	52.5/74.5	

* FCS+N for firmware upgrade with USB Flash or external storage for Log information.

Features

Resilience and Availability

- IEEE 802.1D Spanning Tree Protocol (STP)*
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)*
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.3ad LACP*
- Loop guard*
- CPU protection
- ErrDisable recovery
- MRSTP (Zyxel proprietary)
- Redundant power supply support
- Dual configuration files
- Dual images*
- Flex Link
- **New for FA.OS V2.00** Physical stacking up to 2 units*
- **New for FA.OS V2.00** Flexible stacking via 2 or 4 ports*
- **New for FA.OS V2.00** VRRP
- **New for FA.OS V2.00** ZULD

Traffic Control

- 802.1Q static VLANs*/dynamic VLANs: 4K/4K
- Port-based VLAN*
- MAC-based VLAN
- Protocol-based VLAN
- IP subnet-based VLAN
- Private VLAN
- VLAN trunking
- VLAN translation
- VLAN ingress filtering
- 802.1ad VLAN stacking (QinQ)
- LACP algorithm of source/destination IP
- GVRP
- **New for FA.OS V2.00** L2PT

Security

- 802.1x*
- Port security*
- MAC authentication*
- Layer 2 MAC filtering
- Layer 3 IP filtering
- Layer 4 TCP/UDP socket filtering
- Static MAC forwarding
- Multiple RADIUS servers (IPv4*/IPv6)
- Multiple TACACS+ servers
- 802.1x VLAN and bandwidth assignment by RADIUS*
- Login authentication by RADIUS*
- Login authentication by TACACS+
- TACACS+ accounting
- RADIUS accounting

- Authorization on TACACS+
- Authorization on console
- SSH v2
- SSL
- MAC freeze
- DHCP snooping
- DHCP Server Guard
- ARP inspection
- ARP freeze
- Static ARP setting
- Static IP/MAC binding
- Policy-based security filtering
- Port isolation
- IP source guard*
- Limit number of MAC per VLAN
- MAC search
- Guest VLAN*
- Guest VLAN on MAC-based Authentication
- ACL packet filtering (IPv4/IPv6)
- Interface related trap can be enable/disable by port
- **New for FA.OS V2.00** Password encryption
- **New for FA.OS V2.00** Password complexity
- **New for FA.OS V2.00** Brute-force attack protection
- **New for FA.OS V2.00** SSH public key authentication
- **New for FA.OS V2.00** PPPoE Intermediate Agent
- **New for FA.OS V2.00** MAC Pinning

Quality of Service (QoS)

- No. of hardware queues per port: 8*
- 802.1p queuing method: SPQ/WRR/WFQ*
- Storm control: Broadcast, Multicast, Unknown Unicast (DLF)*
- Rate limiting, per IP/TCP/UDP per port
- Policy-based rate limiting
- Policy-based bandwidth control granularity
- 802.3x flow control
- Policy based prioritization
- 802.1p Class of Service (SPQ, WFQ, SPQ/WFQ combination capable) DiffServ (DSCP)

Layer 2 Multicast

- L2 multicast*
- IGMP snooping (v1, v2, v3)*
- IGMP snooping fast leave*
- Configurable IGMP snooping timer and priority

- IGMP snooping statistics*
- IGMP throttling*
- MVR support
- IGMP filtering*
- IGMP snooping immediate leave*
- IGMP snooping and proxy*
- Multicast load sharing over trunk port

Routing

- IPv4 static route
- IPv4 default routing
- **New for FA.OS V2.00** IPv4 Policy-Based route
- **New for FA.OS V2.00** RIP v1/v2
- **New for FA.OS V2.00** OSPFv2
- **New for FA.OS V2.00** IPv4 ECMP
- **New for FA.OS V2.00** DVMRP
- **New for FA.OS V2.00** IGMP v1/v2/v3

Manageability

- SNMP v1, v2c, v3*
- SNMP trap group
- RMON (1, 2, 3, 9)
- ICMP echo/echo reply
- Syslog

Device Management

- Support NebulaFlex Pro for hybrid mode
- Standalone management by Web interface
- Cloud management by Nebula Control Center*
- Auto configuration recovery (only for cloud mode)
- Management through console, ssh, telnet, SNMP
- Firmware upgrade by Web/FTP/SFTP/TFTP
- Configuration saving and retrieving
- Multiple login supported
- Configure Clone
- Multilevel CLI
- DHCP servers
- DHCP relay per VLAN*
- DHCP option 82*
- Daylight Saving*
- NTP*
- Port mirroring*
- Policy-based port mirroring
- RJ-45 out-of-band management port
- sFlow
- Networked AV mode
- **New for FA.OS V2.00** RMirror

MIB

- Zyxel private MIB
- RFC 1066 TCP/IP-based MIB
- RFC 1213, 1157 SNMPv2c/v3 MIB
- RFC 1493 bridge MIB
- RFC 1643 Ethernet MIB
- RFC 1757 RMON group 1, 2, 3, 9
- RFC 2011, 2012, 2013 SNMPv2 MIB
- RFC 2233 SMIv2 MIB
- RFC 2358 Ethernet-like MIB
- RFC 2674 bridge MIB extension
- RFC 2819, 2925 remote management MIB
- RFC 3621 Power Ethernet MIB
- RFC 4022 management information base for transmission control protocol
- RFC 4113 management information base for user datagram protocol
- RFC 4292 IP forwarding table MIB
- RFC 4293 management information base (MIB) for IP

Zyxel One Network

ZON Utility*

- Discovery of Zyxel switches, APs and gateways
- Centralized and batch configurations:
 - IP configuration
 - IP renew
 - Device factory reset
 - Device reboot
 - Device locating
 - Web GUI access
 - Password configuration
 - One-click quick association with Zyxel AP Configurator (ZAC)
- Automatic detection of the latest firmware
- Displays device serial number and hardware version
- Cloud mode on/off option for Hybrid series devices
- Intuitive Cloud connection status

Smart Connect

- Discover neighboring devices
- One-click remote management access to the neighboring Zyxel devices
- Reset neighboring devices remotely to factory defaults

Warranty

- Limited life-time warranty**

* Nebula Cloud and Standalone modes supported features. Some Nebula features may need an extra license to work. For more details on the features and licenses, check [Nebula Licensing Table](#).

** Warranty terms, service availability, and service response times may vary from country or region to country or region.

Scheduled for Future Release*

IPv6 Management

- IPv6 Management
- IPv6 Interface
- DHCPv6 Snooping
- DHCPv6 Server
- DHCPv6 Relay
- IPv6 MLD Snooping

L2 Features

- 100G to 4 x 25G breakout port
- OAM
- Microsoft NLB

L3 Features

- IPv6 static route
- IPv6 default routing
- Policy Based Route
- RIPng
- OSPFv3
- IPv6 ECMP
- IPv6 Neighbor Discover

* These features will be supported in a future official firmware release. For details on supported features, please refer to the latest release notes.

Accessories

Transceivers (Optional)

Model	Speed	Connector	Wavelength	Max. Distance	DDMI
QSFP100G-SR4	100-Gigabit QSFP28	MPO12	850	OM4: 0.1km (109.36yd) OM3: 0.07km (76.55yd)	Yes
QSFP100G-LR4	100-Gigabit QSFP28	Duplex LC	1310	10km (10936yd)	Yes
SFP25G-SR	25-Gigabit SFP28	Duplex LC	850	OM4: 0.1km (109.36yd) OM3: 0.07km (76.55yd)	Yes
SFP25G-LR	25-Gigabit SFP28	Duplex LC	1310	10km (10936yd)	Yes
SFP10G-T*	10-Gigabit SFP+	RJ-45	-	0.03km (32.8yd)	Yes
SFP10G-SR	10-Gigabit SFP+	Duplex LC	850nm	0.3km (328yd)	Yes
SFP10G-SR-E	10-Gigabit SFP+	Duplex LC	850nm	0.3km (328yd)	Yes
SFP10G-LR	10-Gigabit SFP+	Duplex LC	1310nm	10km (10936yd)	Yes
SFP10G-LR-E	10-Gigabit SFP+	Duplex LC	1310nm	10km (10936yd)	Yes
SFP-1000T	Gigabit	RJ-45	-	0.1km (109yd)	-
SFP-SX-D	Gigabit	Duplex LC	850nm	0.55km (601yd)	Yes
SFP-SX-D-E	Gigabit	Duplex LC	850nm	0.55km (601yd)	Yes
SFP-LX-10-D	Gigabit	Duplex LC	1310nm	10km (10936yd)	Yes
SFP-LX-10-D-E	Gigabit	Duplex LC	1310nm	10km (10936yd)	Yes
SFP-LHX1310-40-D	Gigabit	Duplex LC	1310nm	40km (43744yd)	Yes
SFP-ZX-80-D	Gigabit	Duplex LC	1550nm	80km (87488yd)	Yes
SFP-BX1310-10-D	Gigabit	Single LC	1310nm (Tx); 1490nm (Rx)	10km (10936yd)	Yes
SFP-BX1310-E	Gigabit	Single LC	1310nm (Tx); 1550nm (Rx)	20km (21872yd)	Yes
SFP-BX1490-10-D	Gigabit	Single LC	1490nm (Tx); 1310nm (Rx)	10km (10936yd)	Yes
SFP-BX1550-E	Gigabit	Single LC	1550nm (Tx); 1310nm (Rx)	20km (21872yd)	Yes

*Note: Connecting copper transceivers to your switches

1. Works with Cat6a/7 Cable up to 30m. Please ensure the switch has proper ventilation to dissipate extra heat from the 10G BASE-T transceiver.
2. It is recommended to use no more than ten 10GbE copper modules simultaneously to avoid overheating and ensure reliable operation.
3. Ensure adequate spacing between connected 10GbE copper devices, and maintain sufficient airflow and cooling around the switch to optimize performance and longevity.

Multi-Fiber Push On Cable (Optional)

Model	Connector	Cable Length
MPO-10M	MPO12 (female) to MPO12 (female)	10m (393.7inch)

Direct Attach Cables (Optional)

Model	Connector	Cable Length
DAC100G-1M	QSFP28 to QSFP28	1m (39.37inch)
DAC100G-3M	QSFP28 to QSFP28	3m (118.11inch)
DAC25G-1M	SFP28 to SFP28	1m (39.37inch)
DAC25G-3M	SFP28 to SFP28	3m (118.11inch)
DAC10G-1M	SFP+ to SFP+	1m (39.37inch)
DAC10G-3M	SFP+ to SFP+	3m (118.11inch)

Power Module

Model	AC Version	DC Version
Power Module	CX4800-56F-EUAC01F	CX4800-56F-ZZDC01F



Fan Module

Model	Fan
Fan Module	CX4800-56F-ZZFN01F



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