Family 8977+02 IBM Storage Networking SAN32C-6 Fabric Switch

IBM United States Sales Manual
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Product life cycle dates

Type Model	Announced	Available	Marketing Withdrawn	Service Discontinued
8977-T32	2018-12-04	2018-12-07	-	-

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Abstract

IBM Storage Networking SAN32C-6 Fabric Switch delivers high-speed Fibre Channel connectivity from the server rack to the storage area network (SAN) core. It empowers small, midsized, and large enterprises that are rapidly deploying cloud-scale applications using highly dense, virtualized servers by providing both higher bandwidth and consolidation.

SAN32C-6 Fabric Switch delivers the following benefits:

- Support for high density of virtualized servers with low density of switch ports
- Reduction in network complexity and simplified management
- Lower latency for improved performance of storage workloads
- Support for the performance and scale required for a dedicated, stand-alone Fibre Channel SAN

Model abstract 8977-T32

IBM Storage Networking SAN32C-6 Fabric Switch high-speed Fibre Channel connectivity from the server rack to the SAN core. It has been designed to benefit both small-and large-scale SAN deployments. Small-scale SAN architectures can be built from the ground up using a low-cost, nonblocking, line rate and low-latency fixed standalone SAN switch connecting both storage and host ports. Medium-to large-scale SAN architectures built with SAN core directors can expand 32 Gbps connectivity to the server rack using these switches either in switch mode or Network Port Virtualization mode.

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Highlights

IBM Storage Networking SAN32C-6 Fabric Switch provides 32 Gbps line-rate, nonblocking, predictable, low-latency performance across all traffic conditions for every Fibre Channel port in the switch. It also provides optional redundancy on all major components such as power supply and fan. Dual power supplies delivers power grid redundancy. It enables you to deploy on existing 4, 8, and16 Gbps transceivers, reducing capital expenditure with an option to upgrade to 32 Gbps transceivers and adapters in the future.

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL.

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Description

IBM Storage Networking SAN32C-6 Fabric Switch has been designed to benefit both small-and large-scale SAN deployments. Small-scale SAN architectures can be built from the ground up using a low-cost, nonblocking, line rate and low-latency, fixed stand-alone SAN switch connecting both storage and host ports. Medium-to large-scale SAN architectures built with SAN core directors can expand 32 Gbps connectivity to the server rack using these switches either in switch mode or Network Port Virtualization mode.

Investing in this switch in the server rack provides the option of upgrading to 32 Gbps server connectivity from the start using the 32 Gbps host bus adapters (HBAs) that are already shipping. SAN32C-6 also delivers outstanding flexibility through a unique port expansion module that delivers a robust, cost-effective, field swappable, port upgrade option.

The main features of SAN32C-6 include high performance, high availability, pay-as-you-grow scalability, and capital expenditure savings.

- **High performance**: SAN32C-6 architecture with chip-integrated, nonblocking arbitration delivers consistent 32 Gbps low-latency performance across all traffic conditions for every Fibre Channel port on the switch.
- **Capital expenditure savings**: The 32 Gbps ports enable you to deploy them on existing 4, 8, and 16 Gbps transceivers, reducing capital expenditure with an option to upgrade to 32 Gbps transceivers and adapters in the future.
- **High availability**: SAN32C-6 switches deliver outstanding availability and reliability by providing optional redundancy on all major components such as the power supply and fan. Dual power supplies enable redundant power grids.
- **Pay-as-you-grow scalability** : SAN32C-6 Fibre Channel switches offer an option to deploy as few as eight 32 Gbps Fibre Channel ports in the entry-level variant, which can grow from eight to sixteen ports, and with a port expansion module with sixteen 32 Gbps ports, it can scale up to 32 ports. This approach results in lower initial investment and power consumption for entry-level configurations of up to 16 ports compared to a fully loaded switch. Upgrading through an expansion module also reduces the overhead of managing multiple instances of port activation licenses on the switch.

These 32 Gbps fabric switches address the requirement for highly scalable, virtualized, intelligent SAN infrastructures in current generation data center environments. The industry is already poised to transition to 32 Gbps fixed switches with the availability of 32 Gbps HBA from vendors. As low latency flash arrays and highly dense virtualization deployments become more pervasive and as storage ports become 32 Gbps capable, fixed switches will need to deliver 32 Gbps connectivity to the SAN core.

This solution offers several important benefits:

- **Server port consolidation:** The demand for 32 Gbps fabric switches is driven by hyperscale virtualizations that will significantly increase the virtual machine density per rack, and this growth will push the need for higher bandwidth HBA ports per rack of blade or stand-alone servers. One way to meet this demand is for 32 Gbps HBA ports to consolidate the current 16 Gbps HBA installed base to meet future needs to grow the number of ports. As a result, SAN32C-6 with its lower port density can be a preferred solution and its flexibility to grow can be an added advantage.
- **Simplification:** Through consolidation, a SAN administrator can reduce complexity and simplify management.
- **Multiprotocol convergence:** 32 Gbps links benefit from lower latency compared to lower-bandwidth links, bringing better performing storage workloads to your storage array. Higher bandwidth also helps ensure less inter-switch link (ISL) congestion for newer storage protocols that are expected to be available on externally attached storage arrays, such as Fibre Channel NVMe, that can co-exist on the same link as existing SCSI workloads.
- **Scale and performance:** This small form factor switch supports the performance and scale required to deploy a dedicated and stand-alone Fibre Channel SAN connecting both initiators and targets, without requiring any other switching infrastructure.

Accessibility by people with disabilities

A US Section 508 Accessibility Compliance Report containing details on accessibility compliance can be found on the Product accessibility information website.

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Models

Model summary matrix

Model	# Ports (Min/Max)	Port increments	SW	LW
T32	8/32	8	Yes	Yes

Customer setup (CSU)

Yes.

Devices supported

Not applicable.

Model conversions

Not available.

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Technical description

- Physical specifications
- Operating environment
- Limitations
- Hardware requirements
- Software requirements

Physical specifications

- Width: 439.42 mm (17.3 in.)
- Depth: 510.8 mm (20.11 in.)
- Height: 43.7 mm (1.72 in.)
- Weight (fully configured): 9.82 kg (21.65 lb)

Unit is rack mountable in a standard 19-inch (482.6 mm) EIA rack.

To assure installability and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

Operating environment

- Temperature, ambient operating: 0°C to 40°C (32°F to 104°F)
- Temperature, ambient nonoperating and storage: -40°C to 70°C (-40°F to 158°F)
- Relative humidity, ambient (noncondensing) operating: 10% - 90%
- Relative humidity, ambient (noncondensing) nonoperating and storage: 10% - 95%
- Altitude, operating: -60 m to 2000 m (-197 to 6500 ft)
- Airflow: back to front (toward ports)
- Power: 100 - 240 V AC (10 percent range), 50 - 60 Hz (nominal)
- 1200 W dual AC power supplies

Approvals and compliance

- Safety compliance
- CE Marking
- UL 60950
- CAN/CSA-C22.2 No. 60950
- EN 60950
- IEC 60950
- TS 001
- AS/NZS 3260
- IEC60825
- EN60825
- 21 CFR 1040
- EMC compliance
- FCC Part 15 (CFR 47) Class A
- ICES-003 Class A
- EN 55022 Class A
- CISPR 22 Class A
- AS/NZS 3548 Class A
- VCCI Class A
- EN 55024
- EN 50082-1
- EN 61000-6-1
- EN 61000-3-2
- EN 61000-3-3

Homologation

This product is not certified for direct connection by any means whatsoever to interfaces of public telecommunications networks. Certification may be required by law prior to making any such connection. Contact an IBM representative or reseller for any questions.

Limitations

Not applicable.

Hardware requirements

IBM Storage Networking SAN32C-6 Fabric Switch is designed to support Fibre Channel connectivity.

Software requirements

Model 8977-T32 supports all features and functions listed, and requires NX-OS software release 8.3(2), or later.

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Publications

No publications are shipped with the announced product.

IBM Knowledge Center provides you with a single point of reference where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access by going to IBM Knowledge Center for all your product information needs.

To access the IBM Publications Center Portal, go to the IBM Publications Center website.

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. A large number of publications are available online in various file formats, which can currently be downloaded.

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Features

- Features - No charge
- Features - Chargeable
- Feature descriptions
- Feature exchanges

Features - No charge

- Administrative
  - (#0983) - TAA Compliance
  - (#4651) - Rack Indicator, Rack #1
  - (#AFZA) - Cisco UCS Attachment Indicator
  - (#AHZC) - VersaStack Solution Indicator
  - (#AJMG) - LinuxONE solution indicator
  - (#FSRS) - FlashSystem Rack Solution Specify
- Miscellaneous
  - (#AG00) - Shipping and Handling NC

Features - Chargeable

Special Features - Initial Orders

- Bundle
  - (#AJGZ) - Base switch indicator
  - (#AJKM) - 24-port 16G Enterprise Bundle
  - (#AJKN) - 8-port 16G Bundle
  - (#AJKP) - 8-port 32G Bundle
- Miscellaneous
  - (#AGE8) - Shipping Charge

Special Features - Plant and/or Field Installable

- Cable
  - (#AJJ0) - 5m OM3 LC/LC Fiber Cable
  - (#AJJ1) - 25m OM3 LC/LC Fiber Cable
- FAN
  - (#AJKU) - T32 FAN tray
- Miscellaneous
  - (#9555) - Bulk order MES feature
- Bundle
  - (#AJKQ) - 16-port 16G Expansion Module Bundle
  - (#AJKR) - 16-port 32G Expansion Module Bundle
- Power supply
  - (#AJKT) - T32 AC Power Supply
- Advanced Function
  - (#AJJC) - Enterprise Pkg eDelivery
  - (#AJJD) - DCNM Advanced Edition eDelivery
  - (#AJJE) - T32 8-port On-Demand eDelivery
  - (#AJHZ) - SAN Insights 3yr
  - (#AJLA) - SAN Insights 5yr
- Module
  - (#AJKS) - T32 16-port Expansion module
- Power
  - (#AJJF) - Power Cord, 125VAC 15A NEMA 5-15 Plug, North America
  - (#AJJG) - Power Cord, 250VAC 10A 3112 Plug, Australia
  - (#AJJH) - Power Cord, 250VAC 10A CEE 7/7 Plug, EU
  - (#AJJJ) - Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy
  - (#AJJK) - Power Cord, 250VAC 13A BS1363 Plug (13 A fuse), UK
  - (#AJJL) - Power Cord, 250VAC 10A IRAM 2073 Plug, Argentina
  - (#AJJM) - Power Cord, 250VAC 10A SABS 164/1 Plug, South Africa
  - (#AJJN) - Power Cord, 250VAC 10A, Straight C15, MP232 Plug, SWITZ
  - (#AJJP) - Power Cord, 250VAC 10A GB1002 Plug, China
  - (#AJJQ) - Power Cord, 250VAC 10A SI16S3 Plug, Israel
  - (#AJJR) - Cabinet Jumper Power Cord, 250 VAC16A, C14-C15 Connector
  - (#AJJS) - Power Cord, 125VAC 13A KSC8305 Plug, Korea
  - (#AJJT) - Power Cord, 125VAC 15A CNS10917-2, Taiwan
  - (#AJJU) - Power Cord, 250VAC 10A, Brazil
- Transceiver
  - (#AJHB) - FC 16Gb SW SFP+
  - (#AJHC) - FC 16Gb 10km LW SFP+
  - (#AJHD) - FC 16Gb ELW SFP+
  - (#AJHE) - FC 32Gb SW SFP+
  - (#AJHF) - FC 32Gb 10km LW SFP+
  - (#AJHM) - FC 8Gb SW SFP+
  - (#AJHN) - FC 8Gb 10km LW SFP+
  - (#AJHS) - FC 32Gb ELW SFP+

Feature descriptions

Note: Not all of the following features are available in all countries. Check with your country representative for specific feature availability.
The following is a list of all feature codes in numeric order for the IBM System Storage 8977 machine type.

(#0983) - TAA Compliance

This feature specifies the machine shipment is to comply with the US Trade Agreements Act (TAA).

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#4651) - Rack Indicator Rack 1

These features identify the rack into which the machine is to be installed by IBM Manufacturing. They are for use only on IBM integrated solution orders.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#9555) - Bulk order MES feature

Summary: This feature allows customers a one time opportunity to order Power Cords in order to change countries.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: Feature #AJJF-#AJJU
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: When this feature is selected, the maximum of features #AJJF-#AJJU is 4
- Plant / Field installable: MES
- Cable order: None
- Comments: None

(#AFZA) - Cisco UCS Attachment Indicator

This feature indicates the machine is a component within a Cisco UCS (VersaStack) environment. This feature is for administrative purposes only and does not affect the technical capabilities of the machine.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: N/A
- Limitations: This feature will be added when another MTM using the same feature is present on the order
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AG00) - Shipping and Handling NC

This feature indicates no shipping and handling charge will be added to the order.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AGE8
- Customer setup: N/A
- Limitations: Must be ordered if feature #AGE8 is not present on the order
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AGE8) - Shipping Charge

This feature indicates that the order will have a shipping and handling charge.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AG00
- Customer setup: N/A
- Limitations: Must be ordered if feature #AG00 is not present on the order
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AHZC) - VersaStack Solution Indicator

This feature indicates the machine is a component within a VersaStack Solution.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: N/A
- Limitations: This feature will be added when another MTM using the same feature is present on the order
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AJGZ) - Base switch indicator

This feature provides 8 active FC ports, 2 fans, 1 PSU, Port side exhaust. This feature will be automatically added when feature #AJKM is not selected.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AJKM
- Customer setup: N/A
- Limitations: Must be ordered if feature #AJKM is not present on the order. If selected, must order at least 3 of feature #AJHB, #AJHC, #AJHE, #AJHF, #AJHM, #AJHN when feature #AJKN, #AJKP, #AJKQ, or #AJKR are not present on the order
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AJHB) - FC 16Gb SW SFP+

This feature provides one shortwave SFP transceiver, designed to provide 16 Gbps Fibre Channel connections at distances up to 35 meters while using the appropriate 50.0/125 micrometer fiber optic cable, distances up to 15 meters while using the appropriate 62.5/125 micrometer fiber optic cable, or up to 100 meters with the 50.0 micron OM3 cable.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHC) - FC 16Gb 10km LW SFP+

This feature provides one longwave SFP transceiver, designed to provide 16 Gbps Fibre Channel connections at distances up to 10 kilometers while using the appropriate 9 micron single mode fiber optic cable.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHD) - FC 16Gb ELW SFP+

This feature provides a 16 Gbps Fiber Channel ELW SFP+.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHE) - FC 32Gb SW SFP+

This feature provides a 32 Gbps shortwave SFP+.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: Not available as MES in Taiwan

(#AJHF) - FC 32Gb 10km LW SFP+

This feature provides a 32 Gbps longwave SFP+.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: Not available as MES in Taiwan

(#AJHM) - FC 8Gb SW SFP+

This feature provides one shortwave SFP transceiver, designed to provide 8 Gbps Fibre Channel connections at distances up to 50 meters while using the appropriate 50.0/125 micrometer fiber optic cable, distances up to 21 meters while using the appropriate 62.5/125 micrometer fiber optic cable, or up to 150 meters with the 50.0 micron OM3 cable.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHN) - FC 8Gb 10km LW SFP+

This feature provides one longwave SFP transceiver, designed to provide 8 Gbps Fibre Channel connections at distances up to 10 kilometers while using the appropriate 9 micron single mode fiber optic cable.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHS) - FC 32Gb ELW SFP+

This feature provides a 32 Gbps Fiber Channel ELW SFP+.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Maximum qty of features #AJHB + #AJHC + #AJHE + #AJHF + #AJHM + #AJHN + #AJHD + #AJHS = 32
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJHZ) - SAN Insights 3yr

This feature provides SAN Insights for DCNM. It enables the switch to provide on-board and outbound access to the telemetry data provided by the 32 Gbps ports with the added functions of DCNM visualization. This is a term-based license that is valid for a minimum of three years. A message will be displayed 90 days before the license expiry date as a reminder to renew the license. The message will continue to display on the 89th, 60th, 30th day, once every day for the last 28 days, and once every hour for the last 7 days of the license expiry date.

- Minimum required: 0
- Maximum allowed: 10 (Initial order maximum: 1)
- Prerequisites: Feature #AJJD
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Only one allowed per MES order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJ0) - 5m OM3 LC/LC Fiber Cable

This feature provides one 5 meter OM3 cable required for attaching the SAN switches or directors to the host system adapters or other storage area Fibre Channel components.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJ1) - 25m OM3 LC/LC Fiber Cable

This feature provides one 25 meter OM3 cable required for attaching the SAN switches or directors to the host system adapters or other storage area Fibre Channel components.

- Minimum required: 0
- Maximum allowed: 32 (Initial order maximum: 32)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJC) - Enterprise Pkg eDelivery

This feature includes advanced traffic-engineering and network security features such as IVR, QoS and zone-based QoS, Fibre Channel Security Protocol (FC-SP), port security, VSAN-based access control, and fabric binding for open systems. Licensed per switch for all the ports on the switch.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJD) - DCNM Advanced Edition eDelivery

This feature includes advanced management capabilities such as vCenter integration, performance trending, advanced provisioning, backup, and dashboards. Licensed per switch for all the ports on the switch. License is hosted on a server.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJE) - T32 8-port On-Demand eDelivery

This feature enables eight additional FC ports on the switch.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: If selected, must order at least 3 of feature #AJHB, #AJHC, #AJHE, #AJHF, #AJHM, #AJHN
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJF) - Power Cord, 125VAC 15A NEMA 5-15 Plug, North America

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJG) - Power Cord, 250VAC 10A 3112 Plug, Australia

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJH) - Power Cord, 250VAC 10A CEE 7/7 Plug, EU

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJJ) - Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJK) - Power Cord, 250VAC 13A BS1363 Plug (13 A fuse), UK

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJL) - Power Cord, 250VAC 10A IRAM 2073 Plug, Argentina

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJM) - Power Cord, 250VAC 10A SABS 164/1 Plug, South Africa

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJN) - Power Cord, 250VAC 10A, Straight C15, MP232 Plug, SWITZ

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJP) - Power Cord, 250VAC 10A GB1002 Plug, China

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJQ) - Power Cord, 250VAC 10A SI16S3 Plug, Israel

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJR) - Cabinet Jumper Power Cord, 250 VAC16A, C14-C15 Connector

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJS) - Power Cord, 125VAC 13A KSC8305 Plug, Korea

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJT) - Power Cord, 125VAC 15A CNS10917-2, Taiwan

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJJU) - Power Cord, 250VAC 10A, Brazil

Specify the required country specific power cord feature (#AJJF-#AJJU).

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Features #AJJE-#AJJU are mutually exclusive
- Customer setup: Yes
- Limitations: Must order at least one of #AJJF-#AJJU. Must order at least two of #AJJF-#AJJU if feature #AJKM or #AJKT is present on the order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJKM) - 24-port 16G Enterprise Bundle

This feature enables twenty-four ports, and provides twenty-four 16 Gbps SW optics, Enterprise license, four fans, and two PSUs.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Cannot coexist with features #AJGZ, #AJKN, #AJKP, #AJKQ, #AJKR, #AJKT, #AJKU, and #AJJC
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AJKN) - 8-port 16G Bundle

This feature provides eight 16 Gbps SW transceivers for the 8 ports enabled with feature #AJGZ.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: Feature #AJGZ
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AJKM, #AJKP
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AJKP) - 8-port 32G Bundle

This feature provides eight 32 Gbps SW transceivers for the 8 ports enabled with feature #AJGZ.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: Feature #AJGZ
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AJKM, #AJKN
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

(#AJKQ) - 16-port 16G Expansion Module Bundle

This feature provides a expansion module with sixteen ports enabled and sixteen 16 Gbps SW transceivers.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: Feature #AJGZ
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AJKM, #AJKR
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJKR) - 16-port 32G Expansion Module Bundle

This feature provides a expansion module with sixteen ports enabled and sixteen 32 Gbps SW transceivers.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: Feature #AJGZ
- Corequisites: None
- Compatibility conflicts: Cannot coexist with feature #AJKM, #AJKQ
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJKS) - T32 16-port Expansion module

This feature provides sixteen additional active FC ports.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts:
- Customer setup: Yes
- Limitations: If selected, must order at least 5 of feature #AJHB, #AJHC, #AJHE, #AJHF, #AJHM, #AJHN
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJKT) - T32 AC Power Supply

This feature provides one additional power supply, it is recommended for high availability configurations.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: Feature #AJKU
- Compatibility conflicts: Cannot coexist with feature #AJKM
- Customer setup: Yes
- Limitations: None
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJKU) - T32 FAN tray

This feature provides an additional fan tray.

- Minimum required: 0
- Maximum allowed: 2 (Initial order maximum: 2)
- Prerequisites: None
- Corequisites: Feature #AJKT
- Compatibility conflicts: Cannot coexist with feature #AJKM
- Customer setup: Yes
- Limitations: Must be ordered quantity of 2 when feature #AJKT is ordered
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJLA) - SAN Insights 5yr

This feature provides SAN Insights for DCNM. It enables the switch to provide on-board and outbound access to the telemetry data provided by the 32 Gbps ports with the added functions of DCNM visualization. This is a term-based license that is valid for a minimum of five years. A message will be displayed 90 days before the license expiry date as a reminder to renew the license. The message will continue to display on the 89th, 60th, 30th day, once every day for the last 28 days, and once every hour for the last 7 days of the license expiry date.

- Minimum required: 0
- Maximum allowed: 6 (Initial order maximum: 1)
- Prerequisites: Feature #AJJD
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: Yes
- Limitations: Only one allowed per MES order
- Plant / Field installable: Both
- Cable order: None
- Comments: None

(#AJMG) - LinuxONE solution indicator

This feature designates the switch as part of a LinuxONE solution.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: Cannot coexist with features #AJJF thru #AJJU
- Customer setup: N/A
- Limitations: Only available when MTM 8562-LT2 with FC 0150 is selected
- Plant / Field installable: Initial
- Cable order: None
- Comments: When #AJGM is ordered, power cords #AJJF thru #AJJU are not required

(#FSRS) - FlashSystem Rack Solution Specify

This feature indicates this model is part of a FlashSystem Rack Solution.

- Minimum required: 0
- Maximum allowed: 1 (Initial order maximum: 1)
- Prerequisites: None
- Corequisites: None
- Compatibility conflicts: None
- Customer setup: N/A
- Limitations: None
- Plant / Field installable: Initial
- Cable order: None
- Comments: None

Feature exchanges

None.

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Accessories

None.

Customer replacement parts

None.

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Supplies

None.

Supplemental media

None.

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