COMMSCOPE®

XDS Cabinet and Rack System
Featuring AMP NETCONNECT® and KRONE® product portfolios

2015 PRODUCT CATALOG | 3RD EDITION

XDS Server Racks

CommScope's XDS Server Racks are designed for high density data centers with advanced cooling, cable management and power distribution features that keep critical servers and network equipment operating nonstop.

Features

- Integrated Vertical Cable Managers for 800 Series Racks – help to maintain the proper bend radius of the patch cords.

- Material: cold rolled steel, compliant with RoHS standard. The frame is made of 2mm powder coated steel, ensuring a strong, rigid, durable and rustproof cabinet.

- Front door: Curved steel door with 70% perforation, 4.8mm diameter perforation. Lockable for security.

- Rear doors: 2 flat panes perforated steel doors, 4.8mm diameter perforation. Lockable turn lock.

- Adjustable mounting rails. Front and rear mounting rails adjustable in quarter-inch increments.

- Removable and reversible front door; allow the door to open from either the left or the right.

- Removable side panels.

- Heavy duty casters to help position the rack to final position. Adjustable leveling feet to secure the position.

- Cable routing from top and bottom. Cable entries covered with removable blanking plates.

- Static load up to 1000 Kg.

- Grounding system: all metallic parts are bonded with grounding cable kits.

- Modular knocked-down/flat-packed units. To be assembled on-site to save storage space and ease of transportation.

- Accessory: 50 pcs of M6 screws, cage nuts and plastic washers.

- Color: Black powder coated (RAL9005).

Ordering Information

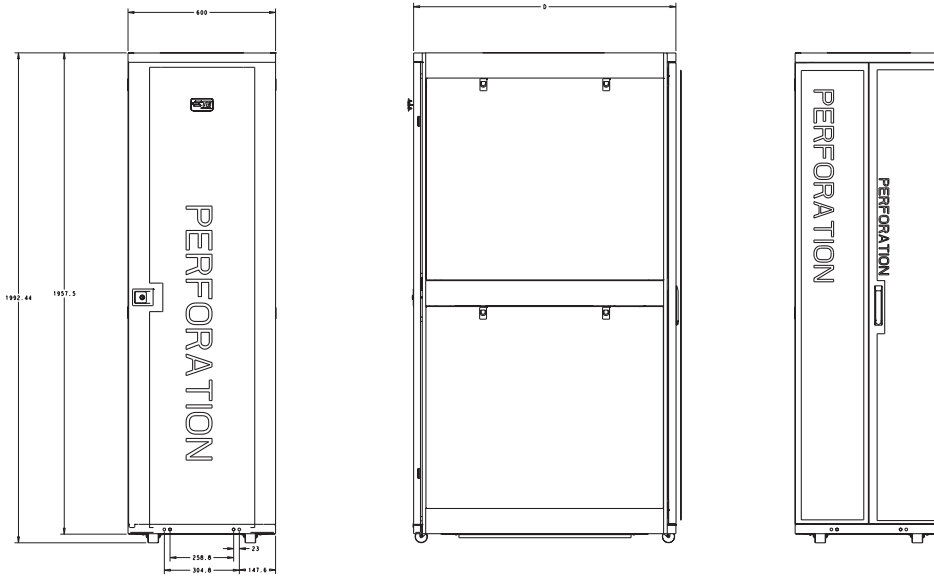| Description	UH	Standard Rack 600 Series (W x D)			Standard Rack 800 Series (W x D)	
		600x600	600x800	600x1100	800x800	800x1100
Standard Rack 42U	42	1427543-1	1427490-1	1427560-1	1427491-1	1427561-1
Standard Rack 42U, w/o Side Panels	42	1427543-2	1427490-2	1427560-2	1427491-2	1427561-2
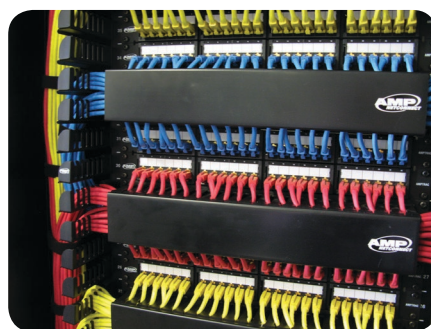
Vertical Cable Managers

Curved Perforated Door, 600 Series

Product Selection

Description	Standard Rack 600 Series (Width x Depth)		
	600 x 600	600 x 800	600 x 1100
Net Weight (with side panels) - Kg	101	118	135
Net Weight (without side panels) - Kg	82	90	105
Dimension (W x D x H) - mm	600 x 600 x 1992	600 x 800 x 1992	600 x 1100 x 1992

Curved Perforated Door, 800 Series
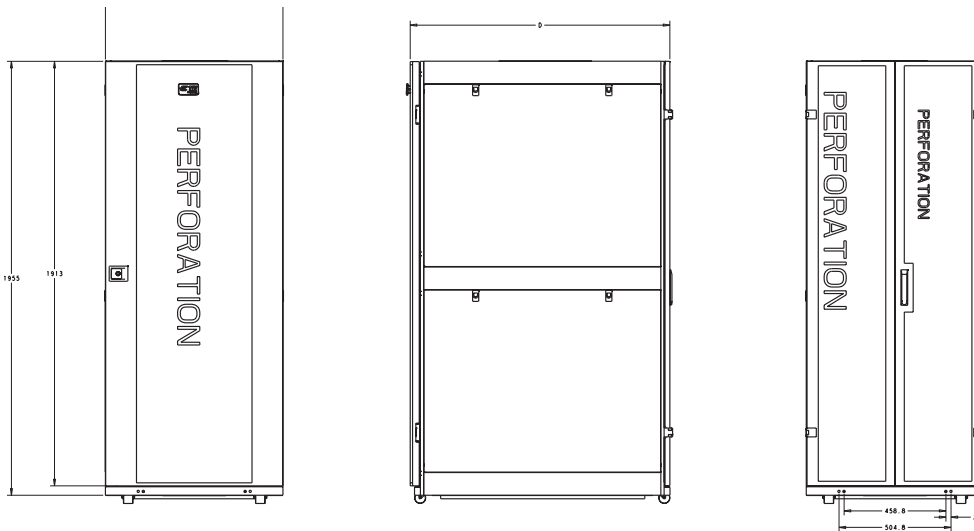
Product Selection

Description	Standard Rack 800 Series (Width x Depth)	
	800 x 800	800 x 1100
Net Weight (with side panels) - Kg	125	150
Net Weight (without side panels) - Kg	95	110
Dimension (W x D x H) - mm	800 x 800 x 1992	800 x 1100 x 1992

Thermal Kit

Features

- Extractor fans to improve removal of warm air from the rack

- Material: cold rolled steel plate, 1.5mm. Complies with RoHS standard.

- UL compliant fan units

- Reliable AC Motor Construction.

- Air flow 10 cubic meter / min

- 1.5 m power cord plug. Other lengths available on request

- 110/115V or 220/240VAC, 50-60 Hz

Ordering Information

Description	Part Number
Ventilating Fan Set 4x4" Dia. for 600x1100 XDS Rack	1427575-1
Ventilating Fan Set 4x4" Dia. for 800x1100 XDS Rack	1427575-2

Vented Shelf 400mm Deep

Features

- Supports equipment up to 400mm deep, with 1U height

- Compatible with 19" Racks. Mounting hardware included

- Material: cold rolled steel plate, 1.5mm complies with RoHS standard

- Up to 15 kg load capacity, able to take the weight of equipment such as Modem, Power Adapter etc

Ordering Information

Description	Part Number
Vented Shelf 400 mm Depth	1427509-1

Fixed Shelf

Features

- Fixed and Heavy Duty Shelves are ideal for heavy equipment

- Compatible with 19" Racks, 1U height. Mounting hardware included

- Material: cold rolled steel plate, complies with RoHS standard

- 80 Kg load capacity for Fixed Shelf series, 1.5mm thickness

- Compatible with 800 and 1100 deep cabinets

Ordering Information

Description	Part Number
Fixed Shelf, for 1100mm Depth Racks	1427573-1
Fixed Shelf, for 800mm Depth Racks	1427493-1

Sliding Shelf

Features

- Slides out for easy access to equipment

- Compatible with 19" Racks, 1U height. Mounting hardware included

- Material: cold rolled steel plate, 1.5mm complies with RoHS standard

- 40 Kg load capacity

- Compatible with 800 and 1100 deep cabinets

Ordering Information

Description	Part Number
Sliding Shelf, for 1100mm Depth Racks	1427574-1
Sliding Shelf, for 800mm Depth Racks	1427494-1

Cable Management

Features

- Mounted on the top of XDS Racks to manage cable routing between racks

- Material: cold rolled steel plate, 1.5mm complies with RoHS standard

- Black powder coated

Ordering Information

Description	Part Number
Rack Top Cable Trough	1427578-1

Brush Panels

Features

- Blank panels with brushed opening

- Allow cable to route to the rear of the rack while reducing by-pass cold air

- Material: cold rolled steel plate, 1.5mm compliant with RoHS standard.

- Made from black powder coated steel

Ordering Information

Description	Part Number
Brush Panel – 1U	1427577-1

1U Cable Management Module

Features

- Cable Manager to facilitate proper patch cord management

- Material: cold rolled steel plate, 1.5mm compliant with RoHS standard

- Made from black powder coated steel

Ordering Information

Description	Part Number
1U Cable Management Module	1427632-1

Mounting Hardware

Features

- Hardware to attach panels and equipment to racks and cabinets

- M6 screws, Cage nuts and Washer kits

- Package quantity: 50 sets

Ordering Information

Description	Part Number
M6 Screws, cage nuts and washers, (50 sets per pack)	1427495-1

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COMMSCOPE®

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Visit our website or contact your local CommScope representative for more information.

CAT-314966.4-HK (12/15)

Bonding and grounding NETCONNECT® copper cabling systems

A complete review of bonding and grounding for copper twisted-pair cabling systems

Taking the guesswork out of grounding and bonding STP copper cabling systems

Grounding and bonding is the single most important practice for the protection of people and property. The National Electric Code (NEC), NFPA 70, defines grounding and bonding and provides requirements for the grounding of a building's electrical system. In our industry, the TIA-607-B Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications is designed to enable the planning, design, and installation of a telecommunications grounding and bonding system.

One of the biggest myths in the telecommunications industry involves the grounding and bonding of shielded twisted-pair (STP) copper cabling systems. Throughout the industry, there is a misconception that grounding and bonding of STP systems is more difficult, more time consuming, and more technique sensitive. This is simply not true. In this white paper, you will learn how to properly ground and bond an STP copper cabling system, and you will see that it is straightforward and essentially no different than grounding and bonding a UTP system.

Grounding and bonding basics

You know that grounding and bonding is absolutely necessary, but what exactly is grounding and what is bonding? Let's start with the definitions according to the NEC:

- **Grounding:** Establishing a connection, whether intentional or accidental, between an electrical circuit or equipment and the earth or to some conducting body that serves in place of the earth.

- **Bonding:** The permanent joining of metallic parts to form an electrically conductive path that ensures electrical continuity and the capacity to conduct safely any current likely to be imposed.

Let's clarify those definitions further. Grounding provides a path for surges in the power systems, components. When this happens, the electrons can damage any equipment in its path. Proper bonding, or achieving a common ground potential, reduces the likelihood of electrical shock, equipment damage, and data contamination from voltage and current noise.

Within a building, there is one common ground for all electrical systems, which the NEC refers to as the grounding electrode system. According to the NEC, the grounding electrode system is the responsibility of the electrical contractor, and the telecommunications installer NEVER actually installs a grounding system unless he or she is also a licensed electrical installer. However, the telecommunications contractor is required to bond the components of the telecommunications system and bond the entire system to a suitable ground point.

Proper grounding and bonding is a sizeable job

Proper grounding and bonding is a sizeable job whether it is UTP or STP, and there is virtually no difference in the requirements between the two. It's as simple as properly terminating the shielded

jack and using shielded components throughout the channel. In today's IT world, it is vital for customers who rely so heavily on their communication system to ensure proper grounding and bonding – whether it's a UTP or STP system.

Bonding STP and UTP telecommunications systems

Not only is grounding and bonding important for the protection of the people and property, proper bonding of the telecommunications system per the current TIA-607-B standard is also vital to ensure reliable data transmission performance. Proper bonding is necessary to ensure that the effects of unwanted noise signals (antenna effect) on telecommunications cables do not interfere with the overall network performance. Grounding and bonding is also a life safety issue since metallic parts may become accidentally energized, causing an electrical hazard.

First and foremost, it's imperative to understand that the following bonding requirements of a telecommunications system are applicable to both STP and UTP systems. It doesn't matter which type of system you're installing! To bond all the components of the telecommunications infrastructure, the current TIA J-STD-607-A requires the following (see Figure 1):

- **Telecommunications main grounding busbar (TMGB):** The TMGB is the central attachment point for all components of the telecommunications system's grounding (bonding) infrastructure. Located in the telecommunications entrance facility (TEF), the TMGB is a predrilled copper busbar with holes for use with standard-sized lugs that must be insulated to ensure it is electrically isolated from the wall or other mounting surface. The standard requires the TMGB to be a.minimum of 6.3 mm (0.25 in) thick by 100 mm (4 in) wide and variable in length. The TMGB should be bonded to the building's nearest (within 30') grounding electrode system via the ac main service electrical panelboard located at the TEF. An alternate solution is to attach the bonding conductor to the nearest grounded ac electrical branch circuit panel. For additional redundancy, the TMGB must also be bonded to the nearest ground point, which in most cases is the building's structural steel.

- **Telecommunications grounding busbar (TGB):** The TGB is the attachment point for all telecommunications systems and equipment in a specific telecommunications space. Therefore, each telecommunications room (TR) throughout the building should have a TGB. Also a predrilled copper busbar with holes for standard sized lugs, the TGB must be at least 6.3 mm (0.25) thick by 50 mm wide (2 in). TGBs must be insulatedw to ensure they are electrically isolated from the wall or other mounting surface. A bonding connection should always be made to the equipment grounding busbar located in the nearest electrical panel board that supplies the ac electrical power. For additional redundancy, each TGB should also be bonded to the nearest ground point, which in most cases is the building's structural steel. Each TGB should be bonded to the TMGB via the TBB if specified (see on page 3).

- **Telecommunications bonding backbone (TBB):** The TBB is a 6 AWG or larger grounding (bonding) conductor that bonds all TGBs with the TMGB as part of the telecommunications pathways and spaces (independent of cable). The size of the TBB is dependent on the length, up to a maximum size of 3/0 AWG for lengths greater than 20 meters (66 feet). The TBB is an optional design method. Each TGB should be bonded to the ac electrical panel board servicing that floor with a supplemental bonding connection to the metal frame of the building.
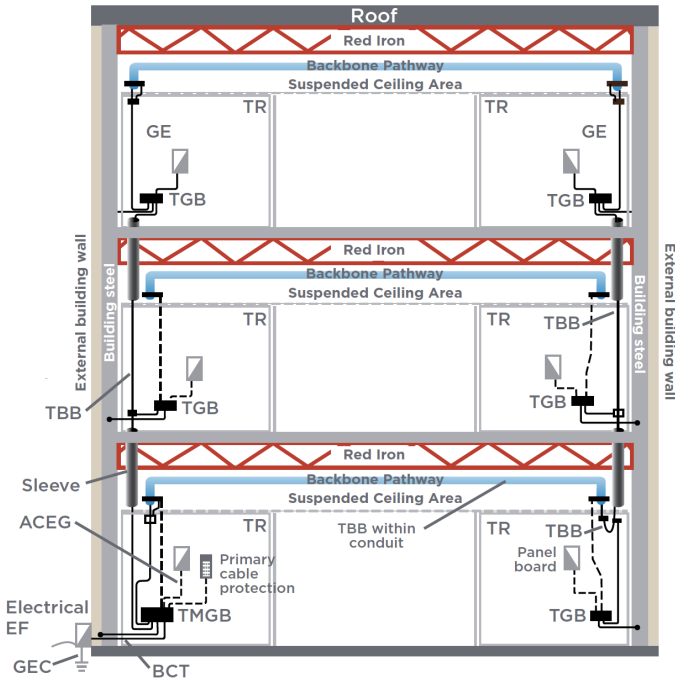

Figure 1: Bonding and grounding system

ACEG:	Alternating current equipment ground
BC:	Bonding conductor
BCT:	Bonding conductor for telecommunications
EF:	Entrance facility
ER:	Equipment room
GE:	Grounding equalizer
GEC:	Grounding electrode conductor
TBB:	Telecommunications bonding backbone
TGB:	Telecommunications grounding busbar
TMGB:	Telecommunications main grounding busbar
TR:	Telecommunications room

Source: BICSI TDM manual

- **Grounding Equalizer (GE):** Whenever two or more TBBs exist in a multistory building, they must be bonded together with a GE at the top floor and at every third floor in between. The GE is also sized the same as the TBB.

- **Bonding conductor for telecommunications (BCT):** From the telecommunications entrance facility, the TMGB is bonded to the building's grounding electrode system with the BCT. The BCT is also sized like the TBB and GE at a minimum of 6 AWG.

There is often confusion about what components of the telecommunications infrastructure should be bonded. To determine what should be bonded, installers need to ask themselves if a metallic component is attached to the telecommunications cabling infrastructure, or if it comes in contact with any other metallic component attached to the infrastructure. If the answer is yes, it must be bonded. That includes the following:

- Racks
- Ladders
- Enclosures
- Equipment like patch panels, routers, and switches
- Surge protection devices
- Metallic cable tray

In each TR, the metallic components are bonded to the TGB with a grounding (bonding) conductor using two-hole lugs. Code requires all clamp and compression connections to be UL 486A listed. When bonding patch panels, racks, and other painted equipment or components to the TGB, a low resistance path is achieved by scraping the paint or other means that will assure a good ground. At CommScope, we provide a paint piercing star washer with CommScope patch panels to avoid having to scrape paint and to ensure a proper bonding connection.

Once all of the components of the telecommunications infrastructure are properly bonded, the system must be bonded to the building's ground, which provides a connection to the earth. When the telecommunications system is bonded to the building's ground, it is at the same ground potential as other electrical systems in the building. This is achieved by bonding the TMGB and all TGBs to the building's grounding electrode system.

Straightforward answers to STP

STP cable and connectivity has been on the market for many years and have been widely deployed and proven throughout the world. STP has always offered better RFI/EMI immunity, security, and an electrically superior performance. With 10 Gigabit Ethernet over copper now a reality, the performance of STP systems offers significantly more headroom over 10 Gigabit UTP systems. Furthermore, STP offers a smaller cable diameter and better fill ratio, providing higher density and cost savings.

While performance and density prevail for STP, one of the biggest myths surrounding STP is that installation is more time consuming and difficult due to grounding and bonding issues. But grounding and bonding of an STP system is absolutely no different than with UTP. In this section, we will take the guesswork out of grounding and bonding STP systems by providing answers to common questions and setting straight the misconceptions.

Grounding and bonding in the TR

Grounding and bonding of STP systems in the TR is done exactly as described in the standard-by bonding the patch panels, racks, and other metallic components to the TGB. Shielded patch panels, jacks, and cable have the grounding and bonding built in. So once the cable is properly terminated to the jack and the jack mounted to the patch panel, the bonding and grounding is complete. This process is absolutely no different than what is required for UTP systems. The most common problem with grounding and bonding occurs when the patch panel and racks are not properly bonded to the TGB-and that problem applies to both UTP and STP systems.

Grounding and bonding at the workstation

Many installers question if they are supposed to ground and bond an STP cabling system at both ends—the TR and at the workstation. The answer is much simpler and more straightforward than you might think. The easiest way to look at grounding and bonding of a system at the workstation is to consider the difference between a permanent link and a channel.

- **Permanent Link:** The permanently installed horizontal cable and connecting hardware from the workstation outlet to the patch panel in the telecommunications room.

- **Channel:** An end-to-end transmission path, which includes the horizontal permanent link, plus patch cords on either end to connect the communications hardware (i.e. switch, laptop, PC).

In a permanent link, the shield is bonded to ground only at the TR end as previously described above. The workstation end of the permanent link is not bonded to ground. This is the same for both UTP and STP systems.

In a channel, the bonding of the permanent link shield to ground at the workstation end is accomplished by connecting a shielded patch cord between the outlet and the equipment. This results in a ground condition at both ends of the channel. It's as simple as that! Computers and networking equipment all include shielded jacks where the shield of the jack is bonded to the ground conductor of the electrical cord. Absolutely no special jacks or interface cards are required. The equipment is grounded through the electrical receptacle, tying both the electrical and telecommunications system to ground.

Even if a shielded patch cord is not used, or the workstation equipment is not grounded through the electrical receptacle, the channel is tied to ground back in the telecommunications room, which prevents the risk of electrical shock.

Maintaining continuity of the shield from cable to plug to jack

In an STP system, the shield should completely surround the cable along its entire length, and the shield should remain continuous along the entire length of the channel from the transmitter to receiver. This is accomplished by using only shielded products throughout the entire channel, from cable to plug to jack to patch panel.

Proper installation is also central to maintaining continuity of the shield. When terminating a shielded jack, the shield must make contact with the connector. With some of the newer technology in connecting hardware available today, ensuring that contact is quite simple. For example, CommScope's TWIST shielded jacks are all metal and feature a spring-loaded cable strain relief that automatically provides a 360-degree contact to the terminated shield. In fact, the entire process of terminating an NETCONNECT shielded jack to STP cable takes 60 seconds or less. Once the jack is properly terminated, simply placing the jack in the patch panel provides the electrical bond between the panel and the shield.
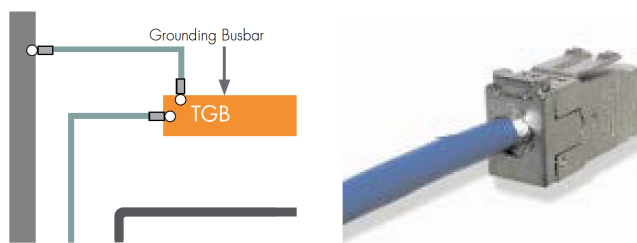
Testing for ground loops and proper grounding and bonding

In an electrical system, a ground loop refers to an unwanted current that flows in a conductor connecting two points that are at different voltages. Another misconception surrounding shielded cable is that ground loops will always be a problem. However, ground loops that affect network performance can only occur when a system has more than one path to ground and the voltage difference between the two points are more than 1 Volt. If the components of a telecommunications system are properly bonded, and the system is effectively bonded to the building's grounding electrode system, there is virtually no condition where a ground loop is possible.

The only way to ensure proper grounding and bonding for either a UTP or STP system is to test upon completion. Ground potential difference should not exceed 1 Volt. Testing for ground potential difference can be done using an Earth Ground Resistance Tester with the entire building in operation. In other words, nothing needs to be shut down to test the grounding and bonding. Earth Ground Resistance Testers can be purchased pretty much anywhere telecommunications testers are sold.

It is imperative to test the potential difference between the TMGB and the electrical ground and between the TMGB and each TGB. Within the telecommunications space, testing should also be done between the TGB and all racks, cable tray, and electronic equipment.

Some may want to have their grounding and bonding system independently tested or certified by a qualified electrical contractor or engineer. Locating an independent grounding and bonding test engineer may be difficult, but if you do request a certified test, do your research and only use qualified consultants.

Summary

In the past, little was known about properly grounding and bonding telecommunications systems. As a result, many problems occurred. Because the first generation of telecommunications cabling was shielded, many associated grounding and bonding issues with these systems. But times have changed. Grounding and bonding is now a science that qualified installers understand and practice, and STP cabling and components have evolved dramatically since the early days of inception. The problems associated with previous versions of shielded systems are no longer.

Proper grounding and bonding is a sizeable job whether it is UTP or STP, and there is virtually no difference in the requirements between the two. Yes, the shield must maintain continuity throughout a channel, but achieving that condition does not require any additional labor or technique. It's as simple as properly terminating the shielded jack and using shielded components throughout the channel. In today's IT world, it is vital for customers who rely so heavily on their communication system to ensure proper grounding and bonding – whether it's a UTP or STP system.

For more information on grounding and bonding and installing a CommScope cabling system visit www.commscope.com.

For more information on the TIA J-STD-607-A Grounding and Bonding standard TIA-608-B visit www.tiaonline.org.

Everyone communicates. It's the essence of the human experience. *How* we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers—we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.

COMMSCOPE®

DATA SHEET

CABLE DESCRIPTION

1. Armored Optical Fiber Cable
2. Designed with a Loose tube construction.
3. Tubes are Gel filled to ensure protection against moisture ingress.
4. Designed for use in the following applications like Backbone cabling, Campus site cabling and Outdoor Ducts or Direct Burial applications.
5. Cable contains up to 12 fibers.
6. Water Blocking E-Glass Strength member

- Outer HDPE Sheath
- ECCS Armour
- Flooding Jelly
- FRP Rod
- Glass Yarns
- Polyester Tape
- Loose Tube
- Optical Fibers with Thixotropic Jelly
- Filler
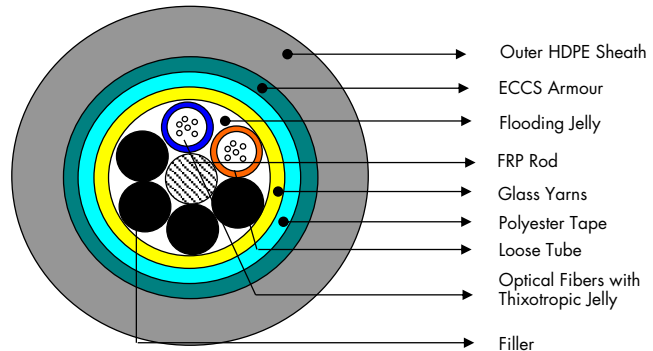
SL.No.	PARAMETER	UNIT	OM1 (Y ≈ 5)	OM2 (Y ≈ 7)	OM3 (Y ≈ 3)	OM4 (Y ≈ 2)	OS2 (Y ≈ 4)
					SPECIFICATIONS		
1	TYPE OF CABLE				MULTI TUBE		
2	STANDARDS						
	EN 50173; ISO/IEC 11801				YES		
	ANSI/TIA-568-C.3				YES		
	Telcordia GR-20				YES		
3	FIBER		MM OM1	MM OM2	MM OM3	MM OM4	SM
a)	FIBER SIZE	um	62.5/125/250	50/125/250	50/125/250	50/125/250	9/125/250 (OS2)
b)	No. OF FIBERS / LOOSE TUBE	No.			12F		
c)	FIBER IDENTIFICATION						
	6F				Blue, Orange, Green, Brown, Gray, White		
4	OPTICAL PARAMETERS						
a)	ATTENUATION @ 1310nm (max)	dB/Km	-	-	-	-	≤ 0.34
b)	ATTENUATION @ 1550nm (max)	dB/Km	-	-	-	-	≤ 0.22
c)	ATTENUATION @ 1380 - 1386nm	dB/Km	-	-	-	-	≤ 0.31
d)	POINT DISCONTINUITY	dB	-	-	-	-	≤ 0.1
e)	CUT-OFF WAVELENGTH	nm	-	-	-	-	≤ 1260
f)	CHROMATIC DISPERSION @ 1310 nm	ps/nm x km	-	-	-	-	≤ 3.5
g)	CHROMATIC DISPERSION @ 1550 nm	ps/nm x km	-	-	-	-	≤ 18
h)	CORE/MODE-FIELD	um	62.5	50	50	50	9
i)	FIBER ATTENUATION @ 850nm (max)	dB/Km	≤ 2.9	≤ 2.4	≤ 2.7	≤ 2.7	-
j)	FIBER ATTENUATION @ 1300nm (max)	dB/Km	≤ 0.7	≤ 0.6	≤ 0.7	≤ 0.7	-
	CABLE ATTENUATION @ 850nm (max)	dB/Km	≤ 3.0	≤ 3.0	≤ 3.0	≤ 3.0	-
	CABLE ATTENUATION @ 1300nm (max)	dB/Km	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0	-
k)	OVER FILLED BAND WIDTH						-
	@ 850nm	MHz X Km	≥ 200	≥ 500	≥ 1500	≥ 3500	-
	@ 1300nm	MHz X Km	≥ 600	≥ 500	≥ 500	≥ 500	-
l)	MAX LINK LENGTH FOR 1 GBit/s						-
	@850nm (1000Base-SX)	Meter	275	550	1000	1040	-
	@1300nm (1000Base-LX)	Meter	550	550	600	600	-
m)	MAX LINK LENGTH FOR 10GBit/s						-
	@850nm (10GBase-SR & SW)	Meter	33	82	300	550	-
	@1300nm (10GBase-LX4)	Meter	360	300	300	300	-
	By using mode conditioning Patch Cord						-
n)	CLADDING	um			125		
o)	COATING	um			250		
5	LOOSE TUBE / TIGHT BUFFER				LOOSE TUBE		
a)	MATERIAL				PBTP		
b)	No. OF LOOSE TUBES	No.			2		
c)	DIAMETER	mm			3±0.2		
d)	COLOUR OF LOOSE TUBE				BLUE, ORANGE		
e)	SEQUENCE OF ELEMENTS IN CORE				BL, OR, BK1, BK2, BK3, & BK4 FILLERS		
f)	LOOSE TUBE GEL				WATER BLOCKING GEL		
g)	CORE WRAPPING				SINGLE LAYER OF POLYESTER TAPE		
6	JACKETING						
a)	MATERIAL				HDPE		
b)	COLOUR				BLACK		
c)	NOMINAL THICKNESS	mm			2		
d)	OVERALL DIAMETER (NOMINAL)	mm			15.5		
7	STRENGTH MEMBERS				YES		
a)	TYPE (Peripheral)				WATER BLOCKING E-GLASS		
b)	TYPE (Central)				FRP ROD		
8	ARMOURING						
a)	TYPE				ECSS		
c)	MS TAPE THICKNESS				> 0.15		
9	MECHANICAL PROPERTIES						
a)	MINIMUM INSTALLATION BEND RADIUS	mm			310		
b)	MINIMUM SERVICE BEND RADIUS	mm			248		
c)	CABLE WEIGHT (NOMINAL)	Kg/Km			215		
d)	STANDARD LENGTH	Mtrs			2KM±5%		
e)	TENSILE STRENGTH	N			4000		
f)	MAXIMUM CRUSH RESISTANCE	N			4000		
g)	OPERATING TEMPERATURE	deg C			-20 to +70		
h)	TYPE OF PACKING				WOODEN DRUM		
10	PRINTING DETAILS			AMP NETCONNECT F.O CABLE X-2120112-Y ECCS GEL LOOSE TUBE 12X {FIBER TYPE} FRLSZH (ML)XXXX/YY/ZZ MMMM			

NPC6AUZDB

Base Product

NETCONNECT® Cat 6A U/UTP RJ45 Patch Cord, LSZH

- High-performance patch cords exceeding industry standards supporting NETCONNECT channel specifications
- Standardized transparent, slim-line boots provides consistent patch cord appearance and supports highest density applications
- Colored clips are available to fit the transparent boot, eliminating the need of multiple colors for matching every jacket color
- Colored pull latch tabs are available for easier plug release handling from the modular jack

Product Classification

Regional Availability	Asia | Australia/New Zealand | EMEA | Latin America
Portfolio	NETCONNECT®
Product Type	Twisted pair patch cord
Product Series	NPC
Ordering Note	Cords < 1 m are valid elements for use in a channel or as an equipment interconnect but due to their limited length are not guaranteed to meet component compliance requirements that were developed to assess the quality of longer cords | Cords > 1 m are authorized for use in channels and are an effective standalone method used to connect active devices

General Specifications

ANSI/TIA Category	6A
Cable Type	U/UTP (unshielded)
Conductor Type	Solid
Interface, Connector A	RJ45 plug
Interface Feature, connector A	Standard
Interface, Connector B	RJ45 plug
Interface Feature, connector B	Standard
Jacket Color	Black | Blue | Green | Orange | Red | Slate | White | Yellow
Pairs, quantity	4
Transmission Standards	IEEE 802.3bt Type 4
Wiring	T568B

Dimensions

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Cable Assembly Length Range (m)	1 – 30
Cable Assembly Length Range (ft)	1 – 100
Cable Assembly Length Range (cm)	15 – 999
Cable Assembly Length Range (in)	6 – 999
Diameter Over Jacket	7.24 mm	0.285 in
Compatible Conductor Gauge, solid	24 AWG

Ordering Tree

Jacket Color

10		
	BK	Black
	BL	Blue
	GN	Green
	GY	Gray
	OR	Orange
	PK	Pink
	RD	Red
	WT	White
	YL	Yellow

UOM

11		
	F	Foot
	M	Meter
	N	Inch
	C	Centimeter

Length

12	XXX

Notes

- Cords > 1m are authorized for use in channels and are an effective standalone method used to connect active devices

- Cords < 1m are also valid elements for use in a channel or as an equipment interconnect but due to their limited length are not guaranteed to meet component compliance requirements that were developed to assess the quality of longer cords

Material Specifications

Conductor Material	Bare copper
Contact Plating Material	Gold over nickel
Material Type	Phosphor bronze contacts	Polycarbonate plug housing

Mechanical Specifications

Minimum Bend Radius Note	4 times the outer cable diameter
Plug Insertion Life, minimum	750 times

Environmental Specifications

Operating Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Relative Humidity	Up to 93%, non-condensing
Acid Gas Test Method	IEC 60754-2
Environmental Space	Low Smoke Zero Halogen (LSZH)

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Flame Test Method	IEC 60332-3-22
Safety Standard	Anatel | UL 1863
Smoke Test Method	IEC 61034-2

Packaging and Weights

Packaging quantity	1

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
RCM	Compliant to electrical safety & telecommunications requirements
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant
UK-ROHS	Compliant

Included Products

2843018-3 MP-6AU-Boot-71-1	–	Integrated Boot and Pair Manager for MP-6AU, size 71, transparent
6-2843008-1 MP-6AU-Plug-B-1	–	Modular Plug, Category 6A/6, Unshielded, Cond Insulation OD - 0.79mm, 100 pcs

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TFP-PANELS

TFP Fiber Termination Panel, black

- TFP panels are best suited for rack or cabinet mounting in Horizontal and Equipment Distribution Areas
- Modularity, functionality and density make the TFP ideal for mounting in close proximity to servers, switches, routers and SANs
- Field-installable vertical cable guides on either side of the TFP panel provide bend radius protection and management of fibers exiting
- TFP panels are equipped with adjustable mounting brackets to provide either 19- or 23-inch rack or cabinet mounting (EIA or WECO) as well as 4- or 5-inch recess mounting

The TFP fiber panels can be ordered in one, twoand five rack unit sizes and are completely modular to configure to a varietyof applications. The unique modular adapter packs incorporate an angledadapter design to allow easy access to each port and superior cablemanagement and bend radius protection.

Features:

- TFP panels combine the unique features of vertical cable guides and angle-left/angle-rightadapters, offering bend radius protection, intuitive routing and easy connector access
- Rear access makes field termination or splicing fast and efficient. 1U and 2U versionsfeature convenient sliding access to terminations and splicing.
- Sold separately for maximum flexibility with minimum lead time, TFP adapter packs canalso be pre-configured at the factory for more efficient service turn-up
- 288-position high-density termination/splice in the space of just five rack units (8.75-inch)

Product Classification

Regional Availability	Asia | Latin America | North America
Portfolio	CommScope®
Product Type	Fiber patch panel | Fiber patch/splice panel
Product Series	TFP

General Specifications

Functionality	Patching | Splicing
Body Style	Symmetrical
Color	Black
Interface, front	LC/UPC | SC/UPC | Unloaded
Patch Cord Entry Location	Front, left side | Front, right side
Rack Type	EIA 19 in | EIA 23 in

COMMSCOPE®

TFP-PANELS

Port Configuration

	Size in Rack Units			
	1	2	4	5
Maximum Density				
LC connector:	48	96	192	288
SC style connector:	24	48	96	144
Adapter Pack Configuration:	2 modular adapter packs: 1 angle right/ 1 angle left	4 modular adapter packs: 2 angle right/ 2 angle left	8 modular adapter packs: 4 angle right/ 4 angle left	12 modular adapter packs: 6 angle right/ 6 angle left
Compatible with CommScope Glide?	Yes–vertical cable guide with the panel can be removed.			
Best Application:	Cabinets near servers, switches, routers, SANs			
Features at a Glance:	Angled left / right adapters, highest density with maximum cable management features.			

Ordering Tree

TFP - X X AP X X X X X X

Number of Fiber Ports

12	12 fiber ports: 6 LC adapters; 6 SC duplex adapters; 12 ST adapters
24	24 fiber ports: 12 LC adapters

Pack Orientation

L	angle left
R	angle right

Adapter Style

Multimode Connectors	
C3	SC duplex (beige)
C4	SC duplex (aqua)
Q1	LC (beige)
Q2	LC (aqua)
T1	ST®
Singlemode Connectors	
C8	SC UPC duplex (blue)
A2	SC APC duplex (green)
Q5	LC UPC (blue)
T2	ST UPC

Pigtail Length

Leave Blank	Adapters only
3	3 meter pigtails

Pigtail Type

Leave Blank	Adapters only
B	Singlemode stranded
E	Multimode stranded

Fiber Size

Leave Blank	Adapters only
B	OM1 - 62.5/125 Multimode
D	OM3 - 50/125 LOMMF 300m
S	Singlemode

Material Specifications

Finish   Powder coated

Material Type   Steel

Optical Specifications

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Aruba Instant On 1930 Switch Series

High performance, smart-managed switches designed with small businesses in mind

Whether you own a cafe, a design firm or a tech startup, a reliable and secure network plays a critical role in the success of your business. And you need a network solution that gives you peace of mind, allowing you to focus on growing your business instead of managing problems with your network.

Aruba Instant On makes it easy to keep network users happy, mobile and IoT devices connected, and your network secure.

The Aruba Instant On 1930 switches features advanced, smart-managed, fixed-configuration Gigabit switches designed for small businesses that are easy-to-deploy and affordable. They're made to handle today's bandwidth-heavy applications like voice and video conferencing, enabling consistent connectivity to enhance performance.

Using either the Instant On mobile app or the cloud-based web portal, you can quickly set up, monitor and manage the 1930 switch series from anywhere at any time. What's more, up to 30 W PoE power delivery is available out-of-the-box for your class 4 PoE devices, like access points, surveillance cameras and VoIP phones, all easily managed from the same platform.

Built-in security features protect your network from unauthorized access by allowing you to segment traffic and define access to each area of the network. **And all of this is included in the price of the hardware** – there are no hidden subscription or licensing fees.

KEY FEATURES

Smart-managed layer 2+ Ethernet switch series ready to deploy in 8-, 24- and 48-port for non-PoE and Class 4 PoE (i.e. PoE+) models

PoE to power APs and IoT devices like IP phones, surveillance cameras and door locks

Two (2) dedicated 1G SFP fiber ports on 8-port models, and four (4) dedicated 1G/10G SFP+ fiber ports on 24-/48-port models to eliminate traffic bottlenecks across your network

Security controls let you define access in each area of your network, keeping your business data safe

Convenient mobile app and web-based GUI for set up, management and troubleshooting

HIGHLIGHTS

Simplicity at its best

Plug-and-play switches that work together with Instant On APs right out of the box

Mobile app to easily setup, monitor and manage your network

Security you can count on

Protect your network from unauthorized access with IEEE 802.1X and VLANs

Automatic denial-of-service (DOS) monitors and protects the network against malicious attacks

We've got you covered

No extra licensing or subscription fees

Industry-leading limited lifetime warranty and support

THE INSTANT ON DIFFERENTIATORS

EASY SET UP AND MANAGEMENT

The Aruba Instant On mobile app allows you to set up, manage, and monitor Instant On switches and access points directly from your phone. Within the app, you get guided step-by-step instructions to install Instant On devices to get your network up and running quickly – no technical expertise required. And cloud-based access allows you to access the network from anywhere, at any time.

NON-INTRUSIVE, AESTHETIC DESIGN

Aruba Instant On switches are designed to complement the sleek and clean look of the Instant On access points, and to blend discreetly into your site's environment. The 8-port models, as well as the 24- and 48-port non PoE+ models, are fan-less, making them ideal for quiet office deployments.

HIGH PERFORMANCE WITH FLEXIBLE OPTIONS

The series consists of four (4) Class 4 PoE (PoE+) switches, and three (3) non-POE switches including 8- 24- and 48-port Gigabit Ethernet switches. The two (2) dedicated 1G SFP fiber ports on 8-port models, and four (4) dedicated 1G/10G SFP+ fiber ports on 24-/48-port models, ensure high performance and eliminate traffic bottlenecks across the network. Customizable features include basic Layer 2 features like VLANs and link aggregation, as well as advanced features such as Layer 3 IPv4 static routing, ACLs, and Spanning Tree Protocols, and IPv6 Host mode.

OPTIMIZED USER EXPERIENCE

The Aruba Instant On mobile app provides common workflows for Instant On switches and access points making it easier to configure, monitor and manage your network remotely without the need for additional hardware like cloud keys or VPN. You can also update firmware on your Instant On devices directly from the cloud whenever you want, from wherever you are.

SITE INVENTORY

The site inventory feature on the Instant On mobile app shows you all switches and AP's on a single screen, allowing you to quickly identify non-functioning devices and troubleshoot accordingly.

MULTI-SITE MANAGEMENT

The cloud-hosted web interface and mobile app make it easy to manage multiple sites, multiple networks, distributed deployments and multi-tenant deployments. Each site is logically separated and has its own configuration, statistics, guest portal, and admin read/write privileges.

BUILT-IN SECURITY

Built-in security features protect your network from external threats by blocking malware attacks and keeping unauthorized users off the network. Network traffic can be filtered and access restricted based on MAC and IP address.

NO HIDDEN FEES

All features are included in the price of the hardware – there are no recurring subscription or licensing fees. Expert-level support and industry leading limited lifetime warranty are also included, along with chat support for the life of the product.

KEY FEATURES

MANAGEMENT

Cloud-based management for entire network
The cloud-hosted web interface and mobile app make it easy to manage networks with Instant On APs and Switches.

Simple local web GUI management
For management of individual switches, the intuitive Web GUI makes management simple, even for non-technical users. Supports up to five (5) HTTP and HTTP Secure (HTTPS) sessions.

Firmware update
Provides notification of the latest firmware with the ability to schedule update at a preferred time through Instant On mobile app and cloud-based web portal.

Default DHCP client mode
Allows the switch to be directly connected to a network, enabling plug-and-play operation. In the absence of a DHCP server on the network, the switch falls back to the static address 192.168.1.1.

Port mirroring
Enables traffic on a port or VLAN to be simultaneously sent to a network analyzer for monitoring.

Event logging and alerts
Provides detailed information for problem identification and resolution.

Account management
Allows administrators to add, modify, delete and transfer management accounts and passwords for secure access to Instant cloud management solution.

Locator LED
Allows users to set the locator LED on a specific switch to either turn on, blink, or turn off; simplifies troubleshooting by making it easy to locate a particular switch within a rack of similar switches.

QUALITY OF SERVICE (QoS)

Traffic prioritization
Provides time-sensitive packets (like VoIP and video) with priority over other traffic based on DSCP or IEEE 802.1p classification.

IEEE 802.1p/Q VLAN tagging
Delivers data to devices based on the priority and type of traffic; supports IEEE 802.1Q.

Class of Service (CoS)
Sets the IEEE 802.1p/DSCP priority to queue mapping (4 queues). Supports strict priority queuing (SP) or weighted round robin (WRR) queuing. SP and WRR queuing can be configured on individual switch ports.

Advanced classifier based QoS
Classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information.

ACCESS SWITCHING

SFP/SFP+ fiber connectivity
Provides fiber connections for uplinks and other connections across longer distances than copper cabling can support. SFP ports are in addition to available copper Ethernet ports, providing a higher total number of available ports. Two (2) SFP 1G ports available on 8-port models and four (4) SFP+ 1G/10G ports on 24-/48 port models.

Ethernet Alliance Certified Class 4 PoE (PoE+; IEEE 802.3at)
Provides up to 30 W per port, which allows support of the class 4 PoE (i.e. PoE+) capable devices such as video IP phones, wireless access points, and advanced pan/tilt/zoom security cameras, as well as any 15.4 W IEEE 802.3af-compliant end device; mitigates the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments.

Auto-PoE power configuration
The switch automatically assigns the required power to a port for a PD device based on Link Layer Discovery Protocol (LLDP).

PoE power allocation
Support multiple methods (LLDP-MED automatic, class of PoE, or usage-based) to allocate PoE power for more efficient energy savings.

Auto MDI/MDI-X
Adjusts automatically for straight-through or crossover cables on all 10/100/1000 ports.

KEY FEATURES

NETWORK SECURITY

TPM-based security
Includes a Trusted Platform Module(TPM) for secure hardware-based generation and storage of cryptographic keys used for secure connection to the Instant On cloud portal.

IEEE 802.1Q VLAN support
Support for up to 256 VLANs with a VLAN ID range of 2-4093

IEEE 802.1X access control
Authentication of network users on a per port basis prior to permitting network access. Port authentication includes RADIUS assigned VLAN, dynamic VLAN creation, guest VLAN or into an unauthenticated VLAN.

Automatic denial-of-service protection
Monitors for malicious attacks and protects the network by blocking the attacks.

Packet storm protection
Protects against unknown unicast, broadcast and multicast storms with user-defined thresholds.

RADIUS
The switch supports RADIUS authentication with primary and backup server configuration.

RADIUS accounting
A robust set of attributes and statistics are available for collecting information from the switch.

Management VLAN ID
Provides secure management access to administrators in the specified VLAN.

Link Flap prevention
Minimizes the network disruption by automatically detecting and disabling ports that experience link flap events.

PERFORMANCE AND EFFICIENCY

Energy Efficient Ethernet (EEE)
Compliant with IEEE 802.3az standard requirements to save energy during periods of low data activity.

Auto-port shut down
The switch saves power by automatically shutting down power to inactive ports. Power is restored on a port upon link detection.

Energy savings status
The switch provides an estimated cumulative energy savings due to green Ethernet features being enabled.

Energy-efficient cooling
Includes variable speed fans operating only at the speed necessary to maintain operating temperature to reduce excess noise and power consumption.

Fan-less operation
Fan-less design for 8-port models, 24- and 48-port non-PoE models, making the switches ideal for office deployments.

SWITCHING Features

IEEE 802.3x Flow control
Provides a flow-throttling mechanism propagated through the network to prevent packet loss at a congested node.

Spanning Tree Protocol (STP)
Supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP on local web).

Loop protection
If the switch detects a loop, it disables the source port from forwarding data packets originating from the switch to avoid broadcast storms.

BPDU filtering
Drops BPDU packets when STP is enabled globally but disabled on a specific port.

Jumbo frame support
Supports up to 9216 bytes frame size to improve the performance of large data transfers.

IGMP snooping v1/v2
Improves network performance through multicast filtering, instead of flooding traffic on all ports.

Link aggregation
Groups together multiple ports up to a maximum of eight (8) ports per trunk automatically using Link Aggregation Control Protocol (LACP), or manually, to form a high-bandwidth connection to the network backbone that helps prevent traffic bottlenecks. The 8-port models support 4 trunks, 24-port models support 8 trunks, and 48-port models support 16 trunks.

KEY FEATURES

LLDP/LLDP-MED (Media Endpoint Discovery)
Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN for automatic configuration of network devices such as IP phones.

Address Resolution Protocol (ARP)
The ARP table displays all of the IP addresses that have been resolved to MAC addresses, either dynamically or through static entry configuration.

FEATURES ACCESSED THROUGH LOCAL WEB-MANAGEMENT INTERFACE

Static IPv4 routing
Supports manual routing configuration of up to 32 static routes.

Auto-voice VLAN
Recognizes IP phones and automatically assigns voice traffic to dedicated VLAN for IP phones.

PoE scheduling
A PoE scheduler provides the ability to define the hours of PoE power being supplied to a group of switch ports based on a 24-hour day. The scheduler enables the flexibility to select individual days of a week as well as reoccurrence on a weekly basis with a start and end date.

Access Control Lists (ACLs)
Enables network traffic filtering by creating an ACL, adds rules and matches criteria to an ACL, and applies the ACL to permit or deny on one or more interfaces or a VLAN. Supports for 50 inbound IPv4 and MAC ACLs with up to 480 ACEs.

IPv6 host
Enables switches to be managed and deployed at the IPv6 network's edge.

Rate limiting
Sets and enforces per-port ingress traffic limits based on percentages or packets per second.

ARP Attack prevention
Dynamic ARP protection blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data

DHCP snooping
Provides network security by filtering untrusted DHCP messages

Port security
Ports in a port isolation group are restricted from forwarding Layer 2 traffic between ports in that group, providing data privacy and security.

SCP and TFTP file transfer
Provides different mechanisms for secure file transfer through SCP (Secure Copy Protocol) or TFTP.

Dual image support
Provide independent primary and secondary software images for backup while upgrading.

User account management
Password strength checking and aging feature provides enhanced security to user account administration to the local web management interface.

Secure Sockets Layer (SSL)
Encrypts all HTTP traffic, secures access to the local browser-based management of the switch.

SNMPv1, v2c, and v3
Facilitate management of the switch, as the device can be discovered and monitored from an SNMP management station.

Remote monitoring (RMON)
Remote monitoring (RMON) provides advanced monitoring and reporting capabilities for statistics, history, alarms and events. RMON data is retrieved from the switch through a network management platform over SNMP.

WARRANTY, SERVICE AND SUPPORT

Aruba Instant On Limited Lifetime Support provides 24X7 phone support for the first 90 days and chat support for the entire warranty period. Community support is included for the life of the product.

Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 8G 2SFP Switch (JL680A)	Aruba Instant On 1930 8G Class4 PoE 2SFP 124W Switch (JL681A)	Aruba Instant On 1930 24G 4SFP/SFP+ Switch (JL682A)	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 195W Switch (JL683A)
I/O ports and slots				
	8 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP 1GbE ports	8 RJ-45 autosensing 10/100/1000 Class 4 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP 1GbE ports	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 SFP+ 1/10GbE ports	24 RJ-45 autosensing 10/100/1000 Class 4 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 SFP+ 1/10GbE ports
Physical Characteristics				
Dimensions	10(w) x 6.28(d) x 1.73(h) in (25.4 x 15.95 x 4.39 cm) (1U height)	10(w) x 10(d) x 1.73(h) in (25.4 x 25.4 x 4.39 cm) (1U height)	17.42(w) x 8.72(d) x 1.73(h) in (44.25 x 22.15 x 4.39 cm) (1U height)	17.42(w) x 10.42(d) x 1.73(h) in (44.25 x 26.47 x 4.39 cm) (1U height)
Weight	2.55 lb (0.82 kg)	7.21 lb (1.16 kg)	5.32 lb (2.41 kg)	7.71 lb (3.50 kg)
Processor and memory				
	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB
Performance				
100 Mb Latency	< 5.2 uSec	< 5.2 uSec	< 4.7 uSec	< 4.7 uSec
packet size	64B	64B	64B	64B
1000 Mb Latency	<3.0 uSec	<3.0 uSec	<2.4 uSec	<2.4 uSec
packet size	64B	64B	64B	64B
10000 Mb Latency	n/a	n/a	< 1.3 uSec	< 1.3 uSec
packet size	n/a	n/a	64B	64B
Throughput (Mpps)	14.88 Mpps	14.88 Mpps	95.23 Mpps	95.23 Mpps
packet size	64B	64B	64B	64B
switching capacity	20 Gbps	20 Gbps	128 Gbps	128 Gbps
Routing Table size (# of static entries)	32 static entries	32 static entries	32 static entries	32 static entries
MAC Address table size (# of entries)	8,000 entries	8,000 entries	16,000 entries	16,000 entries
Reliability MTBF (years)	178	95	158	76
Environment				
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating relative humidity	15% to 95% @ 104°F (40°C)	15% to 95% @ 104°F (40°C)	15% to 95% @ 104°F (40°C)	15% to 95% @ 104°F (40°C)
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)	15% to 95% @ 140°F (60°C)	15% to 95% @ 140°F (60°C)	15% to 95% @ 140°F (60°C)
Altitude	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)
Acoustic	Power: 0 dB no fan	Power: 0 dB no fan	Power: 0 dB no fan	Pressure: 46.1 dBA Power: 60.5 dB

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 8G 2SFP Switch (JL680A)	Aruba Instant On 1930 8G Class4 PoE 2SFP 124W Switch (JL681A)	Aruba Instant On 1930 24G 4SFP/SFP+ Switch (JL682A)	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 195W Switch (JL683A)
Electrical Characteristics				
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
AC voltage	100 - 240 VAC	100 - 127 / 200 - 240 VAC	100 - 127 / 200 - 240 VAC	100 - 127 / 200 - 240 VAC
Current	0.2 A	0.8/1.6 A	0.5/0.3 A	2.6/1.3 A
Maximum power rating	11.0 W	150.2 W	22.6 W	234.0 W
Idle power	6.2 W	11.7 W	9.3 W	19.3 W
PoE power		124 W Class 4 PoE		195 W Class 4 PoE
Power Supply	External power adapter (included)	Internal power supply	Internal power supply	Internal power supply
Safety				
	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014
Emissions				
	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016 / CISPR-32, Class A	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016 / CISPR-32, Class A	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016 / CISPR-32, Class A	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016 / CISPR-32, Class A
Immunity				
Generic	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35
EN	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
Device Management				
	Aruba Instant On solution; Web browser; SNMP Manager	Aruba Instant On Portal; Web browser; SNMP Manager	Aruba Instant On Portal; Web browser; SNMP Manager	Aruba Instant On Portal; Web browser; SNMP Manager

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 8G 2SFP Switch (JL680A)	Aruba Instant On 1930 8G Class4 PoE 2SFP 124W Switch (JL681A)	Aruba Instant On 1930 24G 4SFP/SFP+ Switch (JL682A)	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 195W Switch (JL683A)
Accessories				
Transceivers	Aruba 1G SFP LC SX 500m MMF XCVR (J4858D)	Aruba 1G SFP LC SX 500m MMF XCVR (J4858D)	Aruba 1G SFP LC SX 500m MMF Transceiver (J4858D)	Aruba 1G SFP LC SX 500m MMF Transceiver (J4858D)
	Aruba 1G SFP LC LX 10km SMF XCVR (J4859D)	Aruba 1G SFP LC LX 10km SMF XCVR (J4859D)	Aruba 1G SFP LC LX 10km SMF Transceiver (J4859D)	Aruba 1G SFP LC LX 10km SMF Transceiver (J4859D)
	Aruba 1G SFP RJ45 T 100m Cat5e XCVR (J8177D)	Aruba 1G SFP RJ45 T 100m Cat5e XCVR (J8177D)	Aruba 1G SFP RJ45 T 100m Cat5e Transceiver (J8177D)	Aruba 1G SFP RJ45 T 100m Cat5e Transceiver (J8177D)
			Aruba 10G SFP+ LC SR 300m MMF Transceiver (J9150D)	Aruba 10G SFP+ LC SR 300m MMF Transceiver (J9150D)
			Aruba 10G SFP+ LC LR 10km SMF Transceiver (J9151D)	Aruba 10G SFP+ LC LR 10km SMF Transceiver (J9151D)
			Aruba 10G SFP+ to SFP+ 1m DAC (J9281D)	Aruba 10G SFP+ to SFP+ 1m DAC (J9281D)
			Aruba 10G SFP+ to SFP+ 3m DAC (J9283D)	Aruba 10G SFP+ to SFP+ 3m DAC (J9283D)

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 370W Switch (JL684A)	Aruba Instant On 1930 48G 4SFP/ SFP+ Switch (JL685A)	Aruba Instant On 1930 48G Class4 PoE 4SFP/SFP+ 370W Switch (JL686A)
I/O ports and slots			
	24 RJ-45 autosensing 10/100/1000 Class 4 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

4 SFP+ 1/10GbE ports | 48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

4 SFP+ 1/10GbE ports | 48 RJ-45 autosensing 10/100/1000 Class 4 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only

4 SFP+ 1/10GbE ports |
Physical Characteristics			
Dimensions	17.42(w) x 10.42(d) x 1.73(h) in (44.25 x 26.47 x 4.39 cm) (1U height)	17.42(w) x 11.12(d) x 1.73(h) in (44.25 x 28.24 x 4.39 cm) (1U height)	17.42(w) x 12.7(d) x 1.73(h) in (44.25 x 32.26 x 4.39 cm) (1U height)
Weight	8.10 lb (3.67kg)	6.91 lb (3.13 kg)	9.97 lb (4.52 kg)
Processor and memory			
	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB	ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB
Performance			
100 Mb Latency	< 4.7 uSec	< 4.5 uSec	< 4.5 uSec
packet size	64B	64B	64B
1000 Mb Latency	<2.4 uSec	< 2.2 uSec	< 2.2 uSec
packet size	64B	64B	64B
10000 Mb Latency	< 1.3 uSec	< 1.2 uSec	< 1.2 uSec
packet size	64B	64B	64B
Throughput (Mpps)	95.23 Mpps	130.95 Mpps	130.95 Mpps
packet size	64B	64B	64B
switching capacity	128 Gbps	176 Gbps	176 Gbps
Routing Table size (# of static entries)	32 static entries	32 static entries	32 entries
MAC Address table size (# of entries)	16,000 entries	16,000 entries	16,000 entries
Reliability MTBF (years)	71	114	57
Environment			
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating relative humidity	15% to 95% @ 104°F (40°C)	15% to 95% @ 104°F (40°C)	15% to 95% @ 104°F (40°C)
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	15% to 95% @ 140°F (60°C)	15% to 95% @ 140°F (60°C)	15% to 95% @ 140°F (60°C)
Altitude	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)
Acoustic	Pressure: 32.2 dBA Power: 58.5 dB	Power: 0 dB no fan	Pressure: 40.6 Power: 63.2 dB

aruba Instant on

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 370W Switch (JL684A)	Aruba Instant On 1930 48G 4SFP/ SFP+ Switch (JL685A)	Aruba Instant On 1930 48G Class4 PoE 4SFP/SFP+ 370W Switch (JL686A)
Electrical Characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
AC voltage	100 - 127 / 200 - 240 VAC	100 - 127 / 200 - 240 VAC	100 - 127 / 200 - 240 VAC
Current	4.8/2.4 A	.8/.5 A	5/2.5 A
Maximum power rating	439.0 W	36.9 W	460.0 W
Idle power	20.9 W	16.8 W	34.5 W
PoE power	370 W Class 4 PoE		370 W Class 4 PoE
Power supply	Internal power supply	Internal power supply	Internal power supply
Safety			
	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014	UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014
Emissions			
	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016/CISPR-32, Class A	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016/CISPR-32, Class A	VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016/CISPR-32, Class A
Immunity			
Generic	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35
EN	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2	EN 61000-3-2, IEC 61000-3-2
Flicker	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3	EN 61000-3-3, IEC 61000-3-3
Device Management			
	Aruba Instant On Portal; Web browser; SNMP Manager	Aruba Instant On Portal; Web browser; SNMP Manager	Aruba Instant On Portal; Web browser; SNMP Manager

TECHNICAL SPECIFICATIONS

Specifications	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 370W Switch (JL684A)	Aruba Instant On 1930 48G 4SFP/SFP+ Switch (JL685A)	Aruba Instant On 1930 48G Class4 PoE 4SFP/SFP+ 370W Switch (JL686A)
Accessories			
Transceivers	Aruba 1G SFP LC SX 500m MMF XCVR (J4858D)	Aruba 1G SFP LC SX 500m MMF XCVR (J4858D)	Aruba 1G SFP LC SX 500m MMF Transceiver (J4858D)
	Aruba 1G SFP LC LX 10km SMF XCVR (J4859D)	Aruba 1G SFP LC LX 10km SMF XCVR (J4859D)	Aruba 1G SFP LC LX 10km SMF Transceiver (J4859D)
	Aruba 1G SFP RJ45 T 100m Cat5e XCVR (J8177D)	Aruba 1G SFP RJ45 T 100m Cat5e XCVR (J8177D)	Aruba 1G SFP RJ45 T 100m Cat5e Transceiver (J8177D)
			Aruba 10G SFP+ LC SR 300m MMF Transceiver (J9150D)
			Aruba 10G SFP+ LC LR 10km SMF Transceiver (J9151D)
			Aruba 10G SFP+ to SFP+ 1m DAC (J9281D)
			Aruba 10G SFP+ to SFP+ 3m DAC (J9283D)

STANDARDS AND PROTOCOLS

(APPLIES TO ALL PRODUCTS IN SERIES)

General protocols

- IEEE 802.3 10BASE-T
- IEEE 802.3u 100BASE-TX
- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.2af PoE 1 (PoE models only)
- IEEE 802.3at PoE 1 (PoE models only)
- IEEE 802.3x Flow control
- IEEE 802.1Q VLANS
- IEEE 802.1p Priority

- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- IEEE 802.1X Port Access Authentication
- IEEE 802.3az Energy Efficient Ethernet
- IEEE 802.1D: Spanning Tree Protocol
- IEEE 802.1W: Rapid Spanning Tree Protocol
- IEEE 802.1S: Multiple Spanning Tree Protocol
- IEEE 802.1AB Link Layer Discovery Protocol
- Denial of service protection
- CPU DoS Protection

ORDERING INFORMATION

Aruba Instant On 1930 Switch Series

Part Number	Description	Gig Ports	Uplink Ports	Class 4 PoE
JL680A	Aruba Instant On 1930 8G 2SFP Switch	8	2 SFP	-
JL681A	Aruba Instant On 1930 8G Class4 PoE 2SFP 124W Switch	8	2 SFP	124W
JL682A	Aruba Instant On 1930 24G 4SFP/SFP+ Switch	24	4 SFP/SFP+	-
JL683A	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 195W Switch	24	4 SFP/SFP+	195W
JL684A	Aruba Instant On 1930 24G Class4 PoE 4SFP/SFP+ 370W Switch	24	4 SFP/SFP+	370W
JL685A	Aruba Instant On 1930 48G 4SFP/SFP+ Switch	48	4 SFP/SFP+	-
JL686A	Aruba Instant On 1930 48G Class4 PoE 4SFP/SFP+ 370W Switch	48	4 SFP/SFP+	370W

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HPE Aruba Networking CX 6300 Switch Series

Key benefits

- Stackable Layer 3 switches with BGP, EVPN, VXLAN, VRF, and OSPF with robust security and QoS

- High performance up to 1760 Gbps switching capacity, up to 1310 MPPS of throughput and up to 400 Gbps stacking bandwidth

- Compact 1U switches with full density HPE Smart Rate (1G/2.5G/5G/10GbE) multi-gigabit, up to 90W PoE (Class 8) and 10G LRM SFP+ available on select models

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

Product overview

The HPE Aruba Networking CX 6300 Switch Series is a modern, flexible, and intelligent family of stackable switches ideal for enterprise network access, aggregation, core, and data center top of rack (ToR) deployments. Created for game-changing operational efficiency with built-in security and resiliency, the 6300 switches provide the foundation for high-performance networks supporting IoT, mobile and cloud applications.

Built from the ground up with a combination of cutting-edge hardware, software and analytics and automation tools, the stackable 6300 switches are part of the HPE Aruba Networking CX switching portfolio, designed for today's enterprise campus, branch, and data center networks.

By combining a modern, fully programmable OS with the HPE Aruba Networking Network Analytics Engine, the 6300 switches provide industry leading monitoring and troubleshooting capabilities for the access layer.

A powerful HPE Aruba Networking Gen7 ASIC architecture delivers performance and robust feature support with flexible programmability for tomorrow's applications. The HPE Aruba Networking Virtual Stacking Framework (VSF) allows for stacking of up to 10 switches, providing scale and simplified management. This flexible series has built-in wirespeed 1/10/25/50GbE[1] and 40/100GbE uplinks and supports high density IEEE 802.3bt high power PoE. HPE Smart Rate multi-gigabit Ethernet paves the way for high speed access points and IoT devices by delivering fast connectivity and high power PoE using existing cabling.

- Power-to-port switch bundle with back-to-front airflow ideal for data center 1GbE ToR and OOBM deployments

- Three stackable, high-performance Layer 2-only CX 6300L access switches with HPE Smart Rate Multi-Gigabit and MACsec encryption

- Built-in high speed 1/10/25/40/50/100GbE uplinks[1]

- 50GbE connectivity with QSFP to SFP56 DAC and 50G DACs[1]

- Intelligent monitoring, visibility, and remediation with HPE Aruba Networking Network Analytics Engine

- Manage via single pane of glass with HPE Aruba Networking Central across wired, wireless, and WAN

- HPE Aruba Networking Switch Multi-Edit Software support for automated configuration and verification

- HPE Aruba Networking Dynamic Segmentation enables secure and simple access for users and IoT

Modular models offer redundancy and PoE customization with hot-swappable power supplies and fans. Back-to-front airflow available in switch bundle for hot-cold aisle top-of-rack (TOR) and out-of-band-management (OOBM) data center deployments.

Dynamic Segmentation extends HPE Aruba Networking's Foundational wireless role-based policy capability to HPE Aruba Networking wired switches. This means that the same security, user experience, and simplified IT management can be enjoyed throughout the network. Regardless of how users and IoT devices connect, consistent policies are enforced across wired and wireless networks, keeping traffic secure and separate.

Product differentiators

AOS-CX—a modern operating system
The HPE Aruba Networking CX 6300 Switch Series is based on AOS-CX, a modern, database-driven operating system that automates and simplifies many critical and complex network tasks. A built-in time series database enables customers and developers to utilize software scripts for historical troubleshooting, as well as analysis of past trends. This helps predict and avoid future problems due to scale, security, and performance bottlenecks. Because AOS-CX is built on a modular architecture with a stateful database, our operating system provides the following unique capabilities:

- Easy access to all network state information allows unique visibility and analytics

- REST APIs and Python scripting for fine-grained programmability of network tasks

- A micro-services architecture that enables full integration with other workflow systems and services

- Continuous telemetry data with WebSocket subscriptions for event driven automation

- Continual state synchronization that provides superior fault tolerance and high availability

- All software processes communicate with the database rather than each other, ensuring near real-time state and resiliency and allowing individual software modules to be independently upgraded for higher availability

Every CX switch includes AOS-CX at no cost and with an active, perpetual set of native features which has everything needed to deploy, connect, and troubleshoot an enterprise network, including:

- Network Analytics Engine (NAE)

- Dynamic Segmentation

- Switch Stacking

- High Availability and Resiliency

- Quality of Service (QoS)

- Layer 2 Switching

- Layer 3 Services and Routing

- IP Multicast

- Network Security

- Support for HPE Aruba Networking Switch Multi-Edit Software

In addition to the native features available in AOS-CX, we offer an optional, term-based HPE Aruba Networking CX Advanced Feature Pack that unlocks visibility and advanced security use cases.

For more information, read the HPE Aruba Networking CX Feature Pack Ordering Guide.

HPE Aruba Networking Central—unified single pane of glass management
HPE Aruba Networking Central is an AI-powered solution that simplifies IT operations, improves agility, and reduces costs by unifying management of all network infrastructure. Built for enterprise-grade resiliency and security, while simple enough for smaller businesses with limited IT staff, HPE Aruba Networking Central is your single point of visibility and control that spans the entire network—from branch to data center, wired and wireless LAN to WAN.

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

Available as a cloud-based or on-premises solution, HPE Aruba Networking Central is designed to simplify Day 0 through Day 2 operations with streamlined workflows for tasks such as virtual switch stack creation, automated monitoring using AI-powered insights and NAE, as well as a unified view of all devices and users, both wired and wireless. Comprehensive switch management capabilities include configuration, on-boarding, monitoring, troubleshooting, and reporting.

An HPE Aruba Networking Central Foundational subscription enables comprehensive switch management capabilities that include configuration, onboarding, monitoring, troubleshooting, and reporting. An HPE Aruba Networking Central Advanced subscription expands these capabilities with premium security and AIOps, including the HPE Aruba Networking Central NetConductor Fabric Wizard and Policy Manager to enable dynamic segmentation and distributed enforcement at a global scale.

Additionally, an HPE Aruba Networking Central Advanced subscription enables the CX Advanced Feature Pack so there is no need to separately purchase a CX Advanced Feature Pack. This streamlines operational efficiency, reducing the need for your IT team to keep track of multiple subscriptions, active terms, and renewal dates.

For more information on HPE Aruba Networking Central subscriptions, see the HPE Aruba Networking Central SaaS Subscription Ordering Guide.

HPE Aruba Networking Network Analytics Engine—advanced monitoring and diagnostics
For enhanced visibility and troubleshooting, HPE Aruba Networking's Network Analytics Engine (NAE) automatically monitors and analyzes events that can impact network health.

Advanced telemetry and automation provide the ability to easily identify and troubleshoot network, system, application, and security related issues easily, through

the use of python agents, CLI-based agents, CLI-based agents and REST APIs.

The Time Series Database (TSDB) stores configuration and operational state data, making it available to quickly resolve network issues. The data may also be used to analyze trends, identify anomalies, and predict future capacity requirements.

HPE Aruba Networking Central uses NAE and agents to deliver switch monitoring, analytics, and enhanced troubleshooting for wired assurance. HPE Aruba Networking Switch Multi-Edit Software and third-party tools such as ServiceNow and Slack provide the intelligence to integrate NAE alerts into IT service management processes, speeding problem resolution.

HPE Aruba Networking Switch Multi-Edit Software—automated switch configuration and management
The HPE Aruba Networking CX portfolio empowers IT teams to orchestrate multiple switch configuration changes for smooth end-to-end service rollouts. HPE Aruba Networking Switch Multi-Edit Software introduces automation that allows for rapid network-wide changes, and ensures policy conformance post network updates. Intelligent capabilities include search, edit, validation (including conformance checking), deployment, and audit features. Capabilities include:

- Centralized configuration with validation for consistency and compliance

- Time savings via simultaneous viewing and editing of multiple configurations

- Customized validation tests for corporate compliance and network change analysis

- Automated large-scale configuration deployment without programming

- Network health and topology visibility via HPE Aruba Networking NAE integration

Note: A separate software license is required to use HPE Aruba Networking Switch Multi-Edit Software.

HPE Aruba Networking CX Mobile App—true deployment convenience
An easy to use mobile app simplifies connecting and managing HPE Aruba Networking CX 6300 switches for any size project. Switch information can also be imported into HPE Aruba Networking Switch Multi-Edit Software for simplified configuration management and to continuously validate the conformance of configurations anywhere in the network. The HPE Aruba Networking CX Mobile App is available for download.

HPE Aruba Networking ASICs—programmable innovation
Based on over 30 years of continuous investment, HPE Aruba Networking's ASICs create the basis for innovative and agile software feature advancements, unparalleled performance, and deep visibility. These programmable ASICs are purpose-built to allow for a tighter integration of switch hardware and software within campus and data center architectures to optimize performance and capacity. Virtual Output Queuing (VOQ) isolates congestion, prevents Head of Line Blocking (HOLB), and allows full line rate on outgoing (egress) ports. Flexible ASIC resources enable HPE Aruba Networking's NAE solution to inspect all data, which allows for industry-leading analytics capabilities. The HPE Aruba Networking CX 6300 is based on the HPE Aruba Networking Gen7 ASIC architecture.

HPE Aruba Networking Dynamic Segmentation—campus and branch fabric
The HPE Aruba Networking Dynamic Segmentation solution enables seamless mobility, consistent policy enforcement, and automated configurations for wired and wireless clients across networks of all sizes. It unifies role-based access and policy enforcement across LAN, WLAN, and SD-WAN networks with centralized policy definition and dedicated enforcement points, ensuring that users and devices can only communicate with destinations consistent with their role—keeping traffic secure and separate.

Dynamic Segmentation is based on establishing least privilege access to IT resources by segmenting traffic based on identity, a fundamental concept of both Zero Trust and SASE frameworks where trust is based on roles and policies, not on where and how a user or device connects.

This innovation begins with colorless ports and role-based micro-segmentation technologies. Colorless ports allow wired clients to connect to any switch port, with the configuration automated using RADIUS-based access control. This eliminates the need for manual on-boarding of clients, including IoT devices, onto the network.

Role-based micro-segmentation delivers benefits of reduced subnet and VLAN sprawl, simplified policy definition, and scalable policy enforcement by introducing the concept of client user roles. Independent of network constructs such as VLANs and VRFs, clients can be grouped into a user role based on their identity, allowing the colorless ports technology to be extended to the centralized overlay fabric, as clients are on-boarded with automatic tunnel creation based on the associated user roles policy. The user roles policy offers the choice between micro-segmentation using centralized and unified policy enforcement for wireless and wired traffic with Layer 7 stateful firewall on gateways or a distributed approach with a Layer 4 role-role ACL on switches.

Dynamic Segmentation provides scale and flexibility in network design by allowing the stretching of VLANs and subnets across the entire network with an EVPN/VXLAN-based distributed overlay fabric. Fabric overlays use VXLAN or VXLAN-GBP tunnels on the data plane and provide the option of a Multi-Protocol BGP EVPN control plane for large deployments, or a static Layer 2 control plane for simplified deployments.

Mobility and IoT performance
The HPE Aruba Networking CX 6300 Switch Series uses a fully distributed architecture that utilizes the HPE Aruba Networking Gen7 ASICs. This ensures that our switches offer very low latency, increased packet

buffering, and adaptive power consumption. All switching and routing are wire-speed to meet the demands of bandwidth-intensive applications today and in the future. Each switch includes the following:

- Up to 1760 Gbps in non-blocking bandwidth and up to 1310 Mpps for forwarding

- 1/10/25/40/50/100G uplinks[1] and large TCAM sizes ideal for mobility and IoT deployments in large campuses with several thousand clients

- Selectable queue configurations that allow for increased performance by defining a number of queues and associated memory buffering to best meet the requirements of network applications

VSF Stacking—scale and simplicity
The HPE Aruba Networking Virtual Switching Framework (VSF) allows you to quickly grow your network using high performance front plane stacking. Additional features include:

- Support for up to 10 switches (or members) in a stack via chain or ring topology

- Flexibility to create stacks that span longer distances such as hundreds of meters across campuses to kilometers between sites using long-range 10GbE/25GbE transceivers

- Flexibility to mix both modular and fixed HPE Aruba Networking 6300 models within a single stack to meet your deployment requirements

- Simplified configuration and management as the switches act as a single chassis when stacked

- High availability by design using VSF in-service software upgrades for ISSU orchestration and no downtime or restart when upgrading within the same major release (requires at least a 2 member VSF stack)

- The HPE Aruba Networking CX Mobile app provides support for a validated stack deployment that ensure that all stack links and uplinks are connected properly

An HPE Aruba Networking CX 6300 switch for any enterprise environment
Whether in the branch office or a small to large enterprise environment, you can choose from 24 and 48 port 1U models. Each switch includes four high-speed built-in uplinks that auto-negotiate between 1 GbE, 10 GbE, 25 GbE, 40 GbE and 100GbE[1] to deliver non-blocking performance. Fixed format (F) models include built-in power supplies. The modular (M) models have rear slots for hot swappable power supplies that allow you to customize your PoE requirements, and its fans are field replaceable. Additional highlights:

- Compact 1U models support:

  – 24 and 48 ports of HPE Smart Rate Multi-gigabit Ethernet IEEE 802.3bz (100M2/1GbE/2.5GbE/5GbE/10GbE) supporting high power IEEE 802.3bt Class 6 (60W) to Class 8 (90W)

  – High density 24 port SFP+ model which is ideal for aggregation

  – 1/10/25/40/50/100GbE uplink[1] port connectivity

- HPE Smart Rate Multi-Gigabit (IEEE 802.3bz) Ethernet supports high speed wireless access points

- For deployments that need higher port and PoE density, the 6300 supports up to 90W of PoE in a 48-port switch for a total of 2880W of PoE

- Industry standard IEEE 802.3bt High Power PoE support (Class 8) provides up to 90W to support of the latest IoT devices and APs. PoE support for IEEE 802.3at Power over Ethernet (PoE+) provides up to 30W per port as well as any IEEE 802.3af-compliant end device

- Support for pre-standard PoE detection provides power to legacy PoE devices

- High availability with always-on PoE that supplies PoE power even during scheduled reboots and firmware upgrades

- Quick PoE supplies PoE power to powered devices as soon as the switch is plugged into AC power so device can initialize at same time as switch OS boots up.

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[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

- Support for Energy Efficient Ethernet IEEE 802.3az reduces power consumption during periods of low network traffic.

- Support for top-of-rack (ToR) and out-of-band management (OOBM) data center deployments with CX 6300M Power-to-port bundle that delivers required power-to-port (back to front) airflow.

- Auto-MDIX provides automatic adjustments for straight-through or crossover cables on all 10M/100M/1G, and Smart Rate ports

- Unsupported Transceiver Mode (UTM) allows to insert and enable all unsupported 1/10/25/40/50/100GbE transceivers and cables. Note that there is no warranty nor support for the transceiver/cable when this feature is used

- IPv6 capabilities include:

  – IPv6 host enables switches to be managed in an IPv6 network

  – Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, supporting connectivity for both protocols

  – MLD snooping forwards IPv6 multicast traffic to the appropriate interface

  – - IPv6 ACL/QoS supports ACL and QoS for IPv6 network traffic

  – IPv6 routing supports Static and OSPFv3 protocols

  – Security provides RA guard, DHCPv6 protection, dynamic IPv6 lockdown, ND snooping, IPv6 Destination Guard, IPv6 DHCP Guard, and IPv6 Router Advertisement Guard

- Jumbo frames allow for high-performance backups and disaster-recovery systems; provides a maximum frame size of 9198 bytes

- Packet storm protection against broadcast and multicast storms with user-defined thresholds

- Smart link enables simple, fast converging link redundancy and load balancing with dual uplinks avoiding Spanning Tree complexities

CX 6300L layer 2 switches
Three CX 6300L switch models are available for customers needing scalability, high-capacity, and cost-effective connectivity in the access layer. Features include:

- 24 ports of SR10 (1G/2.5G/5G/10G) or 48 ports of SR5 (1G/2.5G/5G) HPE Smart Rate Multi-gigabit Ethernet downlinks that support high power IEEE 802.3bt Class 6 (60W) to Class 8 (90W) PoE and MACsec 256 data link layer encryption

- Scalability with VSF front-plane stacking up to 10 CX 6300L switch members (does not stack with CX 6300F or CX 6300M switches)

- Layer 2 switching with support for IPv4 based static routing, quality of service (QoS), IPv4 access control lists (ACL), and User-Based Tunneling for Dynamic Segmentation[3]

- Modular, hot-swappable power supplies and fans that allow you to customize for PoE requirements and field replacement needs

CX 6300M bundle for data centers
The CX 6300M 48 port power-to-port switch bundle serves as a top of rack (ToR) switch for 1GbE servers and also as a 1GbE out-of-band management (OOBM) switch for data centers server racks. Features include:

- Power-to-port bundle (JL762A) includes 48 port 1GbE switch with 2 x Fan Trays (JL761A) and 1 x power supply (JL760A)

- Back (power-side) to front (1GbE port side) airflow

- 1/10/25/50GbE[1] SFP uplinks

High availability and resiliency
To ensure a high degree of up-time we offer high availability and multicast features needed for a full Layer 3 deployment at access and aggregation such as PBR, BFD, MSDP, BSR, and IP SLA without the need for software licenses. This includes:

- Hot Swappable Power Supplies available in the 6300 "M" models

– Provides N+1 and N+N redundancy for high reliability in the event of power line or supply failures

– Optional secondary power supplies to increase the total available PoE power

– Fixed power supplies in 6300 "F" models

- Bidirectional Forward Detection (BFD) enables sub-second failure detection for rapid routing protocol re-balancing, supporting both IPV4 and IPv6 networks

- Virtual Router Redundancy Protocol (VRRP) allows groups of two routers to dynamically create highly available routed environments in IPV4 and IPv6 networks

- Uni-directional Link Detection (UDLD) to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops in STP-based networks

- IEEE 802.3ad LACP supports up to 256 LAGs, each with up to 8 links per LAG; and provides support for static or dynamic groups and a user-selectable hashing algorithm

- IEEE 802.1s Multiple Spanning Tree provides high link availability in VLAN environments where multiple spanning trees are required; and legacy support for IEEE 802.1d and IEEE 802.1w

- IEEE 802.3ad link-aggregation-control protocol (LACP) and port trunking support static and dynamic trunks where each trunk supports up to eight links (ports) per static trunk

- Support for Microsoft Network Load Balancer (NLB) for server applications

- Ethernet Ring Protection Switching (ERPS) supports rapid protection and recovery in a ring topology

- Hot-Patching support for standalone CX 6300 and for 6300 with VSF Stacking

Quality of Service (QoS) features
To support congestion actions and traffic prioritization, the HPE Aruba Networking CX 6300 Series includes the following:

- Strict priority (SP) queuing and Deficit Weighted Round Robin (DWRR)

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[2] 100M use on Smart Rate ports is limited to full-duplex only. For 100M half-duplex support, use 1G ports on other models.

[3] VXLAN tunnelling not supported on CX 6300L switch models

- Traffic prioritization (IEEE 802.1p) for real-time classification into 8 priority levels that are mapped to 8 queues

- Layer 4 prioritization based on TCP/UDP port numbers

- Class of Service (CoS) sets the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ

- Rate limiting sets per-port ingress enforced maximums and per-port, per-queue minimums

- Transmission rates of egressing frames can be limited on a per-queue basis using Egress Queue Shaping (EQS)

- Large buffers for graceful congestion management

Simplified configuration and management
In addition to HPE Aruba Networking Central, the HPE Aruba Networking CX Mobile App, HPE Aruba Networking Switch Multi-Edit Software and HPE Aruba Networking Network Analytics Engine, the 6300 series offers the following:

- Built-in programmable and easy to use REST API interface

- Simple day zero provisioning

- Scalable ASIC-based wire speed network monitoring and accounting with no impact on network performance; network operators can gather a variety of network statistics and information for capacity planning and real-time network monitoring purposes

- Management interface control enables or disables each of the following depending on security preferences, console port, or reset button

- Industry-standard CLI with a hierarchical structure for reduced training time and expense. Delivers increased productivity in multivendor environments

- Management security restricts access to critical configuration commands, provides multiple privilege levels with password

protection and local and remote syslog capabilities allow logging of all access

- SNMP v2c/v3 provides SNMP read and trap support of industry standard Management Information Base (MIB), and private extensions

- SNMP support includes: Write Set Speed and Duplex, Write Port Security, Write POE Priority, Write Config Mgmt, SNMP-Read single OID for average CPU and memory, SNMP MIB View

- SNMP Trap include: Transceiver Traps (insertion/removal), SNMP Trap, SNMP MIB-SNMB Authentication, SNMPv2 MIB, Port Sec MIB-Port Sec, Config MIB-Running Config Change, Config MIB, AAA Server MIB, AAA Server State

- Remote monitoring (RMON) with standard SNMP to monitor essential network functions. Supports events, alarms, history, and statistics groups as well as a private alarm extension group; RMON, and sFlow provide advanced monitoring and reporting capabilities for statistics, history, alarms and events

- IP Flow Information Export (IPFIX) enables client flow information collection to enhance visibility

- Simplifies configuration while onboarding switches with Zero Touch Provisioning by using Dynamic Border Gateway Protocol (BGP) peering to establish a peer group of switches within an IP range

- Provides insights on latency, failures, and error events through HPE Aruba Networking Central for enhanced visibility during client onboarding

- TFTP and SFTP support offers different mechanisms for configuration updates; trivial FTP (TFTP) allows bidirectional transfers over a TCP/ IP network; Secure File Transfer Protocol (SFTP) runs over an SSH tunnel to provide additional security

- Debug and sampler utility supports ping and traceroute for IPv4 and IPv6

- Network Time Protocol (NTP) synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among

all clock-dependent devices within the network so the devices can provide diverse applications based on the consistent time

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP) advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications

- Dual flash images provides independent primary and secondary operating system files for backup while upgrading

- Assignment of descriptive names to ports for easy identification

- Multiple configuration files can be stored to a flash image

- Ingress and egress port monitoring enable more efficient network problem solving

- Unidirectional link detection (UDLD) monitors the link between two switches and blocks the ports on both ends of the link if the link goes down at any point between the two devices

- IP SLA for Voice monitors quality of voice traffic using the UDP Jitter and UDP Jitter for VoIP tests

- Precision Time Protocol (PTP) allows for precise clock synchronization across distributed network switches as defined in IEEE 1588. Transparent Clock (PTP-TC) and Boundary Clock (PTP-BC) are needed for time critical applications like smart grid power automation, financial systems and more. Boundary Clock makes use of 2-Step time stamping mode.

Layer 2 switching
The following layer 2 services are supported:

- VLAN support and tagging for IEEE 802.1Q (4094 VLAN IDs)

- Jumbo packet support improves the performance of large data transfers; supports frame size of up to 9198 bytes

- IEEE 802.1v protocol VLANs isolate select non-IPv4 protocols automatically into their own VLANs

- Rapid Per-VLAN Spanning Tree (RPVST+) allows each VLAN to build a separate

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spanning tree to improve link bandwidth usage; is compatible with PVST+

- MVRP allows automatic learning and dynamic assignment of VLANs

- VXLAN encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment[1]

- Bridge Protocol Data Unit (BPDU) tunnelling Transmits STP BPDUs transparently, allowing correct tree calculations across service providers, WANs, or MANs

- Port mirroring duplicates port traffic (ingress and egress) to a monitoring port; supports 4 mirroring groups

- STP supports standard IEEE 802.1D STP, IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) for faster convergence, and IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)

- Internet Group Management Protocol (IGMP snooping) Controls and manages the flooding of multicast packets in a Layer 2 network

- IPv4 Multicast in VXLAN/EVPN Overlay support allows PIM-SM/IGMP snooping in the VXLAN Overlay[1]

- IPv6 VXLAN/EVPN Overlay support, allows IPv6 traffic over the VXLAN overlay[1]

- VXLAN ARP/ND suppression allows minimization of ARP and ND traffic flooding within individual VXLAN segments, thus optimizing the VXLAN network[1]

- QinQ support to improve the VLAN utilization by adding another 802.1Q tag to tagged packets

- **Layer 3 services**

The following layer 3 services are supported:

- Bidirectional Forwarding Detection (BFD) enables link connectivity monitoring and reduces network convergence time for static route, OSPFv2 and VRRP

- User Datagram Protocol (UDP) helper function allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP

- Loopback interface address defines an address in Open Shortest Path First (OSPF), improving diagnostic capability

- Route maps provide more control during route redistribution; allow filtering and altering of route metrics

- Address Resolution Protocol (ARP) determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network

- Dynamic Host Configuration Protocol (DHCP) simplifies the management of large IP networks and supports client; DHCP Relay enables DHCP operation across subnets

- DHCP server centralizes and reduces the cost of IPv4 address management

- Domain Name System (DNS) provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

- mDNS (Multicast Domain Name System) Gateway enables discovery of mDNS groups across L3 boundaries

- Generic Routing Encapsulation (GRE) enables tunneling traffic from site to site over a Layer 3 path

- Supports internal loopback testing for maintenance purposes and increased availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

- IP sub-interface is a virtual interface created by dividing physical interface into multiple logical interfaces tagged using different VLAN-IDs. A physical interface can be a regular physical, Split port or LAG L3 interface. A sub-interface is used for many uses-cases such as VRF-lite interconnection and inter-vlan routing (router on-a-stick)

Layer 3 routing
The following layer 3 routing services are supported:

- Border Gateway Protocol (BGP) provides IPv4 and IPv6 routing, which is scalable, robust, and flexible

- Border Gateway Protocol 4 (BGP-4) delivers an implementation of the Exterior Gateway Protocol (EGP) utilizing path vectors; uses TCP for enhanced reliability for the route discovery process; reduces bandwidth consumption by advertising only incremental updates; supports extensive policies for increased flexibility; scales to very large networks with graceful restart capability

- Equal-Cost Multipath (ECMP) enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

- Multi-protocol BGP (MP-BGP) enables sharing of IPv6 routes using BGP and connections to BGP peers using IPv6

- Routing Information Protocol version 2 (RIPv2) provides an easy to configure routing protocol for small networks as while RIPng provides support for small IPv6 networks

- Open shortest path first (OSPF) delivers faster convergence; uses link-state routing Interior Gateway Protocol (IGP), which supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery.

- OSPF provides OSPFv2 for IPv4 routing and OSPFv3 for IPv6 routing

- Static IP routing provides manually configured routing; includes ECMP capability

- Policy-based routing uses a classifier to select traffic that can be forwarded based on policy set by the network administrator

- Static IPv4 and IPv6 routing provides simple manually configured IPv4 and IPv6 routes

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[1] VXLAN features not supported on CX 6300L switch models

- IP performance optimization provides a set of tools to improve the performance of IPv4 networks; includes directed broadcasts, customization of TCP parameters, support of ICMP error packets, and extensive display capabilities

- Dual IP stack maintains separate stacks for IPv4 and IPv6 to ease the transition from an IPv4-only network to an IPv6-only network design

Security
The HPE Aruba Networking CX 6300 Switch Series come with an integrated trusted platform module (TPM) for platform integrity. This ensures the boot process started from a trusted combination of HPE Aruba Networking AOS-CX switches. Other security features include:

- AOS-CX uses FIPS 140-2 validated cryptography for protection of sensitive information

- Access control list (ACL) support for both IPv4 and IPv6; allows for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header

- ACLs also provide filtering based on the IP field, source/destination IP address/subnet, and source/ destination TCP/UDP port number on a per-VLAN or per-port basis

- Enrollment over Secure Transport (EST) enables secure certificate enrollment, allowing for easier enterprise management of PKI

- Remote Authentication Dial-In User Service (RADIUS)

- Terminal Access Controller Access-Control System (TACACS+) delivers an authentication tool using TCP with encryption of the full authentication request, providing additional security

- Management access security for both on- and off-box authentication for administrative access. RADIUS or TACACS+ can be used to provide encrypted user authentication.

Additionally, TACACS+ can also provide admin authorization services

- Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks

- Supports multiple user authentication methods. Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards

- Web based authentication using Captive Portal on ClearPass is supported for use cases such as Guest Access and for devices that don't support 802.1x or MAC Auth.

- Supports MAC-based client authentication

- Concurrent IEEE 802.1X, Web, and MAC authentication schemes per switch port accepts up to 32 sessions of IEEE 802.1X, Web, and MAC authentications

- DHCP protection blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- Secure management access delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3

- Switch CPU protection provides automatic protection against malicious network traffic trying to shut down the switch

- ICMP throttling defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic

- Identity-driven ACL enables implementation of a highly granular and flexible access security policy and VLAN assignment specific to each authenticated network user

- STP BPDU port protection blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

- Dynamic IP lockdown works with DHCP protection to block traffic from unauthorized hosts, preventing IP source address spoofing

- Dynamic ARP protection blocks ARP broadcasts from unauthorized hosts,

preventing eavesdropping or theft of network data

- STP root guard protects the root bridge from malicious attacks or configuration mistakes

- Port security allows access only to specified MAC addresses, which can be learned or specified by the administrator

- MAC address lockout prevents particular configured MAC addresses from connecting to the network

- Source-port filtering allows only specified ports to communicate with each other

- Secure shell encrypts all transmitted data for secure remote CLI access over IP networks

- Secure Sockets Layer (SSL) encrypts all HTTP traffic, allowing secure access to the browser-based management GUI in the switch

- Secure FTP allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file

- Critical Authentication Role ensures that important infrastructure devices such as IP phones are allowed network access even in the absence of a RADIUS server

- MAC Pinning allows non-chatty legacy devices to stay authenticated by pinning client MAC addresses to the port until the clients logoff or get disconnected

- Security banner displays a customized security policy when users log in to the switch

- RadSec enables RADIUS authentication and accounting data to be passed safely and reliably across insecure networks

- Private VLAN (PVLAN) provides traffic isolation between users on the same VLAN; typically a switch port can only communicate with other ports in the same community and/or an uplink port, regardless of VLAN ID or destination MAC address. This extends network security by restricting peer-peer communication to prevent variety of malicious attacks.

- Auto VLAN Creation automates VLAN creation on access switches for authenticated clients.

- DHCP smart relay allows the DHCP relay agent to use secondary IP addresses when the DHCP server does not reply the DHCP-OFFER message

- IEEE 802.1AE MACsec provides switch-to-switch and switch-to-host security on a link between two ports using standard encryption and authentication, available on uplink and downlink ports

Visibility and advanced security
Customers can choose to upgrade their switch with an HPE Aruba Networking CX Advanced Feature Pack to unlock the following benefits for their business:

- Deep visibility and application recognition with CX Edge Insights, including granular datapoint collection with search, sort and reporting.

- Role and application-based policy control and enforcement with the ability to recognize more than 3800 applications across 22 categories, and take action. Policy actions include drop, remark, and mirror.

- Hardened network security posture with WAN MACsec encryption services and support for Reflexive Policy.

Multicast
- IGMP Snooping allows multiple VLANs to receive the same IPv4 multicast traffic, lessening network bandwidth demand by reducing multiple streams to each VLAN

- Multicast Listener Discovery (MLD) enables discovery of IPv6 multicast listeners; support MLD v1 and v2

- Protocol Independent Multicast (PIM) defines modes of IPv4 and IPv6 multicasting to allow one-to-many and many-to-many transmission of information; supports PIM Sparse Mode (SM), Source-Specific Multicast (SSM), and Dense Mode (DM) for both IPv4 and IPv6

- Internet Group Management Protocol (IGMP) utilizes Any-Source Multicast (ASM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3

- Multicast Service Discovery Protocol (MSDP) efficiently routes multicast traffic through core networks

- MSDP for Anycast RP is an intra-domain feature that provides redundancy and load-sharing capabilities

Convergence
- IP multicast routing includes PIM Sparse, Source-Specific Multicast (SSM), and Dense modes to route IP multicast traffic

- IP multicast snooping (data-driven IGMP) prevents flooding of IP multicast traffic

- Protocol Independent Multicast for IPv6 supports one-to-many and many-to-many media casting use cases such as IPTV over IPv6 networks

- LLDP-MED (Media Endpoint Discovery) defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

- PoE allocations supports multiple methods (allocation by usage or class, with LLDP and LLDP-MED) to allocate PoE power for more efficient power management and energy savings.

- Auto VLAN configuration for voice RADIUS VLAN uses a standard RADIUS attribute and LLDP-MED to automatically configure a VLAN for IP phones

- CDPv2 uses CDPv2 to configure legacy IP phones

Additional information
- Green initiative support for RoHS (EN 50581:2012) and WEEE regulations

- TAA-compliant CX 6300 switch models are available

Customer first, customer last support
When your network is important to your business, then your business needs the backing of HPE Aruba Networking Support Services. Partner with HPE Aruba Networking product experts to increase your team productivity, keep pace with technology advances, software releases, and obtain break-fix support.

Foundational Care for HPE Aruba Networking support services include priority access to HPE Aruba Networking Technical Assistance Center(TAC) engineers 24x7x365, flexible hardware and onsite support options, and total coverage for HPE Aruba Networking products. HPE Aruba Networking switches with assigned HPE

Aruba Networking Central subscriptions benefit with option for additional hardware support only.

HPE Aruba Networking Pro Care adds fast access to senior HPE Aruba Networking TAC engineers, who are assigned as a single point of contact for case management, reducing the time spent addressing and resolving issues.

For complete details on Foundational Care and HPE Aruba Networking Pro Care, please visit: https://www.arubanetworks.com/supportservices/

Warranty, services and support
Limited Lifetime Warranty, see https://www.arubanetworks.com/support-services/product-warranties/ for warranty and support information included with your product purchase

For more detailed information on HPE Aruba Networking AOS-CX software release and features, please visit the AOS-CX Switch Software Documentation Portal

Explore and compare switch features for each platform and software release on the HPE Aruba Networking Switch Feature Navigator

For Software Releases and Documentation, refer to https://asp.arubanetworks.com/downloads

For support and services information, visit https://www. arubanetworks.com/support-services/arubacare/

Technical specifications

	HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)	HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G Class6 PoE and 2p 50G and 2p 25G Switch (R8S89A)	HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G Class8 PoE and 2p 50G and 2p 25G Switch (R8S90A)
Description	48x ports SmartRate 100M^2/1G/2.5G/5G/10G BaseT Class 8 PoE ports supporting up to 90W per port (MACsec) 4x 10G/25G/40G/100G QSFP/QSFP28 ports (MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 90W) 1x USB-C Console Port (higher priority than RJ45 console port) 1x RJ45 console port 1x OOBM 1x USB Type A Host port	24x ports SmartRate 100M^2/1G/2.5G/5G/10G BaseT Class 6 PoE ports supporting up to 60W per port (MACsec) 2x 10G/25G/50G^1 SFP ports 2x 10G/25G SFP ports (MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 60W) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port	48x ports SmartRate 100M^2/1G/2.5G/5G BaseT Class 8 PoE ports supporting up to 90W per port (MACsec) 2x 10G/25G/50G^1 SFP ports 2x 10G/25G SFP ports (MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 90W) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port
Power supplies	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2640W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W
Fans	Switch has three fan tray slots and comes with three JL714A fan trays installed • Min 3 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed. • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.
Physical characteristics			
Dimensions	(H) 4.4 cm x (W) 44.2 cm x (D) 47.2 cm (1.73"" x 17.4"" x 18.6"")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")
Configuration weight	7.75 kg (17.09 lbs)	5.26 kg (11.60 lbs)	5.48 kg (12.08 lbs)

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] 100M use on Smart Rate ports is limited to full-duplex only. For 100M half-duplex support, use 1G ports on other models.

Technical specifications

	HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)	HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G CL6 PoE and 2p 50G and 2p 25G Switch (R8S89A)	HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G CL8 PoE and 2p 50G and 2p 25G Switch (R8S90A)
Additional specifications			
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet buffer		16 MB	16 MB
Performance			
Model switching capacity	1760 Gbps	780 Gbps	780 Gbps
Model throughput capacity	1310 Mpps	580 Mpps	580 Mpps
Average latency (LIFO-64-bytes packets)		1Gbps: 4.24ųSec 10Gbps: 1.50ųSec 25Gbps: 2.91ųSec 50Gbps[1]: 3.49ųSec	1Gbps: 4.24ųSec 10Gbps: 1.50ųSec 25Gbps: 2.91ųSec 50Gbps[1]: 3.49ųSec
Stack size	10 members	10 members	10 members
Max stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	400 Gbps	200 Gbps	200 Gbps
Switched virtual interfaces (dual stack)	1,024	1,024	1,024
IPv4 host table (ARP)	49,152	49,152	49,152
IPv6 host table (ND)	49,152	49,152	49,152
IPv4 unicast routes	61,000	61,000	61,000
IPv6 unicast routes	61,000	61,000	61,000
IPv4 multicast routes	8,192	8,192	8,192
IPv6 multicast routes	8,192	8,192	8,192
MAC table capacity	32,768	32,768	32,768
IGMP groups	4,096	4,096	4,096
MLD groups	8,192	8,192	8,192
IPv4/IPv6/MAC ACL entries (ingress)	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192
VRF	256	256	256

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] No more than 96 consecutive hours and no more than 360 hours total (15 days) in 1 year.

Technical specifications

	HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)	HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G CL6 PoE and 2p 50G and 2p 25G Switch (R8S89A)	HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G CL8 PoE and 2p 50G and 2p 25G Switch (R8S90A)
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max
Max Non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max
Acoustic	Sound Power, LWAd = 5.8 Bel Sound Pressure, LpAm (Bystander) = 41.7 dB	Sound Power, LWAd = 4.9 Bel Sound Pressure, LpAm (Bystander) = 33.0 dB	Sound Power, LWAd = 5.0 Bel Sound Pressure, LpAm (Bystander) = 33.4 dB
Primary airflow	Front and side to back	Front and side to back	Front and side to back
Electrical characteristics			
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Input voltage	JL670A PSU: 110V-120V/200V/208V-240V; AC input JL086A PSU: 100V-240V; AC input JL087A PSU: 110V-240V; AC input JL758A PSU: 36-72VDC; DC input	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V
Current (for voltages listed above)	JL670A PSU: 11A/9A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A JL758A PSU: 16.6 – 34.3A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A
Power consumption (230VAC)	With single JL086A PSU: Idle: 207W 100% Traffic Rate: 283W With single JL087A PSU: Idle: 208W 100% Traffic Rate: 282W With single JL670A PSU: Idle: 211W 100% Traffic Rate: 283W	With JL086A PSU: Idle: 90W 100% Traffic Rate: 143W With JL087A PSU: Idle: 90W 100% Traffic Rate: 140W With JL670A PSU: Idle: 101W 100% Traffic Rate: 152W	With JL086A PSU: Idle: 104W 100% Traffic Rate: 173W With JL087A PSU: Idle: 104W 100% Traffic Rate: 173W With JL670A PSU: Idle: 115W 100% Traffic Rate: 184W

[1] No more than 96 consecutive hours and no more than 360 hours total (15 days) in 1 year.

Technical specifications

	HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)	HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G CL6 PoE and 2p 50G and 2p 25G Switch (R8S89A)	HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G CL8 PoE and 2p 50G and 2p 25G Switch (R8S90A)
Safety			
Include US, Canada, Europe, Worldwide	Europe: EN 62368-1:2014 +A11:2017 EN 62368-1:2020 +A11:2020 US: UL 62368-1 2nd Ed. CAN: CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 62368-1:2014 (2nd Ed) IEC 62368-1:2018 (3rd Ed) Taiwan: CNS 15598-1:2020	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2014 2nd Ed. w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2014 2nd Ed. w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "
Emissions			
Include US, Canada, Europe, Worldwide	Europe: EN 55032:2015+A11:2020, Class A EN 55035:2017+A11:2020 EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A2:2021 US: FCC 47 CFR part 15 subpart B, Class A CAN: ICES-003 Issue 7:2020, Class A Japan: VCCI-CISPR 32:2016, Class A Taiwan: CNS 15936:2016, Class A AUS/NZ: AS/NZS CISPR 32:2015+A1:2020, Class A Worldwide: CISPR 32:2015/AMD1:2019, Class A CISPR 35:2016	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016
Lasers			
Include US, Canada, Europe, Worldwide	EN 60825-1:2014 +A11:2021 / IEC 60825-1:2014 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories – Optical Transceivers only)	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories – Optical Transceivers only)	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories – Optical Transceivers only)

Technical specifications

	HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)	HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G CL6 PoE and 2p 50G and 2p 25G Switch (R8S89A)	HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G CL8 PoE and 2p 50G and 2p 25G Switch (R8S90A)
Immunity			
Generic	CISPR 35	CISPR 35	CISPR 35
EN	EN 55035:2017	EN 55035:2017	EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2:2018+A1:2020; EN IEC 61000-3-2:2019+A1:2021	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC/EN 61000-3-3:2013+A2:2021	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3
Mounting and enclosure			
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Technical specifications

	HPE Aruba Networking 6300M 48SR5 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G LRM support Switch (R8S91A)	HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)
Description	48x ports SmartRate 100M[2]/1G/2.5G/5G BaseT Class 8 PoE ports supporting up to 90W per port on ports 1-12, and up to 60W per port on ports 13-48 (MACsec) 2x 10G/25G/50G[1] SFP ports 2x 1G/10G SFP ports (LRM + MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 90W) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port	24x 1G/10G SFP+ ports (LRM + MACsec) 2x 10G/25G/50G[1] SFP ports 2x 10G/25G SFP ports (MACsec) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port
Power supplies	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL085A JL757A PSU
Fans	Switch has two fan tray slots and comes with two fan trays installed. • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed. • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.
Physical characteristics		
Dimensions	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")
Configuration weight	5.47 kg (12.06 lbs)	4.85 kg (10.70 lbs)

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] 100M use on Smart Rate ports is limited to full-duplex only. For 100M half-duplex support, use 1G ports on other models.

Technical specifications

	HPE Aruba Networking 6300M 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G Switch (R8S91A)	HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)
Additional specifications		
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet buffer	16 MB	16 MB
Performance		
Model switching capacity	720 Gbps	780 Gbps
Model throughput capacity	535 Mpps	580 Mpps
Average latency (LIFO-64-bytes packets)	1Gbps: 4.24ɥSec 10Gbps: 1.50ɥSec 25Gbps: 2.91ɥSec 50Gbps[1]: 3.49ɥSec	1Gbps: 4.24ɥSec 10Gbps: 1.50ɥSec 25Gbps: 2.91ɥSec 50Gbps[1]: 3.49ɥSec
Stack size	10 members	10 members
Max stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	200 Gbps	200 Gbps
Switched virtual interfaces (dual stack)	1,024	1,024
IPv4 host table (ARP)	49,152	49,152
IPv6 host table (ND)	49,152	49,152
IPv4 unicast routes	61,000	61,000
IPv6 unicast routes	61,000	61,000
IPv4 multicast routes	8,192	8,192
IPv6 multicast routes	8,192	8,192
MAC table capacity	32,768	32,768
IGMP groups	4,096	4,096
MLD groups	8,192	8,192
IPv4/IPv6/MAC ACL entries (ingress)	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/2,048/8,192	8,192/2,048/8,192
VRF	256	256

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] No more than 96 consecutive hours and no more than 360 hours total (15 days) in 1 year.

Technical specifications

	HPE Aruba Networking 6300M 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G Switch (R8S91A)	HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[2] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft.2 Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[2] of time. 55C excursion not supported when 10G LRM/LR/ER inserted When 10G BT and 10G LRM/LR/ER transceivers are installed together, fan redundancy is only supported up to 104°F (40°C), 5,000ft
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max
Max Non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max
Acoustic	Sound Power, LWAd = 4.9 Bel Sound Pressure, LpAm (Bystander) = 32.6 dB	Sound Power, LWAd = 4.6 Bel Sound Pressure, LpAm (Bystander) = 30.1 dB
Primary airflow	Front and side to back	Front and side to back
Electrical characteristics		
Frequency	50Hz/60Hz	50Hz/60Hz
AC voltage	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL085A PSU: 100V-240V
Current (for voltages listed above)	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL085A PSU: 3A/1.2A
Power consumption (230VAC)	With JL086A PSU: Idle: 104W 100% Traffic Rate: 168W With JL087A PSU: Idle: 104W 100% Traffic Rate: 168W With JL670A PSU: 98 Idle: 113W 100% Traffic Rate: 179W	Idle: 87W 100% Traffic Rate: 131W

Technical specifications

	HPE Aruba Networking 6300M 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G Switch (R8S91A)	HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)
Safety		
Include US, Canada, Europe, Worldwide	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2014 2nd Ed. w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2014 2nd Ed. w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "
Emissions		
Include US, Canada, Europe, Worldwide	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016
Lasers		
Include US, Canada, Europe, Worldwide	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)

Technical specifications

	HPE Aruba Networking 6300M 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G Switch (R8S91A)	HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)
Immunity		
Generic	CISPR 35	CISPR 35
EN	EN 55035:2017	EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3
Mounting and enclosure		
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Technical specifications

	HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)	HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)
Description	24x ports 10/100/1000 BaseT PoE+ ports supporting up to 30W per port 4x 1G/10G/25G/50G[1] SFP ports Supports PoE Standards IEEE 802.3af, 802.3at 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	48x ports 10/100/1000 BaseT ports 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	24x ports 10/100/1000 BaseT ports 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	48x ports 10/100/1000 BaseT ports 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM 1x USB Type A Host port
Power supplies	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A Max PoE Power: 720W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supports JL085A PSU	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supports JL085A PSU	2 Field-replaceable, hot-swappable power-supply slots and comes with 1 Pwr2Prt power-supply pre-installed Additional Pwr2Prt power-supply can be ordered separately Supports JL760A Pwr2Prt power-supply only
Fans	Switch has two fan tray slots and comes with one fan tray installed. Min 1 fan tray required. Optional second fan tray ordered separately. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with one fan tray installed. Min 1 fan tray required. Optional second fan tray ordered separately. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with one fan tray installed. Min 1 fan tray required. Optional second fan tray ordered separately. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed. Min 2 fan trays required. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans. Supports JL761A Pwr2Prt Fan Tray only.
Physical characteristics				
Dimensions	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm (W) 44.2 cm (D) 38.5 cm (1.73" x 17.4" x 15.2")
Configuration weight	5.55 kg (12.23 lbs)	5.51 kg (12.14 lbs)	5.43 kg (11.97 lbs)	1PSU: 5.7 kg (12.5 lbs) 2PSU: 6.27kg (13.8 lbs)

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

Technical specifications

	HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)	HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)
Additional specifications				
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GBytes DDR4 32 GBytes eMMC
Packet buffer	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Shared Packet Buffer Memory
Performance				
Model switching capacity	448 Gbps	496 Gbps	448 Gbps	496 Gbps
Model throughput capacity	334 Mpps	369 Mpps	334 Mpps	369 Mpps
Average latency (LIFO-64-bytes packets)	1Gbps: 2.28уSec 10Gbps: 1.46уSec 25Gbps: 1.90уSec 50Gbps[1]: 3.49уSec	1Gbps: 2.28уSec 10Gbps: 1.46уSec 25Gbps: 1.90уSec 50Gbps[1]: 3.49уSec	1Gbps: 2.28уSec 10Gbps: 1.46уSec 25Gbps: 1.90уSec 50Gbps[1]: 3.49уSec	1Gbps: 2.28уSec 10Gbps: 1.46уSec 25Gbps: 1.90уSec 50Gbps[1]: 3.49уSec
Stack size	10 members	10 members	10 members	10 members
Max. stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	200 Gbps	200 Gbps	200 Gbps	200 Gbps
Switched virtual interfaces (dual stack)	1,024	1,024	1,024	1,024
IPv4 host table (ARP)	49,152	49,152	49,152	49,152
IPv6 host table (ND)	49,152	49,152	49,152	49,152
IPv4 unicast routes	61,000	61,000	61,000	61,000
IPv6 unicast routes	61,000	61,000	61,000	61,000
IPv4 multicast routes	8,192	8,192	8,192	8,192
IPv6 multicast routes	8,192	8,192	8,192	8,192
MAC table capacity	32,768	32,768	32,768	32,768
IGMP groups	4,096	4,096	4,096	4,096
MLD groups	8,192	8,192	8,192	8,192
IPv4/IPv6/MAC ACL entries (ingress)	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192
VRF	256	256	256	256

Technical specifications

	HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)	HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)
Environment				
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5000 ft derate -1°C for every 1000 ft from 5000 ft to 10000 ft
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10000 feet (3.04 km) Max
Max non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15000 feet (4.6 km) Max
Acoustic	Sound Power, L_{WAd} = 4.7 Bel Sound Pressure, L_{pAm} (Bystander) = 29.4 dB	Sound Power, L_{WAd} = 4.6 Bel Sound Pressure, L_{pAm} (Bystander) = 28.7 dB	Sound Power, L_{WAd} = 4.6 Bel Sound Pressure, L_{pAm} (Bystander) = 28.6 dB	Sound Power, L_{WAd} = 5.0 Bel Sound Pressure, L_{pAm} (Bystander) = 32.5 dB with 1 x JL760A PSU
Primary airflow	Front and side to back	Front and side to back	Front and side to back	Back to Front and Side
Electrical characteristics				
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
AC voltage	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL085A PSU: 100V-240V	JL085A PSU: 100V-240V	JL760A PSU: 100V-240V
Current (for voltages listed above)	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL085A PSU: 3A/1.2A	JL085A PSU: 3A/1.2A	JL760A PSU: 3A-1.2A
80plus.org certification	-	-	-	TBA for JL760A PS.
Power consumption (230VAC)	With JL086A PSU: Idle: 60W 100% Traffic Rate: 76W With JL087A PSU: Idle: 59W 100% Traffic Rate: 74W With JL670A PSU: Idle: 62W 100% Traffic Rate: 81W	Idle: 56W 100% Traffic Rate: 75W	Idle: 49W 100% Traffic Rate: 64W	Idle: 56W 100% Traffic Rate: 75W

Technical specifications

	HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)	HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)
Safety				
	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 EN 62368-1:2014 +A11:2017 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations IEC 62368-1:2014 2nd Ed. Taiwan: CNS-14336-1
Emissions				
	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55032:2015 +AC:2016, Class A EN 55035:2017 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC 47 CFR part 15B, Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Ed 2.0: 2015 + COR1:2016, Class A CISPR 35:2016
Lasers				
	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)
Immunity				
Generic	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 35
EN	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2

Technical specifications

	HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)	HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)	HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)
Immunity				
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3
Mounting and enclosure				
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Technical specifications

	HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)	HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)	HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)	HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)
Description	48x ports 10/100/1000BaseT PoE+ Ports supporting up to 30W per port 4x 1G/10G/25G/50G[1] SFP ports Supports PoE Standards IEEE 802.3af, 802.3at 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	24x ports 10/100/1000BaseT Ports supporting up to 30W per port 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	48x ports 10/100/1000BaseT Ports 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	24x ports 10/100/1000BaseT Ports 4x 1G/10G/25G/50G[1] SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port
Power supplies	Internal (fixed) power supply (950W) Max PoE Power: 740W	Internal (fixed) power supply (950W) Max PoE Power: 370W	Internal (fixed) power supply (200W)	Internal (fixed) power supply (200W)
Fans	Fixed fans	Fixed fans	Fixed fans	Fixed fans
Physical characteristics				
Dimensions	(H) 4.39 cm x (W) 44.2 cm x (D) 32.7 cm (1.73" x 17.4" x 12.9")	(H) 4.39 cm x (W) 44.2 cm x (D) 32.7 cm (1.73" x 17.4" x 12.9")	(H) 4.39 cm x (W) 44.2 cm x (D) 32.7 cm (1.73" x 17.4" x 12.9")	(H) 4.39 cm x (W) 44.2 cm x (D) 32.7 cm (1.73" x 17.4" x 12.9")
Configuration weight	5.10 kg (11.24 lbs)	4.95 kg (10.91 lbs)	4.46 kg (9.83 lbs)	4.36 kg (9.61 lbs)
Additional specifications				
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet buffer	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

Technical specifications

	HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)	HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)	HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)	HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)
Performance				
Model switching capacity	496 Gbps	448 Gbps	496 Gbps	448 Gbps
Model throughput capacity	369 Mpps	334 Mpps	369 Mpps	334 Mpps
Average latency (LIFO-64-bytes packets)	1Gbps: 2.28μSec 10Gbps: 1.46μSec 25Gbps: 1.90μSec 50Gbps[1]: 3.49μSec	1Gbps: 2.28μSec 10Gbps: 1.46μSec 25Gbps: 1.90μSec 50Gbps[1]: 3.49μSec	1Gbps: 2.28μSec 10Gbps: 1.46μSec 25Gbps: 1.90μSec 50Gbps[1]: 3.49μSec	1Gbps: 2.28μSec 10Gbps: 1.46μSec 25Gbps: 1.90μSec 50Gbps[1]: 3.49μSec
Stack size	10 members	10 members	10 members	10 members
Max. stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	200 Gbps	200 Gbps	200 Gbps	200 Gbps
Switched Virtual Interfaces (dual stack)	1,024	1,024	1,024	1,024
IPv4 host table (ARP)	49,152	49,152	49,152	49,152
IPv6 host table (ND)	49,152	49,152	49,152	49,152
IPv4 unicast routes	61,000	61,000	61,000	61,000
IPv6 unicast routes	61,000	61,000	61,000	61,000
IPv4 multicast routes	8,192	8,192	8,192	8,192
IPv6 multicast routes	8,192	8,192	8,192	8,192
MAC table capacity	32,768	32,768	32,768	32,768
IGMP groups	4,096	4,096	4,096	4,096
MLD groups	8,192	8,192	8,192	8,192
IPv4/IPv6/MAC ACL entries (ingress)	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192
VRF	256	256	256	256

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

Technical specifications

	HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)	HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)	HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)	HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)
Environment				
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max
Max non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max
Acoustic	Sound Power, L_{WAd} = 5.2 Bel Sound Pressure, L_{pAm} (Bystander) = 34.9 dB	Sound Power, L_{WAd} = 5.0 Bel Sound Pressure, L_{pAm} (Bystander) = 32.3 dB	Sound Power, L_{WAd} = 4.9 Bel Sound Pressure, L_{pAm} (Bystander) = 31.5 dB	Sound Power, L_{WAd} = 4.9 Bel Sound Pressure, L_{pAm} (Bystander) = 31.6 dB
Primary airflow	Front and side to back	Front and side to back	Front and side to back	Front and side to back
Electrical characteristics				
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
AC voltage	Fixed PSU: 100V-120V/200V-240V	Fixed PSU: 100V-120V/200V-240V	Fixed PSU: 100V-120V/200V-240V	Fixed PSU: 100V-120V/200V-240V
Current (for voltages listed above)	Fixed PSU: 11A/6A	Fixed PSU: 11A/6A	Fixed PSU: 2.5A/1.4A	Fixed PSU: 2.5A/1.4A
80plus.org certification	-	-	-	-
Power consumption (230VAC)	Idle: 63W 100% Traffic Rate: 86W	Idle: 52W 100% Traffic Rate: 67W	Idle: 52W 100% Traffic Rate: 74W	Idle: 49W 100% Traffic Rate: 63W
Safety				
	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013 US: UL 60950-1 2nd Ed. Canada: CAN/CSA-C22.2 No. 60950-1-07 Worldwide: IEC 60950-1:2005 w/all known National Deviations

Technical specifications

	HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)	HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)	HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)	HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)
Emissions				
	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013 US: FCC part 15 Class A Canada: ICES-003 Class A Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010
Lasers				
	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)
Immunity				
Generic	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35
EN	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3

Technical specifications

	HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)	HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)	HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)	HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)
Mounting and enclosure				
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Technical specifications

	HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)	HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)	HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)	HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)
Description	24x 1G/10G SFP+ ports 4x 1G/10G/25G[1]/50G SFP ports 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	48x ports SmartRate 100M[2]/1G/2.5G/5G BaseT Class 6 PoE ports supporting up to 60W per port 4x 1G/10G/25G[1]/50G SFP ports Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 60W) 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	24x ports Smart Rate 100M[2]/1G/2.5G/5G BaseT Class 6 PoE ports supporting up to 60W per port 4x 1G/10G/25G[1]/50G SFP ports Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 60W) 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port	48x ports 10/100/1000 BaseT PoE+ ports supporting up to 30W per port 4x 1G/10G/25G[1]/50G SFP ports Supports PoE Standards IEEE 802.3af, 802.3at 1x USB-C Console Port 1x OOBM port 1x USB Type A Host port
Power supplies	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supports JL085A PSU	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A Max PoE Power: 2880W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A Max PoE Power: 1440W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A Max PoE Power: 1440W
Fans	Switch has two fan tray slots and comes with two fan trays installed. Min 2 fan trays required. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed. Min 2 fan trays required. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with one fan tray installed. Min 1 fan tray required. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.	Switch has two fan tray slots and comes with one fan tray installed. Min 1 fan tray required. Fan trays are field replaceable and hot-swappable. Each fan tray contains two fans.
Physical characteristics				
Dimensions	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")
Configuration weight	5.8 Kg (12.78 lbs)	6.71 kg (14.8 lbs)	6.06 (13.36 lbs)	5.72 kg (12.61 lbs)

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] 100M use on Smart Rate ports is limited to full-duplex only. For 100M half-duplex support, use 1G ports on other models.

Technical specifications

	HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)	HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)	HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)	HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)
Additional specifications				
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet buffer	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory	8 MB Packet Buffer Memory
Performance				
Model switching capacity	880 Gbps	880 Gbps	640 Gbps	496 Gbps
Model throughput capacity	654 Mpps	654 Mpps	476 Mpps	369 Mpps
Average latency (LIFO-64-bytes packets)	1Gbps: 1.99ųSec 10Gbps: 1.49ųSec 25Gbps: 2.85ųSec 50Gbps[1]: 2.82ųSec	1Gbps: 4.24ųSec 10Gbps: 1.50ųSec 25Gbps: 2.91ųSec 50Gbps[1]: 3.49ųSec	1Gbps: 4.24ųSec 10Gbps: 1.50ųSec 25Gbps: 2.91ųSec 50Gbps[1]: 3.49ųSec	1Gbps: 2.28ųSec 10Gbps: 1.46ųSec 25Gbps: 1.90ųSec 50Gbps[1]: 3.49ųSec
Stack size	10 members	10 members	10 members	10 members
Max. stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	200 Gbps	200 Gbps	200 Gbps	200 Gbps
Switched virtual interfaces (dual stack)	1,024	1,024	1,024	1,024
IPv4 host table (ARP)	49,152	49,152	49,152	49,152
IPv6 host table (ND)	49,152	49,152	49,152	49,152
IPv4 unicast routes	61,000	61,000	61,000	61,000
IPv6 unicast routes	61,000	61,000	61,000	61,000
IPv4 multicast routes	8,192	8,192	8,192	8,192
IPv6 multicast routes	8,192	8,192	8,192	8,192
MAC table capacity	32,768	32,768	32,768	32,768
IGMP groups	4,096	4,096	4,096	4,096
MLD groups	8,192	8,192	8,192	8,192
IPv4/IPv6/MAC ACL entries (ingress)	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192	8,192/2,048/8,192
VRF	256	256	256	256

Technical specifications

	HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)	HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)	HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)	HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)
Environment				
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time. Operating temperature is reduced to 32°F (0°C) to 104°F (40°C) up to 5000ft when 10G SFP+ LR or ER Transceivers are installed.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time. Requires two fan trays to support excursion.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max
Max non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max
Acoustic	Sound Power, L_{WAd} = 4.9 Bel Sound Pressure, L_{pAm} (Bystander) = 31.0 dB	Sound Power, L_{WAd} = 4.8 Bel Sound Pressure, L_{pAm} (Bystander) = 30.6 dB	Sound Power, L_{WAd} = 5.2 Bel Sound Pressure, L_{pAm} (Bystander) = 34.2 dB	Sound Power, L_{WAd} = 4.7 Bel Sound Pressure, L_{pAm} (Bystander) = 29.8 dB
Primary airflow	Front and side to back	Front and side to back	Front and side to back	Front and side to back
Electrical characteristics				
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
AC voltage	JL085A PSU: 100V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V
Current (for voltages listed above)	JL085A PSU: 3A/1.2A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A
Power consumption (230VAC)	Idle: 51W 100% Traffic Rate: 85W	With JL086A PSU: Idle: 133W 100% Traffic Rate: 199W With JL087A PSU: Idle: 138W 100% Traffic Rate: 193W With JL670A PSU: Idle: 140W 100% Traffic Rate: 201W	With JL086A PSU: Idle: 93W 100% Traffic Rate: 137W With JL087A PSU: Idle: 91W 100% Traffic Rate: 131W With JL670A PSU: Idle: 98W 100% Traffic Rate: 139W	With JL086A PSU: Idle: 70W 100% Traffic Rate: 90W With JL087A PSU: Idle: 71W 100% Traffic Rate: 88W With JL670A PSU: Idle: 73W 100% Traffic Rate: 96W

Technical specifications

	HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)	HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)	HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)	HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)
Safety				
	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013	Europe: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + A2:2013
	US: UL 60950-1 2nd Ed.	US: UL 60950-1 2nd Ed.	US: UL 60950-1 2nd Ed.	US: UL 60950-1 2nd Ed.
	Canada: CAN/CSA-C22.2 No. 60950-1-07	Canada: CAN/CSA-C22.2 No. 60950-1-07	Canada: CAN/CSA-C22.2 No. 60950-1-07	Canada: CAN/CSA-C22.2 No. 60950-1-07
	Worldwide: IEC 60950-1:2005 w/all known National Deviations	Worldwide: IEC 60950-1:2005 w/all known National Deviations	Worldwide: IEC 60950-1:2005 w/all known National Deviations	Worldwide: IEC 60950-1:2005 w/all known National Deviations
Emissions				
	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013	Europe: EN 55022:2010, Class A EN 55032:2012, Class A EN 55024:2010 EN 61000-3-2:2014 EN 61000-3-3:2013
	US: FCC part 15 Class A	US: FCC part 15 Class A	US: FCC part 15 Class A	US: FCC part 15 Class A
	Canada: ICES-003 Class A	Canada: ICES-003 Class A	Canada: ICES-003 Class A	Canada: ICES-003 Class A
	Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010	Worldwide: VCCI Class A CISPR 22 Class A CISPR 32 Class A CISPR 24:2010
Lasers				
	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2007 / IEC 60825-1:2007 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)

Technical specifications

	HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)	HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)	HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)	HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)
Immunity				
Generic	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35	CISPR 24 / CISPR 35
EN	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017	EN 55024:2010 / EN 55035:2017
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3
Mounting and enclosure				
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Technical specifications

	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)	HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)
Description	48x ports SmartRate 100M[2]/1G/2.5G/5G BaseT Class 8 PoE ports supporting up to 90W per port on ports 1-12, and up to 60W per port on ports 13-48 (MACsec) 2x 10G/25G/50G SFP ports 2x 1G/10G SFP ports (LRM + MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 90W) 1x USB-C Console Port 1x RJ45 console port 1x OOBM 1x USB Type A Host port	24x ports SmartRate 100M[2]/1G/2.5G/5G/10G BaseT Class 6 PoE ports supporting up to 60W per port (MACsec) 2x 10G/25G/50G[1] SFP ports 2x 10G/25G SFP ports (MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 60W) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port	48x ports SmartRate 100M[2]/1G/2.5G/5G BaseT Class 8 PoE ports supporting up to 90W per port (MACsec) 2x 10G/25G/50G[1] SFP ports 2x 10G/25G SFP ports (MACsec) Supports PoE Standards IEEE 802.3af, 802.3at and 802.3bt (up to 90W) 1x USB-C Console Port 1x RJ Console Port 1x OOBM port 1x USB Type A Host port
Power supplies	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W	2 field-replaceable, hot-swappable power supply slots 1 minimum power supply required (ordered separately) Supported PSUs JL086A JL087A JL670A JL758A Max PoE Power: 2880W
Fans	Switch has two fan tray slots and comes with two fan trays installed • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed. • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.	Switch has two fan tray slots and comes with two fan trays installed • Min 2 fan trays required. • Fan trays are field replaceable and hot-swappable. • Each fan tray contains two fans.
Physical characteristics			
Dimensions	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")	(H) 4.4 cm x (W) 44.2 cm x (D) 38.5 cm (1.73" x 17.4" x 15.2")
Configuration weight	5.47 kg (12.06 lbs)	5.26 kg (11.60 lbs)	5.48 kg (12.08 lbs)

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires S1J07A or S1J08A QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] 100M use on Smart Rate ports is limited to full-duplex only. For 100M half-duplex support, use 1G ports on other models.

Technical specifications

	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)	HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)
Additional specifications			
CPU	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz	Quad Core ARM Cortex™ A72 @ 1.8GHz
Memory and flash	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC	8 GB DDR4 32 GB eMMC
Packet buffer	16 MB	16 MB	16 MB
Performance			
Model switching capacity	720 Gbps	780 Gbps	780 Gbps
Model throughput capacity	535 Mpps	580 Mpps	580 Mpps
Average latency (LIFO-64-bytes packets)	1Gbps: 4.24µSec 10Gbps: 1.50µSec 25Gbps: 2.91µSec 50Gbps: 3.49µSec	1Gbps: 4.24µSec 10Gbps: 1.50µSec 25Gbps: 2.91µSec 50Gbps: 3.49µSec	1Gbps: 4.24µSec 10Gbps: 1.50µSec 25Gbps: 2.91µSec 50Gbps: 3.49µSec
Stack size	10 members	10 members	10 members
Max stacking distance	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers	Up to 10 kms with long range transceivers
Stacking bandwidth	200 Gbps	200 Gbps	200 Gbps
Switched virtual interfaces (dual stack)	1,024	1,024	1,024
IPv4 host table (ARP)	49,152	49,152	49,152
IPv6 host table (ND)	NA[2]	NA[2]	NA[2]
IPv4 unicast routes	61,000	61,000	61,000
IPv6 unicast routes	NA[2]	NA[2]	NA[2]
IPv4 multicast routes	NA[2]	NA[2]	NA[2]
IPv6 multicast routes	NA[2]	NA[2]	NA[2]
MAC table capacity	32,768	32,768	32,768
IGMP groups	4,096	4,096	4,096
MLD groups	NA[2]	NA[2]	NA[2]
IPv4/IPv6/MAC ACL entries (ingress)	20,480/NA[2]/20,480	20,480/5,120/20,480	20,480/5,120/20,480
IPv4/IPv6/MAC ACL entries (egress)	8,192/NA[2]/8,192	8,192/NA[2]/8,192	8,192/NA[2]/8,192
VRF	1 default VRF, 1 management VRF	1 default VRF, 1 management VRF	1 default VRF, 1 management VRF

[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires S1J07A or S1J08A QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] IPv6 and Multicast are not supported on CX 6300L series switches

Technical specifications

	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)	HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)
Environment			
Operating temperature	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.	32°F to 113°F (0°C to 45°C) up to 5,000 ft. Derate -1 degree C for every 1,000 ft from 5,000 ft to 10,000 ft. Can support excursion to 131°F (55°C) for short periods[1] of time.
Operating relative humidity	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing	5% to 95% @ 104°F (40°C) non-condensing
Non-operating	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft	-40°F to 158°F (-40°C to 70°C) up to 15,000 ft
Non-operating storage relative humidity	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing	5% to 95% @ 149°F (65°C) non-condensing
Max operating altitude	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max	10,000 feet (3.04 km) Max
Max Non-operating altitude	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max	15,000 feet (4.6 km) Max
Acoustic	Sound Power, LWAd = 4.9 Bel Sound Pressure, LpAm (Bystander) = 32.6 dB	Sound Power, LWAd = 4.9 Bel Sound Pressure, LpAm (Bystander) = 33.0 dB	Sound Power, LWAd = 5.0 Bel Sound Pressure, LpAm (Bystander) = 33.4 dB
Primary airflow	Front and side to back	Front and side to back	Front and side to back
Electrical characteristics			
Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz
Input voltage	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V	JL670A PSU: 110V-120V/208V-240V JL086A PSU: 100V-240V JL087A PSU: 110V-240V
Current (for voltages listed above)	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A	JL670A PSU: 11A/8A JL086A PSU: 8A/3.5A JL087A PSU: 12A/5A
Power consumption (230VAC)	With JL086A PSU: Idle: 104W 100% Traffic Rate: 168W With JL087A PSU: Idle: 104W 100% Traffic Rate: 168W With JL670A PSU: Idle: 113W 100% Traffic Rate: 179W	With JL086A PSU: Idle: 90W 100% Traffic Rate: 143W With JL087A PSU: Idle: 90W 100% Traffic Rate: 140W With JL670A PSU: Idle: 101W 100% Traffic Rate: 152W	With JL086A PSU: Idle: 104W 100% Traffic Rate: 173W With JL087A PSU: Idle: 104W 100% Traffic Rate: 173W With JL670A PSU: Idle: 115W 100% Traffic Rate: 184W

[1] No more than 96 consecutive hours and no more than 360 hours total (15 days) in 1 year.

Technical specifications

	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)	HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)
Safety			
Include US, Canada, Europe, Worldwide	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 62368-1:2018 3rd Ed. w/all known National Deviations "	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "	Europe: EN 62368-1:2014 +A11:2017 2nd Ed. EN 62368-1:2020 +A11:2020 3rd Ed. UK: BS EN 62368-1:2014 + A11:2017 2nd Ed BS EN 62368-1:2020 + A11:2020 3rd Ed US/Canada: UL 62368-1 2nd Ed. CAN/CSA-C22.2 No. 62368-1-14 2nd Ed. Worldwide: IEC 60950-1:2005 + Am1:2009 + Am2:2013 w/all known National Deviations IEC 62368-1:2018 3rd Ed. w/all known National Deviations "
Emissions			
Include US, Canada, Europe, Worldwide	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016	Europe: EN 55032:2015 +A11:2020, Class A EN 55035:2017 +A11:2020 EN 61000-3-2:2014, Class A EN 61000-3-3:2013 US/Canada: FCC CFR47 Part 15:2014, Class A ICES-003 Class A Worldwide: VCCI Class A CISPR 32 Class A CISPR 35:2016
Lasers			
Include US, Canada, Europe, Worldwide	EN 60825-1:2014 +A11:2021/ IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)	EN 60825-1:2014 / IEC 60825-1:2014 Class 1 Class 1 Laser Products / Laser Klasse 1 (Applicable for accessories: Optical Transceivers only)

Technical specifications

	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)	HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)	HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)
Immunity			
Generic	CISPR 35	CISPR 35	CISPR 35
EN	EN 55035:2017+A11:2020	EN 55035:2017+A11:2020	EN 55035:2017+A11:2020
ESD	IEC 61000-4-2	IEC 61000-4-2	IEC 61000-4-2
Radiated	IEC 61000-4-3	IEC 61000-4-3	IEC 61000-4-3
EFT/Burst	IEC 61000-4-4	IEC 61000-4-4	IEC 61000-4-4
Surge	IEC 61000-4-5	IEC 61000-4-5	IEC 61000-4-5
Conducted	IEC 61000-4-6	IEC 61000-4-6	IEC 61000-4-6
Power frequency magnetic field	IEC 61000-4-8	IEC 61000-4-8	IEC 61000-4-8
Voltage dips and interruptions	IEC 61000-4-11	IEC 61000-4-11	IEC 61000-4-11
Harmonics	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2	IEC 61000-3-2, EN 61000-3-2
Flicker	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3	IEC 61000-3-3, EN 61000-3-3
Mounting and enclosure			
	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.	Mounts in an EIA-standard 19 in. telco rack or equipment cabinet. Horizontal surface mounting only. 2-post rack kit included.

Standards and protocols

- ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)

- CPU DoS Protection

- Bootstrap Router (BSR) Mechanism for PIM, PIM WG

- draft-ietf-savi-mix

- IEEE 802.1AB-2005

- IEEE 802.1ak-2007

- IEEE 802.1AX-2008 Link Aggregation

- IEEE 802.1D MAC Bridges

- IEEE 802.1p Priority

- IEEE 802.1Q VLANs

- IEEE 802.1s Multiple Spanning Trees

- IEEE 802.1t-2001

- IEEE 802.1v VLAN classification by Protocol and Port

- IEEE 802.1w Rapid Reconfiguration of Spanning Tree

- IEEE 802.3ab 1000BASE-T

- IEEE 802.3ad Link Aggregation Control Protocol (LACP)

- IEEE 802.3ae 10-Gigabit Ethernet

- IEEE 802.3af Power over Ethernet

- IEEE 802.3at Power over Ethernet

- IEEE 802.3bt Power over Ethernet

- IEEE 802.3az Energy Efficient Ethernet (EEE)

- IEEE 802.3x Flow Control

- IEEE 802.3z 1000BASE-X

- RFC 1122 Requirements for Internet Hosts -Communications Layers

- RFC 1215 Convention for defining traps for use with the SNMP

- RFC 1256 ICMP Router Discovery Messages

- RFC 1350 TFTP Protocol (revision 2)

- RFC 1393 Traceroute Using an IP Option

- RFC 1403 BGP OSPF Interaction

- RFC 1519 CIDR

- RFC 1542 BOOTP Extensions

- RFC 1583 OSPF Version 2

- RFC 1591 Domain Name System Structure and Delegation

- RFC 1657 Definitions of Managed Objects for BGP-4 using SMIv2

- RFC 1772 Application of the Border Gateway Protocol in the Internet

- RFC 1812 Requirements for IP Version 4 Router

- RFC 1918 Address Allocation for Private Internet

- RFC 1997 BGP Communities Attribute

- RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing

- RFC 2131 DHCP

- RFC 2132 DHCP Options and BOOTP Vendor Extensions

- RFC 2236 IGMP

- RFC 2328 OSPF Version 2

- RFC 2375 IPv6 Multicast Address Assignments

- RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option

- RFC 2401 Security Architecture for the Internet Protocol

- RFC 2402 IP Authentication Header

- RFC 2439 BGP Route Flap Damping

- RFC 2460 Internet Protocol, Version 6 (IPv6) Specification

- RFC 2464 Transmission of IPv6 over Ethernet Networks

- RFC 2545 Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing

- RFC 2576 (Coexistence between SNMP V1, V2, V3)

- RFC 2579 (SMIv2 Text Conventions)

- RFC 2580 (SMIv2 Conformance)

- RFC 2710 Multicast Listener Discovery (MLD) for IPv6

- RFC 2711 IPv6 Router Alert Option

- RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol

- RFC 2918 Route Refresh Capability for BGP-4

- RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)

- RFC 2934 Protocol Independent Multicast MIB for IPv4

- RFC 3019 MLDv1 MIB

- RFC 3046 DHCP Relay Agent Information Option

- RFC 3056 Connection of IPv6 Domains via IPv4 Clouds

- RFC 3065 Autonomous System Confederation for BGP

- RFC 3068 An Anycast prefix for 6to4 Relay Route

- RFC 3137 OSPF Stub Router Advertisement sFlow

- RFC 3376 IGMPv3

- RFC 3416 (SNMP Protocol Operations v2)

- RFC 3417 (SNMP Transport Mappings)

- RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP)

- RFC 3484 Default Address Selection for IPv6

- RFC 3509 Alternative Implementations of OSPF Area Border Routers

- RFC 3575 IANA Considerations for RADIUS

- RFC 3623 Graceful OSPF Restart

- RFC 3768 VRRP

- RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6

- RFC 3973 PIM Dense Mode

- RFC 4022 MIB for TCP

- RFC 4113 MIB for UDP

- RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers

- RFC 4251 The Secure Shell (SSH) Protocol

- RFC 4252 SSHv6 Authentication

- RFC 4253 SSHv6 Transport Layer

- RFC 4254 SSHv6 Connection

- RFC 4271 A Border Gateway Protocol 4 (BGP-4)

- RFC 4273 Definitions of Managed Objects for BGP-4

- RFC 4291 IP Version 6 Addressing Architecture

- RFC 4292 IP Forwarding Table MIB

- RFC 4293 Management Information Base for the Internet Protocol (IP)

- RFC 4360 BGP Extended Communities Attribute

- RFC 4419 Key Exchange for SSH

- RFC 4443 ICMPv6

- RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP)

- RFC 4486 Subcodes for BGP Cease Notification Message

- RFC 4541 IGMP & MLD Snooping Switch

- RFC 4552 Authentication/Confidentiality for OSPFv3

- RFC 4601 PIM Sparse Mode

- RFC 4607 Source-Specific Multicast for IP

- RFC 4675 RADIUS VLAN & Priority

- RFC 4724 Graceful Restart Mechanism for BGP

- RFC 4760 Multiprotocol Extensions for BGP-4

- RFC 4861 IPv6 Neighbor Discovery

- RFC 4862 IPv6 Stateless Address Auto-configuration

- RFC 4940 IANA Considerations for OSPF

- RFC 5065 Autonomous System Confederation for BGP

- RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

- RFC 5187 OSPFv3 Graceful Restart

- RFC 5340 OSPFv3 for IPv6

- RFC 5424 Syslog Protocol

- RFC 5492 Capabilities Advertisement with BGP-4

- RFC 5519 Multicast Group Membership Discovery MIB (MLDv2 only)

- RFC 5701 IPv6 Address Specific BGP Extended Community Attribute

- RFC 5722 Handling of Overlapping IPv6 Fragments

- RFC 5798 VRRP (exclude Accept Mode and sub-sec timer)

- RFC 5880 Bidirectional Forwarding Detection

- RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification

- RFC 6620 FCFS SAVI

- RFC 6987 OSPF Stub Router Advertisement

- RFC 7047 The Open vSwitch Database Management Protocol

- RFC 7313 Enhanced Route Refresh Capability for BGP-4

- RFC 768 User Datagram Protocol

- RFC 783 TFTP Protocol (revision 2)

- RFC 791 IP

- RFC 792 ICMP

- RFC 793 TCP

- RFC 813 Window and Acknowledgement Strategy in TCP

- RFC 815 IP datagram reassembly algorithms

- RFC 8201 Path MTU Discovery for IP version 6

- RFC 826 ARP

- RFC 879 TCP maximum segment size and related topics

- RFC 896 Congestion control in IP/TCP internetworks

- RFC 917 Internet subnets

- RFC 919 Broadcasting Internet Datagrams

- RFC 922 Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD)

- RFC 925 Multi-LAN address resolution

- RFC 951 BOOTP

- RFC 1027 Proxy ARP

- SNMPv1/v2c/v3

- RFC 4861 IPv6 Neighbor Discovery

- RFC 4862 IPv6 Stateless Address Auto-configuration

- ITU-T Rec G.8032/Y.1344 Mar. 2010

- RFC 1757 Remote Network Monitoring Management Information Base

- 2.5G/5GBASE-T (IEEE 802.3bz-2016), 2.5G/5G NBASE-T

- 10GBASE-T (IEEE 802.3an-2006)

- 25-Gigabit Ethernet (IEEE 802.3by-2016, 802.3cc-2017)

- 50-Gigabit Ethernet (IEEE 802.3cd-2018)

- RFC 3101 OSPF Not-so-stubby-area option

- RFC 4750 OSPFv2 MIB partial support no SetMIB

HPE Aruba Networking CX 6300 switches and accessories

Switch models
- HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec Switch (S0E91A)

- HPE Aruba Networking CX 6300M 48p SR10 PTP/AVB Class8 PoE 4p 100G MACsec TAA Switch (S0X44A)

- HPE Aruba Networking 6300M 24p HPE Smart Rate 1G/2.5G/5G/10G Class6 PoE and 2p 50G and 2p 25G Switch (R8S89A)

- HPE Aruba Networking 6300M 48p HPE Smart Rate 1G/2.5G/5G Class8 PoE and 2p 50G and 2p 25G Switch (R8S90A)

- HPE Aruba Networking 6300M 48SR5 12p Class8 PoE and 36p Class6 PoE HPE Smart Rate 1G/2.5G/5G and 2p 50G and 2p 10G LRM support Switch (R8S91A)

- HPE Aruba Networking 6300M 24p SFP+ LRM support and 2p 50G and 2p 25G MACsec Switch (R8S92A)

- HPE Aruba Networking 6300M 24-port SFP+ and 4-port SFP56 Switch (JL658A)

- HPE Aruba Networking 6300M 48-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL659A)

- HPE Aruba Networking 6300M 24-port HPE Smart Rate 1/2.5/5GbE Class 6 PoE and 4-port SFP56 Switch (JL660A)

- HPE Aruba Networking 6300M 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL661A)

- HPE Aruba Networking 6300M 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL662A)

- HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Switch (JL663A)

- HPE Aruba Networking 6300M 24-port 1GbE and 4-port SFP56 Switch (JL664A)

- HPE Aruba Networking 6300F 48-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL665A)

- HPE Aruba Networking 6300F 24-port 1GbE Class 4 PoE and 4-port SFP56 Switch (JL666A)

- HPE Aruba Networking 6300F 48-port 1GbE and 4-port SFP56 Switch (JL667A)

- HPE Aruba Networking 6300F 24-port 1GbE and 4-port SFP56 Switch (JL668A)

- HPE Aruba Networking 6300M 48-port 1GbE and 4-port SFP56 Power-to-Port 2 Fan Trays 1 PSU Bundle (JL762A)

- HPE Aruba Networking 6300M 24p 10M/100M/1G Class4 PoE 4p SFP56 50G TAA Switch (S0F99A)

- HPE Aruba Networking 6300M 48p 10M/100M/1G 4p SFP56 50G TAA Switch (S0G00A)

- HPE Aruba Networking 6300M 24p 10M/100M/1G 4p SFP56 50G TAA Switch (S0G01A)

- HPE Aruba Networking 6300M 24p SFP+ 1G/10G 4p SFP56 50G TAA Switch (S0G03A)

- HPE Aruba Networking 6300M 48p Smart Rate 1G/2.5G/5G Class6 PoE 4p SFP56 50G TAA Switch (S0G04A)

- HPE Aruba Networking 6300M 24p Smart Rate 1G/2.5G/5G Class6 PoE 4p SFP56 50G TAA Switch (S0G05A)

- HPE Aruba Networking 6300M 48p 10M/100M/1G Class4 PoE 4p SFP56 50G TAA Switch (S0G06A)

- HPE Aruba Networking 6300M 48p 10M/100M/1G 4p SFP56 50G Power-to-Port 2xFan PSU TAA Bundle (S0G02A)

- HPE Aruba Networking 6300F 48p 10M/100M/1G Class4 PoE 4p SFP56 50G TAA Switch (S0G95A)

- HPE Aruba Networking 6300F 24p 10M/100M/1G Class4 PoE 4p SFP56 50G TAA Switch (S0G96A)

- HPE Aruba Networking 6300F 48p 10M/100M/1G 4p SFP56 50G TAA Switch (S0G97A)

- HPE Aruba Networking 6300F 24p 10M/100M/1G 4p SFP56 50G TAA Switch (S0G98A)

Layer 2 switch models
- HPE Aruba Networking 6300L 24p Smart Rate 1G/2.5G/5G/10G Class6 PoE 2p 50G and 2p 25G L2 Switch (S3L75A)

- HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8 PoE 2p 50G and 2p 25G L2 Switch (S3L76A)

- HPE Aruba Networking 6300L 48p Smart Rate 1G/2.5G/5G Class8/6 PoE 2p 50G and 2p 10G LRM L2 Switch (S3L77A)

Power supplies
- HPE Aruba Networking X371 12VDC 250W 100-240VAC Power Supply (JL085A)

- HPE Aruba Networking X372 54VDC 680W 100-240VAC Power Supply (JL086A)

- HPE Aruba Networking X372 54VDC 1050W 110-240VAC Power Supply (JL087A)

- HPE Aruba Networking X372 54VDC 1600W 110-240VAC Power Supply (JL670A)

- HPE Aruba Networking X371 12VDC 250W 100-240VAC Power-to-Port Power Supply (JL760A)

- HPE Aruba Networking 6300M 250W 36-72VDC PSU (JL757A)

- HPE Aruba Networking 6300M 1050W 36-72VDC (JL758A)

Fan trays
- HPE Aruba Networking X751 Front to Back Fan Tray (JL669B)

- HPE Aruba Networking 6300M Power-to-Port Fan Tray (JL761A)

- HPE Aruba Networking X741 Port to Power Airflow Fan unit (JL714A)

Accessories
- HPE X410 1U Universal 4-post Rack Mount Kit (J9583A)

- HPE Aruba Networking X414 1U Universal 4-pack Rack Mounting Kit (J9583B)

- HPE Aruba Networking USB-A to RJ45 PC-to-Switch Cable (R9G48B)

- HPE Aruba Networking USB-A to RJ45 PIN3TX-6RX Cable (R8Z87A)

- HPE Aruba Networking USB-A to USB-C PC-to-Switch Cable (R9J32A)

- HPE Aruba Networking USB-C to USB-C PC-to-Switch Cable (R9J33A)

- HPE Aruba Networking CX Switch Bluetooth Adapter (S1H23A)

- HPE QSFP28 to SFP28 Adapter (845970-B21)

Transceivers
- HPE Aruba Networking 100M SFP LC FX 2km MMF XCVR (J9054D)[2]

- HPE Aruba Networking 1G SFP LC SX 500m MMF Transceiver (J4858D)

- HPE Aruba Networking 1G SFP LC LX 10km SMF Transceiver (J4859D)

- HPE Aruba Networking 1G SFP LC LH 70km SMF Transceiver (J4860D)

- HPE Aruba Networking 1G SFP RJ45 T 100m Cat5e Transceiver (J8177D)

- HPE Aruba Networking 1G SFP LC SX 500m MMF TAA Transceiver (JL745A)

- HPE Aruba Networking 1G SFP LC LX 10km SMF TAA Transceiver (JL746A)

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[1] 50G capability is for use with 50G DACs for both interconnect and VSF stacking. 50G transceivers and DACs are not supported on S0E91A and S0X44A switch models, which requires S1J07A or S1J08A QSFP to SFP56 DAC cable for VSF stacking with other CX 6300F and CX 6300M switch models only. VSF stacking not supported on 1G ports.

[2] J9054D 100Mbps transceiver only supported in SFP+ ports on JL658A. 100Mbps transceivers are not supported in any SFP56 port on all models.

[3] J9152D XCVR natively supported only in the R8S91A and R8S92A models

[5] HPE QSFP28 to SFP28 Adapter (845970-B21) required to support 10G and 25G transceivers only when used with S0E91A and S0X44A switch models.

- HPE Aruba Networking 1G SFP RJ45 T 100m Cat5e TAA Transceiver (JL747A)

- HPE Aruba Networking 10G SFP+ LC SR 300m MMF Transceiver (J9150D)[5]

- HPE Aruba Networking 10G SFP+ LC LRM 220m MMF Transceiver (J9152D)[3]

- HPE Aruba Networking 10G SFP+ LC LR 10km SMF Transceiver (J9151E)[5]

- HPE Aruba Networking 10G SFP+ LC ER 40km SMF Transceiver (J9153D)[5]

- HPE Aruba Networking 10GBASE-T SFP+ RJ-45 30m Cat6A Transceiver (JL563B)[5]

- HPE Aruba Networking 10G SFP+ LC SR 300m MMF TAA Transceiver (JL748A)

- HPE Aruba Networking 10G SR SFP+ LC 400m OM4 C-XCVR (S2P30A)

- HPE Aruba Networking 10G LR SFP+ LC 10km SMF C-XCVR (S2P31A)

- HPE Aruba Networking 10G ER SFP+ LC 40km SMF C-XCVR (S2P32A)

- HPE Aruba Networking 25G SR SFP28 LC 100m MMF C-XCVR (S2P33A)

- HPE Aruba Networking 25G LR SFP28 LC 10km SMF C-XCVR (S2P34A)

- HPE Aruba Networking 10G SFP+ LC LR 10km SMF TAA Transceiver (JL749A)

- HPE Aruba Networking 25G SFP28 LC SR 100m MMF Transceiver (JL484A)[5]

- HPE Aruba Networking 25G SFP28 LC eSR 400m MMF Transceiver (JL485A)[5]

- HPE Aruba Networking 25G SFP28 LC LR 10km SMF Transceiver (JL486A)[5]

- HPE Aruba Networking 25G SFP LC LR 10km SMF TAA XCVR (S2N63A)

- Aruba 50G SFP56 LC SR 100m MMF XCVR (R0M48A)

- HPE Aruba Networking 50G eSR 300m MMF Transceiver (S0V64A)

- HPE Aruba Networking 50G LR 10km SMF Transceiver (S0V65A)

- HPE Aruba Networking 50G ER 40km SMF Transceiver (S0V66A)

- HPE Aruba Networking 25G ER LC 40km SMF Transceiver (S0V69A)[5]

- HPE Aruba Networking 50G BiDi 10km-Downstream 1330/1270 Transceiver (S1C92A)

- HPE Aruba Networking 50G BiDi 10km-Upstream 1270/1330 Transceiver (S1C94A)

- HPE Aruba Networking 100G SR2 MPO QSFP28 100m MMF Transceiver (S1C93A)[4]

- HPE Aruba Networking 4x100G DR QSFP-DD SN 500m SMF Transceiver (S3N90A)[4]

- HPE X142 40G QSFP+ MPO SR4 Transceiver (JH231A)[4]

- Aruba 100G QSFP28 MPO SR4 100m 12-fiber MPO MMF Transceiver (JL309A)[4]

- HPE Aruba Networking 100G LR QSFP28 LC SMF XCVR (S3N89A)[4]

- HPE X142 40G QSFP+ MPO eSR4 300M XCVR (JH233A)[4]

- HPE Aruba Networking 40G QSFP+ LC BiDi 150m MMF Transceiver (JL308A)[4]

- HPE X142 40G QSFP+ LC LR4 SM Transceiver (JH232A)[4]

- HPE Aruba Networking 40G QSFP+ LC ER4 40km SMF XCVR (Q9G82A)[4]

- HPE 100Gb QSFP28 Bi-directional XCVR (845972-B21)[4]

- HPE Aruba Networking 100G QSFP28 LC CWDM4 2km SMF Transceiver (R0Z30A)[4]

- HPE Aruba Networking 100 QSFP28 LC FR1 2km SMF Transceiver (R9B63A)[4]

- HPE Aruba Networking 100G QSFP28 LC LR4 10km SMF 2-strand Transceiver (JL310A)[4]

- HPE Aruba Networking 100G QSFP28 LC ER4L 40km SMF Transceiver (JL743A)[4]

- HPE Aruba Networking 25G BiDi 10km-Downstream 1330/1270 Transceiver (S1C96A)[4]

- HPE Aruba Networking 25G BiDi 10km-Upstream 1270/1330 Transceiver (S1C98A)[4]

Cables
- HPE Aruba Networking 50G QSFP56 to SFP56 0.65m DAC Cable (S1J07A)

- HPE Aruba Networking 50G QSFP56 to SFP56 3m DAC Cable (S1J08A)

- HPE Aruba Networking 10G SFP+ to SFP+ 1m Direct Attach Copper Cable (J9281D)

- HPE Aruba Networking 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (J9283D)

- HPE Aruba Networking 25G SFP28 to SFP28 0.65m Direct Attach Copper Cable (JL487A)

- HPE Aruba Networking 25G SFP28 to SFP28 3m Direct Attach Copper Cable (JL488A)

- HPE Aruba Networking 25G SFP28 to SFP28 5m Direct Attach Copper Cable (JL489A)

- HPE Aruba Networking 50G SFP56 to SFP56 0.65m DAC Cable (R0M46A)[1]

- HPE Aruba Networking 50G SFP56 to SFP56 3m DAC Cable (R0M47A)[1]

- HPE X242 40G QSFP+ to QSFP+ 1m DAC Cable (JH234A)[4]

- HPE X242 40G QSFP+ to QSFP+ 3m DAC Cable (JH235A)[4]

- HPE X242 40G QSFP+ to QSFP+ 5m DAC Cable (JH236A)[4]

- HPE Aruba Networking 40G QSFP+ to QSFP+ 7m AOC (R0Z22A)[4]

- HPE Aruba Networking 40G QSFP+ to QSFP+ 15m AOC (R0Z23A)[4]

- HPE Aruba Networking 40G QSFP+ to QSFP+ 30m AOC (R0Z24A)[4]

- HPE Aruba Networking 100G QSFP28-QSFP28 3m DAC Cable (JL307A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 1m Direct Attach Copper Cable (R0Z25A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 3m Direct Attach Copper Cable (JL307A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 5m Direct Attach Copper Cable (R0Z26A)[4]

[4] QSFP+ and QSFP28 products for use with S0E91A and S0X44A switch models only

[5] HPE QSFP28 to SFP28 Adapter (845970-B21) required when used with S0E91A and S0X44A switch models.

- HPE Aruba Networking 100G QSFP28 to QSFP28 2m AOC (JL856A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 7m AOC (R0Z27A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 15m AOC (R0Z28A)[4]

- HPE Aruba Networking 100G QSFP28 to QSFP28 30m AOC (R0Z29A)[4]

Software
- HPE Aruba Networking CX Mobile App https://www.arubanetworks.com/products/networking/switches/cx-mobileapp/

- HPE Aruba Networking Switch Multi-Edit Software Single Node: 1 year (JL639AAE)

- HPE Aruba Networking Switch Multi-Edit Software Single Node: 3 years (JL640AAE)

HPE Aruba Networking CX Advanced feature packs
- HPE Aruba Networking CX Soft 63xx Sw Adv 10y E-STU (S0T76AAE)

- HPE Aruba Networking CX Soft 63xx Sw Adv 1y E-STU (S0T77AAE)

- HPE Aruba Networking CX Soft 63xx Sw Adv 3y E-STU (S0T78AAE)

- HPE Aruba Networking CX Soft 63xx Sw Adv 5y E-STU (S0T79AAE)

- HPE Aruba Networking CX Soft 63xx Sw Adv 7y E-STU (S0T80AAE)

HPE Aruba Networking Central Foundational licenses
- HPE Aruba Networking Central Switch 6300/38xx Foundational 1 year Subscription E-STU (Q9Y78AAE)

- HPE Aruba Networking Central Switch 6300/38xx Foundational 3 year Subscription E-STU (Q9Y79AAE)

- HPE Aruba Networking Central Switch 6300/38xx Foundational 5 year Subscription E-STU (Q9Y80AAE)

- HPE Aruba Networking Central Switch 6300/38xx Foundational 7 year Subscription E-STU (Q9Y81AAE)

- HPE Aruba Networking Central Switch 6300/38xx Foundational 10 year Subscription E-STU (R3K02AAE)

- HPE Aruba Networking Central 63xx or 38xx Switch Foundational 1 year Subscription E-STU (Q9Y78AAE)

- HPE Aruba Networking Central On-Premises 63xx or 38xx Switch Foundational 1 year Subscription E-STU (R6U83AAE)

- HPE Aruba Networking Central On-Premises 63xx or 38xx Switch Foundational 3 year Subscription E-STU (R6U84AAE)

- HPE Aruba Networking Central 63xx or 38xx Switch Foundational 3 year Subscription E-STU (Q9Y79AAE)

- HPE Aruba Networking Central On-Premises 63xx or 38xx Switch Foundational 5 year Subscription E-STU (R6U85AAE)

- HPE Aruba Networking Central 63xx or 38xx Switch Foundational 5 year Subscription E-STU (Q9Y80AAE)

- HPE Aruba Networking Central On-Premises 63xx or 38xx Switch Foundational 7 year Subscription E-STU (R6U86AAE)

- HPE Aruba Networking Central 63xx or 38xx Switch Foundational 7 year Subscription E-STU (Q9Y81AAE)

- HPE Aruba Networking Central On-Premises 63xx or 38xx Switch Foundational 10 year Subscription E-STU (R6U87AAE)

- HPE Aruba Networking Central 63xx or 38xx Switch Foundational 10 year Subscription E-STU (R3K02AAE)

For details and complete listing of HPE Aruba Networking Central licensing options, please refer to the HPE Aruba Networking Central Data Sheet

HPE Aruba Networking Fabric Composer
- HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 1 year Subscription E-STU (R8D18AAE)

- HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 3 year Subscription E-STU (R8D19AAE)

- HPE Aruba Networking Fabric Composer Device Management Service Tier 3 Switch 5 year Subscription E-STU (R8D20AAE)

Support
- JL658A: 4 Hour Onsite 3 Year (HR4C9E)

- JL659A: 4 Hour Onsite 3 Year (HR4R3E)

- JL660A: 4 Hour Onsite 3 Year (HL5Z0E)

- JL661A: 4 Hour Onsite 3 Year (HR4Z8E)

- JL662A: 4 Hour Onsite 3 Year (HL6R3E)

- JL663A: 4 Hour Onsite 3 Year (HR5N2E)

- JL664A: 4 Hour Onsite 3 Year (HL7J3E)

- JL665A: 4 Hour Onsite 3 Year (HR5W0E)

- JL666A: 4 Hour Onsite 3 Year (HR6E5E)

- JL667A: 4 Hour Onsite 3 Year (HR6P0E)

- JL668A: 4 Hour Onsite 3 Year (HR6X5E)

- JL762A: 4 Hour Onsite 3 Year (HR5N2E)

For HPE Aruba Networking Central hardware only support, 24x7 TAC support, and many other support options, go to Support Services HPE Aruba Networking SKU lookup tool.

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[5] HPE QSFP28 to SFP28 Adapter (845970-B21) required when used with S0E91A and S0X44A switch models.

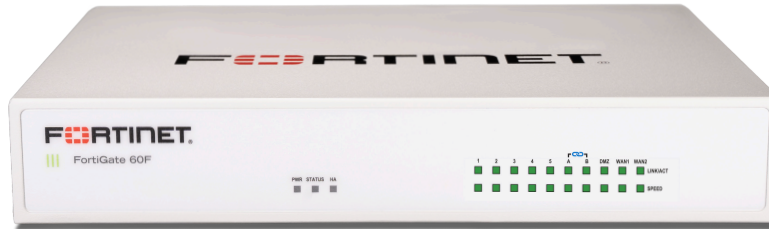**Make the right purchase decision.**
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DS_HPEANWCX6300SwitchSeries_RVK_052524   a00085162ENW

Hewlett Packard
Enterprise

FortiGate/FortiWiFi® 60F Series

FortiGate 60F, FortiGate 61F, FortiWiFi 60F, and FortiWiFi 61F

Secure SD-WAN
Next Generation Firewall

The FortiGate/FortiWiFi 60F series provides a fast and secure SD-WAN solution in a compact fanless desktop form factor for enterprise branch offices and mid-sized businesses. Protects against cyber threats with system-on-a-chip acceleration and industry-leading secure SD-WAN in a simple, affordable, and easy to deploy solution. Fortinet's Security-Driven Networking approach provides tight integration of the network to the new generation of security.

Security

- Identifies thousands of applications inside network traffic for deep inspection and granular policy enforcement
- Protects against malware, exploits, and malicious websites in both encrypted and non-encrypted traffic
- Prevents and detects against known attacks using continuous threat intelligence from AI-powered FortiGuard Labs security services
- Proactively blocks unknown sophisticated attacks in real-time with the Fortinet Security Fabric integrated AI-powered FortiSandbox

Performance

- Engineered for Innovation using Fortinet's purpose-built security processors (SPU) to deliver the industry's best threat protection performance and ultra-low latency
- Provides industry-leading performance and protection for SSL encrypted traffic including the first firewall vendor to provide TLS 1.3 deep inspection

Certification

- Independently tested and validated best security effectiveness and performance
- Received unparalleled third-party certifications from NSS Labs, ICSA, Virus Bulletin, and AV Comparatives

Networking

- Application aware routing with in-built SD-WAN capabilities to achieve consistent application performance and the best user experience
- Built-in advanced routing capabilities to deliver high performance with encrypted IPSEC tunnels at scale

Management

- Includes a management console that is effective and simple to use, which provides a comprehensive network of automation & visibility
- Provides Zero Touch Provisioning leveraging Single Pane of Glass Management powered by the Fabric Management Center
- Predefined compliance checklists analyze the deployment and highlight best practices to improve the overall security posture

Security Fabric

- Enables Fortinet and Fabric-ready partners' products to provide broader visibility, integrated end-to-end detection, threat intelligence sharing, and automated remediation
- Automatically builds Network Topology visualizations which discover IoT devices and provide complete visibility into Fortinet and Fabric-ready partner products

Firewall	IPS	NGFW	Threat Protection	Interfaces
10 Gbps	**1.4 Gbps**	**1 Gbps**	**700 Mbps**	Multiple GE RJ45 | Variants with internal storage | WiFi variants

Refer to the specifications table for details

Deployment

Next Generation Firewall (NGFW)

- Reduce the complexity and maximize your ROI by integrating threat protection security capabilities into a single high-performance network security appliance, powered by Fortinet's Security Processing Unit (SPU)
- Full visibility into users, devices, applications across the entire attack surface and consistent security policy enforcement irrespective of asset location
- Protect against network exploitable vulnerabilities with industry-validated IPS that offers low latency and optimized network performance
- Automatically block threats on decrypted traffic using the Industry's highest SSL inspection performance, including the latest TLS 1.3 standard with mandated ciphers
- Proactively block newly discovered sophisticated attacks in real-time with AI-powered FortiGuard Labs and advanced threat protection services included in the Fortinet Security Fabric

Secure SD-WAN

- Consistent business application performance with accurate detection, dynamic WAN path steering and optimization
- Multi-cloud access for faster SaaS adoption with end-to-end optimization
- Simplification with zero touch deployment and centralized management with auto-provisioning, analytics and reporting
- Strong security posture with next generation firewall and real-time threat protection
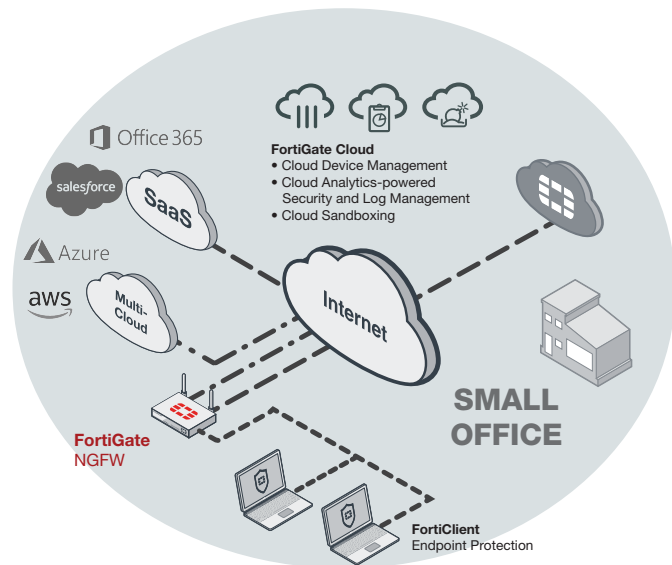
FortiWiFi 60F deployment in Small Office
(NGFW)
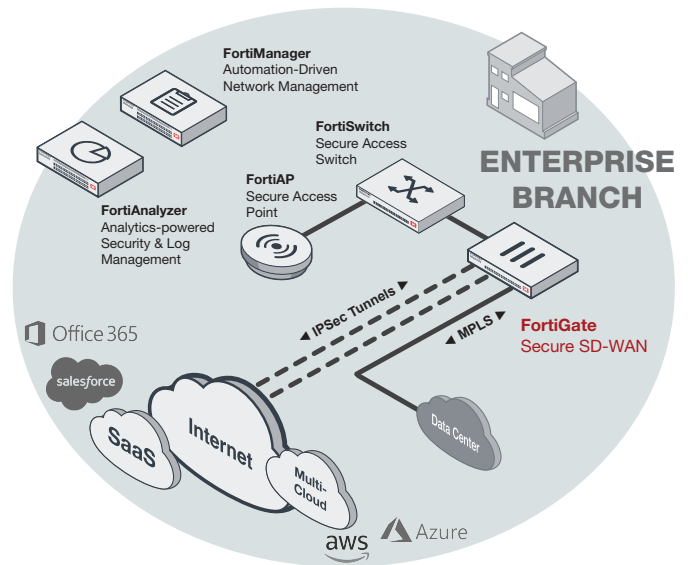
FortiGate 60F deployment in Enterprise Branch
(Secure SD-WAN)

F**:**RTINET®

Hardware

FortiGate/FortiWiFi 60F/61F
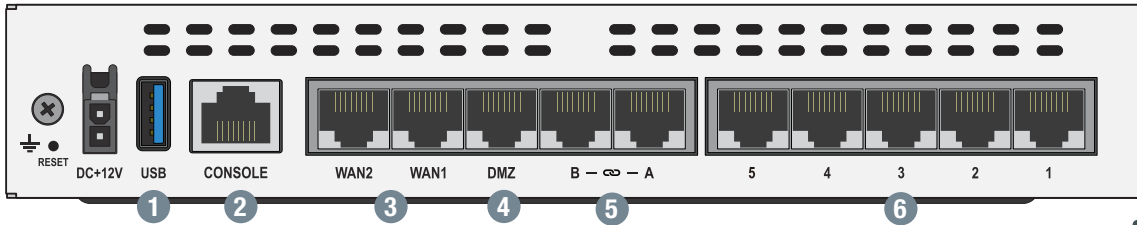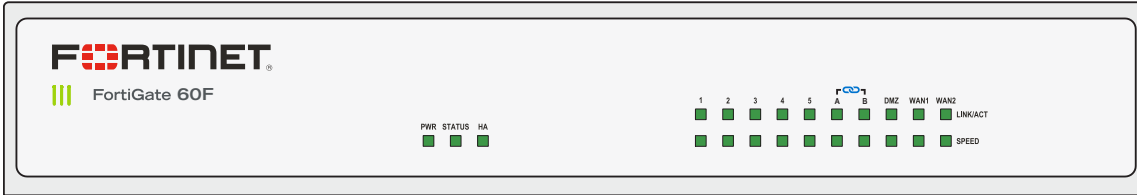
Interfaces

1. USB Port
2. Console Port
3. 2x GE RJ45 WAN Ports

4. 1x GE RJ45 DMZ Port
5. 2x GE RJ45 FortiLink Ports
6. 5x GE RJ45 Internal Ports

Powered by Purpose-built Secure SD-WAN ASIC SOC4

SPU

- Combines a RISC-based CPU with Fortinet's proprietary Security Processing Unit (SPU) content and network processors for unmatched performance

- Delivers industry's fastest application identification and steering for efficient business operations

- Accelerates IPsec VPN performance for best user experience on direct internet access

- Enables best of breed NGFW Security and Deep SSL Inspection with high performance

- Extends security to access layer to enable SD-Branch transformation with accelerated and integrated switch and access point connectivity

3G/4G WAN Connectivity

The FortiGate 60F Series includes a USB port that allows you to plug in a compatible third-party 3G/4G USB modem, providing additional WAN connectivity or a redundant link for maximum reliability.

Compact and Reliable Form Factor

Designed for small environments, you can place it on a desktop or wall-mount it. It is small, lightweight yet highly reliable with superior MTBF (Mean Time Between Failure), minimizing the chance of a network disruption.

Extends Security to Access Layer with FortiLink Ports

FortiLink protocol enables you to converge security and the network access by integrating the FortiSwitch into the FortiGate as a logical extension of the NGFW. These FortiLink enabled ports can be reconfigured as regular ports as needed.

Fortinet Security Fabric

Security Fabric

The Security Fabric is the cybersecurity platform that enables digital innovations. It delivers broad visibility of the entire attack surface to better manage risk. Its unified and integrated solution reduces the complexity of supporting multiple-point products, while automated workflows increase operational speeds and reduce response times across the Fortinet deployment ecosystem. The Fortinet Security Fabric overs the following key areas under a single management center:

- **Security-Driven Networking** that secures, accelerates, and unifies the network and user experience
- **Zero Trust Network Access** that identifies and secures users and devices in real-time, on and off of the network
- **Dynamic Cloud Security** that protects and controls cloud infrastructures and applications
- **AI-Driven Security Operations** that automatically prevents, detects, isolates, and responds to cyber threats
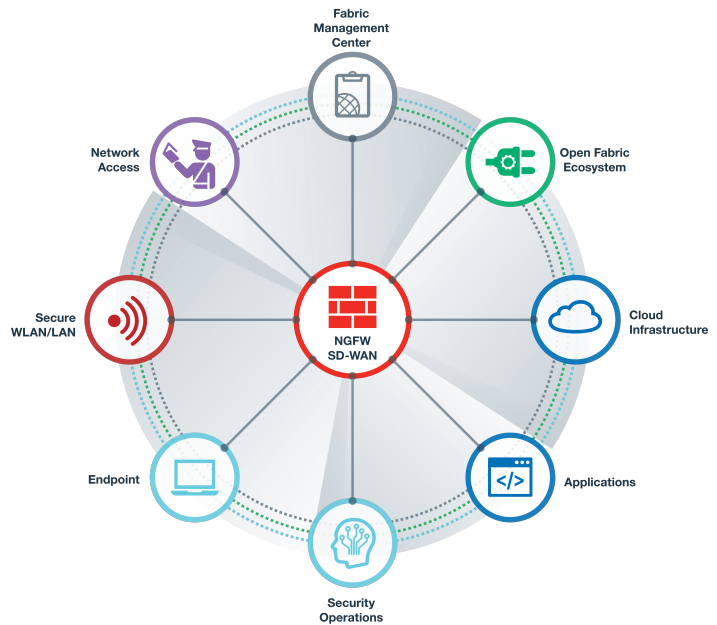
FortiOS

FortiGates are the foundation of the Fortinet Security Fabric—the core is FortiOS. All security and networking capabilities across the entire FortiGate platform are controlled with one intuitive operating system. FortiOS reduces complexity, costs, and response times by truly consolidating next-generation security products and services into one platform.

- A truly consolidated platform with a single OS and pane-of-glass for across the entire digital attack surface.
- Industry-leading protection: NSS Labs Recommended, VB100, AV Comparatives, and ICSA validated security and performance.
- Leverage the latest technologies such as deception-based security.

- Control thousands of applications, block the latest exploits, and filter web traffic based on millions of real-time URL ratings in addition to true TLS 1.3 support.
- Automatically prevent, detect, and mitigate advanced attacks within minutes with an integrated AI-driven security and advanced threat protection.
- Improve and unify the user experience with innovative SD-WAN capabilities with the ability to detect, contain, and isolate threats with automated segmentation.
- Utilize SPU hardware acceleration to boost network security performance.

Services

FortiGuard™ Security Services

FortiGuard Labs offer real-time intelligence on the threat landscape, delivering comprehensive security updates across the full range of Fortinet's solutions. Comprised of security threat researchers, engineers, and forensic specialists, the team collaborates with the world's leading threat monitoring organizations and other network and security vendors, as well as law enforcement agencies.

FortiCare™ Support Services

Our FortiCare customer support team provides global technical support for all Fortinet products. With support staff in the Americas, Europe, Middle East, and Asia, FortiCare offers services to meet the needs of enterprises of all sizes.

For more information, please refer to forti.net/fortiguard and forti.net/forticare

F⌷RTINET

Specifications

	FORTIGATE 60F	FORTIGATE 61F	FORTIWIFI 60F	FORTIWIFI 61F
Hardware Specifications				
GE RJ45 WAN / DMZ Ports	2 / 1	2 / 1	2 / 1	2 / 1
GE RJ45 Internal Ports	7	7	7	7
GE RJ45 FortiLink Ports	2	2	2	2
Wireless Interface	–	–	Single Radio (2.4GHz/5GHz), 802.11 a/b/g/n/ac-W2	Single Radio (2.4GHz/5GHz), 802.11 a/b/g/n/ac-W2
USB Ports	1	1	1	1
Console (RJ45)	1	1	1	1
Internal Storage	–	1 x 128 GB SSD	–	1 x 128 GB SSD
System Performance — Enterprise Traffic Mix				
IPS Throughput [2]	1.4 Gbps			
NGFW Throughput [2, 4]	1 Gbps			
Threat Protection Throughput [2, 5]	700 Mbps			
System Performance				
Firewall Throughput (1518 / 512 / 64 byte UDP packets)	10/10/6 Gbps			
Firewall Latency (64 byte UDP packets)	4 µs			
Firewall Throughput (Packets Per Second)	9 Mpps			
Concurrent Sessions (TCP)	700,000			
New Sessions/Second (TCP)	35,000			
Firewall Policies	5,000			
IPsec VPN Throughput (512 byte) [1]	6.5 Gbps			
Gateway-to-Gateway IPsec VPN Tunnels	200			
Client-to-Gateway IPsec VPN Tunnels	500			
SSL-VPN Throughput	900 Mbps			
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	200			
SSL Inspection Throughput (IPS, avg. HTTPS) [3]	630 Mbps			
SSL Inspection CPS (IPS, avg. HTTPS) [3]	400			
SSL Inspection Concurrent Session (IPS, avg. HTTPS) [3]	55,000			
Application Control Throughput (HTTP 64K) [2]	1.8 Gbps			
CAPWAP Throughput (HTTP 64K)	8 Gbps			
Virtual Domains (Default / Maximum)	10 / 10			
Maximum Number of FortiSwitches Supported	16			
Maximum Number of FortiAPs (Total / Tunnel Mode)	64 / 32			
Maximum Number of FortiTokens	500			
High Availability Configurations	Active / Active, Active / Passive, Clustering			
Dimensions				
Height x Width x Length (inches)	1.5 x 8.5 x 6.3			
Height x Width x Length (mm)	38.5 x 216 x 160 mm			
Weight	2.23 lbs (1.01 kg)			
Form Factor	Desktop			
Radio Specifications				
Multiple User (MU) MIMO	–	–	3x3	
Maximum Wi-Fi Speeds	–	–	1300 Mbps @ 5 GHz, 450 Mbps @ 2.4 GHz	
Maximum Tx Power	–	–	20 dBm	
Antenna Gain	–	–	3.5 dBi @ 5 GHz, 5 dBi @ 2.4 GHz	

Note: All performance values are "up to" and vary depending on system configuration.
1. IPsec VPN performance test uses AES256-SHA256.
2. IPS (Enterprise Mix), Application Control, NGFW, and Threat Protection are measured with Logging enabled.
3. SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.
4. NGFW performance is measured with Firewall, IPS, and Application Control enabled.
5. Threat Protection performance is measured with Firewall, IPS, Application Control, and Malware Protection enabled.

Specifications

	FORTIGATE 60F	FORTIGATE 61F	FORTIWIFI 60F	FORTIWIFI 61F
Operating Environment and Certifications				
Power Rating		12Vdc, 3A		
Power Required		Powered by External DC Power Adapter, 100–240V AC, 50–60 Hz		
Maximum Current		115V AC / 0.2A, 230V AC / 0.1A		
Power Consumption (Average / Maximum)	17.0W / 18.5W	17.2W / 18.7.0W	17.2W / 18.7W	16.5W / 19.0W
Heat Dissipation	63.1 BTU/hr	63.8 BTU/hr	63.8 BTU/hr	64.8 BTU/hr
Operating Temperature		32–104°F (0–40°C)		
Storage Temperature		-31–158°F (-35–70°C)		
Humidity		Humidity 10–90% non-condensing		
Noise Level		Fanless 0 dBA		
Operating Altitude		Up to 7,400 ft (2,250 m)		
Compliance		FCC, ICES, CE, RCM, VCCI, BSMI, UL/cUL, CB		
Certifications		ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN		

Order Information

Product	SKU	Description
FortiGate 60F	FG-60F	10x GE RJ45 ports (including 7x Internal ports, 2x WAN ports, 1x DMZ port)
FortiGate 61F	FG-61F	10x GE RJ45 ports (including 7x Internal ports, 2x WAN ports, 1x DMZ port), 128 GB SSD onboard storage
FortiWiFi 60F	FWF-60F	10 x GE RJ45 ports (including 7x Internal Ports, 2x WAN Ports, 1x DMZ Port), Wireless (802.11 a/b/g/n/ac-W2)
FortiWiFi 61F	FWF-61F	10 x GE RJ45 ports (including 7x Internal Ports, 2x WAN Ports, 1x DMZ Port), Wireless (802.11 a/b/g/n/ac-W2), 128GB SSD onboard storage
Optional Accessories		
Rack Mount Tray	SP-RACKTRAY-02	Rack mount tray for all FortiGate E series and F series desktop models are backwards compatible with SP-RackTray-01. For list of compatible FortiGate products, visit our Documentation website, docs.fortinet.com
AC Power Adaptor	SP-FG60E-PDC-5	Pack of 5 AC power adaptors for FG/FWF 60E/61E, 60F/61F, and 80E/81E
Wall Mount Kit	SP-FG60F-MOUNT-20	Pack of 20 wall mount kits for FG/FWF-60F and FG/FWF-80F series

Bundles

FortiGuard Bundle

FortiGuard Labs delivers a number of security intelligence services to augment the FortiGate firewall platform. You can easily optimize the protection capabilities of your FortiGate with one of these FortiGuard Bundles.

Bundles	360 Protection	Enterprise Protection	Unified Threat Protection	Threat Protection
FortiCare	ASE [1]	24x7	24x7	24x7
FortiGuard App Control Service	•	•	•	•
FortiGuard IPS Service	•	•	•	•
FortiGuard Advanced Malware Protection (AMP) — Antivirus, Mobile Malware, Botnet, CDR, Virus Outbreak Protection and FortiSandbox Cloud Service	•	•	•	•
FortiGuard Web Filtering Service	•	•	•	
FortiGuard Antispam Service	•	•	•	
FortiGuard Security Rating Service	•	•		
FortiGuard Industrial Service	•	•		
FortiGuard IoT Detection Service [2]	•	•		
FortiConverter Service	•	•		
IPAM Cloud [2]	•			
SD-WAN Orchestrator Entitlement [2]	•			
SD-WAN Cloud Assisted Monitoring	•			
SD-WAN Overlay Controller VPN Service	•			
FortiAnalyzer Cloud	•			
FortiManager Cloud	•			

1. 24x7 plus Advanced Services Ticket Handling   2. Available when running FortiOS 6.4

www.fortinet.com

Huawei AirEngine 5762-13W Access Point Datasheet

Product Overview

Huawei AirEngine 5762-13W is a Wi-Fi 6 (802.11ax) wall plate access point (AP). It can simultaneously provide services on 2.4 GHz (2x2 MIMO) and 5 GHz (2x2 MIMO) frequency bands, achieving a device rate of up to 2.975 Gbps. This AP features high bandwidth and high concurrency with compact size, facilitating flexible deployment and saving customers' investment. These strengths make the AirEngine 5762-13W ideal for indoor coverage scenarios of small and medium-sized enterprise offices, hospitals, and higher education.

AirEngine 5762-13W

- Dual-radio mode: 2.4 GHz (2x2 MIMO) + 5 GHz (2x2 MIMO), achieving rates of up to 575 Mbps and 2.4 Gbps, respectively, and 2.975 Gbps for the device.

- Uplink: 1 x GE; downlink: 1 x GE.

- Various installation modes for easy deployment, including wall-mounting and plate-mounting.

- Built-in smart antennas to provide precise coverage for STAs, reduce interference, and improve signal quality.

- USB port for external IoT expansion (supporting protocols such as ZigBee, and RFID)

- Supports Bluetooth serial interface-based O&M through built-in Bluetooth and CloudCampus APP.

- Supports the Fat, Fit, and cloud three working modes.

Feature Descriptions

Wi-Fi 6 (802.11ax) standard

- As the latest generation Wi-Fi standards of IEEE 802.11, 802.11ax improves user experience in high-density access scenarios and supports 2.4 GHz and 5 GHz frequency bands.

- MU-MIMO on both the 2.4 GHz and 5 GHz frequency bands, allowing an AP to transmit data to and receive data from multiple STAs simultaneously and multiplying the utilization of radio spectrum resources.

- 1024-QAM modulation, improving data transmission efficiency by 25% compared with 802.11ac (256-QAM).

- OFDMA scheduling enables multiple users to receive and send information at the same time, reducing latency and improving network efficiency.

- Spatial reuse (SR) technology uses basic service set (BSS) coloring to enable APs and STAs to distinguish BSSs, minimizing co-channel interference.

- The target wake time (TWT)* allows APs and STAs to negotiate the sleep and wake time with each other, thereby improving the battery life of the STAs.

📖 NOTE

*The function and features marked with * can be implemented through software upgrade. The following describes are the same.*

MU-MIMO

The AP supports MU-MIMO and supports a maximum of four spatial streams, two spatial streams at 2.4 GHz (2x2 MIMO) and two spatial streams at 5 GHz (2x2 MIMO). The MU-MIMO technology enables an AP to send data to multiple STAs simultaneously, which doubles the radio spectrum resource usage, increases the number of access users and bandwidth, and improves user experience in high-density access scenarios.

High-speed access

The AP supports 160 MHz frequency bandwidth, which increases the number of available data subcarriers and expands transmission channels. In addition, the AP uses 1024-QAM modulation and MU-MIMO to achieve a rate of up to 0.575 Gbps at 2.4 GHz radio, 2.4 Gbps at 5 GHz radio, and 2.975 Gbps for the device.

High Density Boost technology

Huawei uses the following technologies to address challenges in high-density scenarios, including access problems, data congestion, and poor roaming experience:

SmartRadio for air interface optimization

- Load balancing during smart roaming: The load balancing algorithm can work during smart roaming for load balancing detection among APs on the network after STA roaming to adjust the STA load on each AP, improving network stability.

- Intelligent DFA technology: The dynamic frequency assignment (DFA) algorithm is used to automatically detect adjacent-channel and co-channel interference, and identify any 2.4 GHz redundant radio. Through automatic inter-AP negotiation, the redundant radio is automatically switched to another mode (dual-5G AP models support 2.4G-to-5G switchover) or is disabled to reduce 2.4 GHz co-channel interference and increase the system capacity.

- Intelligent conflict optimization technology: The dynamic enhanced distributed channel access (EDCA) and airtime scheduling algorithms are used to schedule the channel occupation time and service priority of each user. This ensures that each user is assigned relatively equal time for using channel resources and user services are scheduled in an orderly manner, improving service processing efficiency and user experience.

Air interface performance optimization

- In high-density scenarios where many users access the network, increased number of low-rate STAs consumes more resources on the air interface, reduces the AP capacity, and lowers user experience. Therefore, Huawei APs will check the signal strength of STAs during access and rejects access from weak-signal STAs. At the same time, the APs monitor the rate of online STAs in real time and forcibly disconnect low-rate STAs so that the STAs can reassociate with APs that have stronger signals. The terminal access control technology can increase air interface use efficiency and allow access from more users.

5G-prior access (band steering)

- The APs support both 2.4 GHz and 5 GHz frequency bands. The 5G-prior access function enables an AP to steer STAs to the 5 GHz frequency band first, which reduces load and interference on the 2.4 GHz frequency band, improving the user experience.

Wired and wireless dual security guarantee

To ensure data security, Huawei APs integrate wired and wireless security measures and provide comprehensive security protection.

Authentication and encryption for wireless access

- The APs support WEP, WPA/WPA2-PSK, WPA3-SAE, WPA/WPA2-PPSK, WPA/WPA2/WPA3-802.1X, and WAPI authentication/encryption modes to ensure security of the wireless network. The authentication mechanism is used to authenticate user identities so that only authorized users can access network resources. The encryption mechanism is used to encrypt data transmitted over wireless links to ensure that the data can only be received and parsed by expected users.

Rogue device monitoring

- Huawei APs support WIDS/WIPS, and can monitor, identify, defend, counter, and perform refined management on the rogue devices, to provide security guarantees for air interface environment and wireless data transmission.

Wired access authentication and encryption for the AP

- The AP access control ensures validity of APs. The CAPWAP link protection and DTLS encryption provide security assurance, improving data transmission security between the AP and the WLAN AC.

Automatic radio calibration

Automatic radio calibration allows an AP to collect signal strength and channel parameters of surrounding APs and generate an AP topology according to the collected data. Based on the interference caused by authorized APs, rogue APs, and No Wi-Fi APs

and their loads, each AP automatically adjusts its transmit power and working channel to make the network operate at the optimal performance. In this way, network reliability and user experience are improved.

Leader AP

The leader AP integrates some WLAN AC functions and can be used to manage Fit APs in small- and medium-sized enterprises and stores, implementing WLAN AC-free access not requiring licenses and saving customer investment.

Cloud-based Management

The AP can be managed via cloud, then no need to deploy a WLAN AC and an authentication server. In cloud-based management mode, abundant authentication functions, such as pre-shared key (PSK) authentication, Portal authentication, SMS authentication, and social media authentication, can be implemented. This mode significantly simplifies the networking and reduces the capital expenditure (CAPEX). In addition, multiple advanced functions, such as online cloud-based network planning, cloud-based deployment, cloud-based inspection, and cloud-based O&M, can be implemented through Huawei cloud management platform. In multi-branch deployment scenarios, cloud APs are pre-configured on the cloud management platform firstly. Then on site, you only need to power on the cloud APs and connect them to switch ports, then scan the QR code to implement AP plug-and-play. Pre-configurations are automatically delivered to devices, greatly shortening the network deployment time. The cloud management platform can monitor the network status, device status, and terminal connection status of all sites of a tenant in a comprehensive and intuitive manner to learn the network and service running status in real time.

Basic Specifications

Fat/Fit AP mode

Item	Description
WLAN features	Compliance with IEEE 802.11ax and compatibility with IEEE 802.11a/b/g/n/ac/ac Wave 2
	Maximum ratio combining (MRC)
	Space time block code (STBC)
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD)
	Beamforming
	Multi-user multiple-input multiple-output (MU-MIMO)
	Orthogonal frequency division multiple access (OFDMA)
	Compliance with 1024-quadrature amplitude modulation (QAM) and compatibility with 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK)
	Target wake time (TWT)
	Low-density parity-check (LDPC)
	Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)
	802.11 dynamic frequency selection (DFS)
	Short guard interval (GI) in 20 MHz, 40 MHz, 80 MHz and 160 MHz modes
	Priority mapping and scheduling that are compliant with Wi-Fi multimedia (WMM) to implement priority-based data processing and forwarding
	Automatic and manual rate adjustment (the rate is adjusted automatically by default)
	WLAN channel management and channel rate adjustment
	NOTE
	For detailed management channels, see the Country Codes & Channel Compliances.
	Automatic channel scanning and interference avoidance
	Service set identifier (SSID) hiding
	Signal sustain technology (SST)
	Unscheduled automatic power save delivery (U-APSD)

Item	Description
	Control and Provisioning of Wireless Access Points (CAPWAP) in Fit AP mode
	Extended Service Set (ESS) in Fit AP mode
	Advanced cellular coexistence (ACC), minimizing the impact of interference from cellular networks
	Multi-user call admission control (CAC)
	802.11k and 802.11v smart roaming
	802.11r fast roaming (≤ 50 ms)
Network features	Compliance with IEEE 802.3ab
	Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)
	Compliance with IEEE 802.1q
	SSID-based VLAN assignment
	VLAN trunk on uplink Ethernet ports
	Management channel of the AP uplink port in tagged and untagged mode
	DHCP client, obtaining IP addresses through DHCP
	Tunnel data forwarding and direct data forwarding
	STA isolation in the same VLAN
	IPv4/IPv6 access control lists (ACLs)
	Link Layer Discovery Protocol (LLDP)
	Uninterrupted service forwarding upon CAPWAP channel disconnection in Fit AP mode
	Unified authentication on the AC in Fit AP mode
	AC dual-link backup in Fit AP mode
	Network Address Translation (NAT) in Fat AP mode
	IPv6 in Fit AP mode
	Telemetry in Fit AP mode, quickly collecting AP status and application experience parameters
	IPv6 Source Address Validation Improvements (SAVI)
	Multicast Domain Name Service (mDNS) gateway protocol
QoS features	Priority mapping and scheduling that are compliant with WMM to implement priority-based data processing and forwarding
	WMM parameter management for each radio
	WMM power saving
	Priority mapping for upstream packets and flow-based mapping for downstream packets
	Queue mapping and scheduling
	User-based bandwidth limiting
	Adaptive bandwidth management (automatic bandwidth adjustment based on the user quantity and radio environment) to improve user experience
	Airtime scheduling
	Air interface HQoS scheduling
	Intelligent multimedia scheduling
Security features	Open system authentication
	WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key
	WPA2-PSK authentication and encryption (WPA2-Personal)
	WPA2-802.1X authentication and encryption (WPA2-Enterprise)
	WPA3-SAE authentication and encryption (WPA3-Personal)
	WPA3-802.1X authentication and encryption (WPA3-Enterprise)

Item	Description
	WPA-WPA2 hybrid authentication
	WPA2-WPA3 hybrid authentication
	WPA2-PPSK authentication and encryption in Fit AP mode
	WAPI authentication and encryption
	Wireless intrusion detection system (WIDS) and wireless intrusion prevention system (WIPS), including rogue device detection and containment, attack detection and dynamic blacklist, and STA/AP blacklist and whitelist
	802.1X authentication, MAC address authentication, and Portal authentication
	DHCP snooping
	Dynamic ARP Inspection (DAI)
	IP Source Guard (IPSG)
	802.11w Protected Management Frames (PMF)
	DTLS encryption
Maintenance features	Unified management and maintenance on the AC in Fit AP mode
	Automatic login and configuration loading, and plug-and-play (PnP) in Fit AP mode
	Batch upgrade in Fit AP mode
	Telnet
	STelnet using SSHv2
	SFTP using SSHv2
	Remote wireless O&M through the Bluetooth serial interface
	Web-based local AP management through HTTP or HTTPS in Fat AP mode
	Real-time configuration monitoring and fast fault locating using the NMS
	SNMP v1/v2/v3 in Fat AP mode
	System status alarm
	Network Time Protocol (NTP) in Fat AP mode
Locating service	**NOTE** *The AP supports the locating service only in Fit AP mode.* Wi-Fi terminal location Working with a location server to locate rogue devices

Cloud-based management mode

Item	Description
WLAN features	Compliance with IEEE 802.11ax and compatibility with IEEE 802.11a/b/g/n/ac/ac Wave 2
	Maximum ratio combining (MRC)
	Space time block code (STBC)
	Cyclic Delay Diversity (CDD)/Cyclic Shift Diversity (CSD)
	Beamforming
	Multi-user multiple-input multiple-output (MU-MIMO)
	Orthogonal frequency division multiple access (OFDMA)
	Compliance with 1024-quadrature amplitude modulation (QAM) and compatibility with 256-QAM, 64-QAM, 16-QAM, 8-QAM, quadrature phase shift keying (QPSK), and binary phase shift keying (BPSK)
	Target wake time (TWT)
	Low-density parity-check (LDPC)

Item	Description
	Frame aggregation, including A-MPDU (Tx/Rx) and A-MSDU (Tx/Rx)
	802.11 dynamic frequency selection (DFS)
	Priority mapping and scheduling that are compliant with Wi-Fi multimedia (WMM) to implement priority-based data processing and forwarding
	Automatic and manual rate adjustment (the rate is adjusted automatically by default)
	WLAN channel management and channel rate adjustment
	NOTE *For detailed management channels, see the Country Codes & Channel Compliances.*
	Automatic channel scanning and interference avoidance
	Service set identifier (SSID) hiding
	Signal sustain technology (SST)
	Unscheduled automatic power save delivery (U-APSD)
Network features	Compliance with IEEE 802.3ab
	Auto-negotiation of the rate and duplex mode and automatic switchover between the Media Dependent Interface (MDI) and Media Dependent Interface Crossover (MDI-X)
	Compliance with IEEE 802.1q
	SSID-based VLAN assignment
	DHCP client, obtaining IP addresses through DHCP
	STA isolation in the same VLAN
	Access control lists (ACLs)
	Unified authentication on the Cloud management platform
	Network Address Translation (NAT)
QoS features	Priority mapping and scheduling that are compliant with WMM to implement priority-based data processing and forwarding
	WMM parameter management for each radio
	WMM power saving
	Priority mapping for upstream packets and flow-based mapping for downstream packets
	Queue mapping and scheduling
	User-based bandwidth limiting
	Airtime scheduling
	Air interface HQoS scheduling
Security features	Open system authentication
	WEP authentication/encryption using a 64-bit, 128-bit, 152-bit or 192-bit encryption key
	WPA2-PSK authentication and encryption (WPA2-Personal)
	WPA2-802.1X authentication and encryption (WPA2-Enterprise)
	WPA3-SAE authentication and encryption (WPA3-Personal)
	WPA3-802.1X authentication and encryption (WPA3-Enterprise)
	WPA-WPA2 hybrid authentication
	WPA2-WPA3 hybrid authentication
	802.1X authentication, MAC address authentication, and Portal authentication
	DHCP snooping
	Dynamic ARP Inspection (DAI)
	IP Source Guard (IPSG)
Maintenance features	Unified management and maintenance on the Cloud management platform

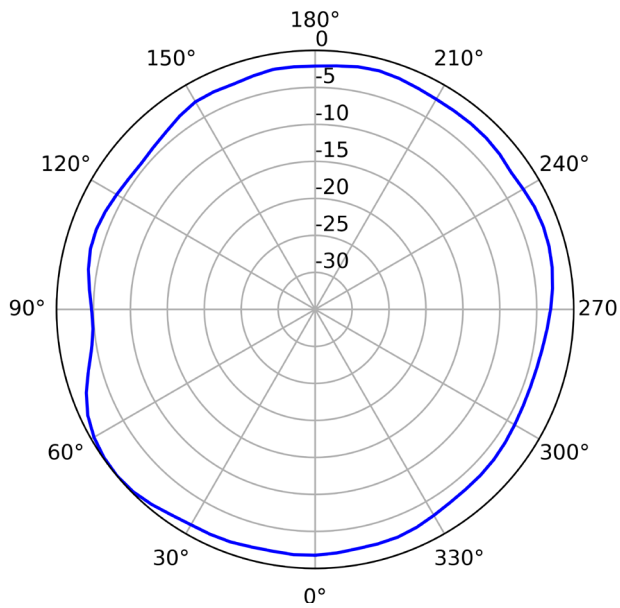| Item	Description
	Automatic login and configuration loading, and plug-and-play (PnP)
	Batch upgrade
	Telnet
	STelnet using SSHv2
	SFTP using SSHv2
	Remote wireless O&M through the Bluetooth console port
	Web-based local AP management through HTTP or HTTPS
	Real-time configuration monitoring and fast fault locating using the NMS
	System status alarm
	Network Time Protocol (NTP)

Technical Specifications

Item		Description
Technical specifications	Dimensions (H x W x D)	160 mm x 86 mm x 38 mm
	Weight	0.32 kg
	Interface type	2 x 10M/100M/1GE (RJ45) 1 x USB **NOTE** ● *GE supports PoE input.*
	Bluetooth	BLE 5.0
	LED indicator	Indicates the power-on, startup, running, alarm, and fault states of the system.
Power specifications	Power input	● DC: 12 V ± 10% ● PoE power supply: in compliance with 802.3af
	Maximum power consumption	12 W (excluding USB) **NOTE** *The actual maximum power consumption depends on local laws and regulations.* *802.3af power supply by default; 802.3at power is required only if USB is required.*
Environmental specifications	Operating temperature	0°C to +40°C
	Storage temperature	-40°C to +70°C
	Operating humidity	5% to 95% (non-condensing)
	Altitude	-60 m to +5000 m
	Atmospheric pressure	53 kPa to 106 kPa
Radio specifications	Antenna type	Built-in smart antennas
	Antenna gain	2.4 GHz: 2 dBi 5 GHz: 3 dBi **NOTE** ● *The gains above are the single-antenna peak gains.*

Item		Description
		• *The equivalent antenna gain after all 2.4 GHz or 5 GHz antennas are combined is 1 dBi at 2.4 GHz or 1 dBi at 5 GHz.*
	Maximum number of SSIDs for each radio	≤ 16
	Maximum number of users	≤ 256 **NOTE** *The actual number of users varies according to the environment.*
	Maximum transmit power	2.4 GHz: 23 dBm (combined power) 5 GHz: 23 dBm (combined power) **NOTE** *The actual transmit power depends on local laws and regulations.*
	Power increment	1 dBm

	Maximum number of non-overlapping channels	2.4 GHz (2.412 GHz to 2.472 GHz)
		• 802.11b/g
		  − 20 MHz: 3
		• 802.11n
		  − 20 MHz: 3
		  − 40 MHz: 1
		• 802.11ax
		  − 20 MHz: 3
		  − 40 MHz: 1
		5 GHz (5.18 GHz to 5.825 GHz)
		• 802.11a
		  − 20 MHz: 13
		• 802.11n
		  − 20 MHz: 13
		  − 40 MHz: 6
		• 802.11ac
		  − 20 MHz: 13
		  − 40 MHz: 6
		  − 80 MHz: 3
		  − 160 MHz: 1
		• 802.11ax
		  − 20 MHz: 13
		  − 40 MHz: 6
		  − 80 MHz: 3
		  − 160 MHz: 1
		
		NOTE
		  The table uses the number of non-overlapping channels supported by China as an example. The number of non-overlapping channels varies in different countries. For details, see the Country Codes & Channels Compliance.

Standards Compliance

Item	Description		
Safety standards	• UL 60950-1 • EN 60950-1 • IEC 60950-1	• UL 62368-1 • EN 62368-1 • IEC 62368-1	• GB 4943.1 • CAN/CSA 22.2 No.60950-1
Radio standards	• ETSI EN 300 328	• ETSI EN 301 893	• AS/NZS 4268
EMC standards	• EN 301 489-1 • EN 301 489-17 • EN 60601-1-2 • EN 55024 • EN 55032 • EN 55035	• GB 9254 • GB 17625.1 • GB 17625.2 • AS/NZS CISPR32 • CISPR 24 • CISPR 32 • CISPR 35	• IEC/EN61000-4-2 • IEC/EN 61000-4-3 • IEC/EN 61000-4-4 • IEC/EN 61000-4-5 • IEC/EN61000-4-6 • ICES-003
IEEE standards	• IEEE 802.11a/b/g • IEEE 802.11n • IEEE 802.11ac • IEEE 802.11ax	• IEEE 802.11h • IEEE 802.11d • IEEE 802.11e • IEEE 802.11k	• IEEE 802.11v • IEEE 802.11w • IEEE 802.11r
Security standards	• 802.11i, Wi-Fi Protected Access (WPA), WPA2, WPA2-Enterprise, WPA2-PSK, WPA3, WAPI • 802.1X • Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP), WEP, Open • EAP Type(s)		
EMF	• EN 62311	• EN 50385	
RoHS	• Directive 2002/95/EC & 2011/65/EU	• (EU)2015/863	
Reach	• Regulation 1907/2006/EC		
WEEE	• Directive 2002/96/EC & 2012/19/EU		

Antennas Pattern

2.4G (Horizontal)
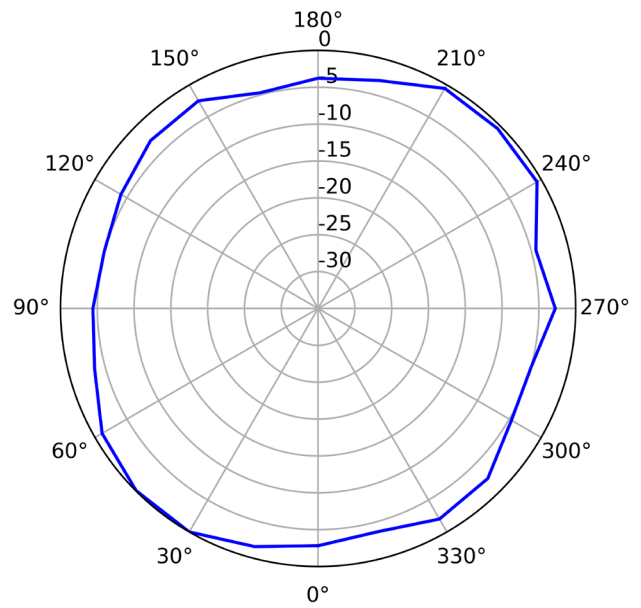
2.4G (Vertical)
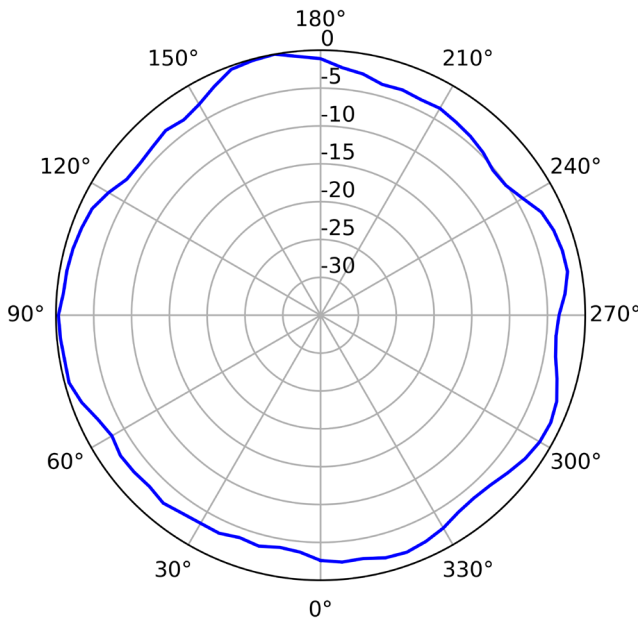
5G (Horizontal)
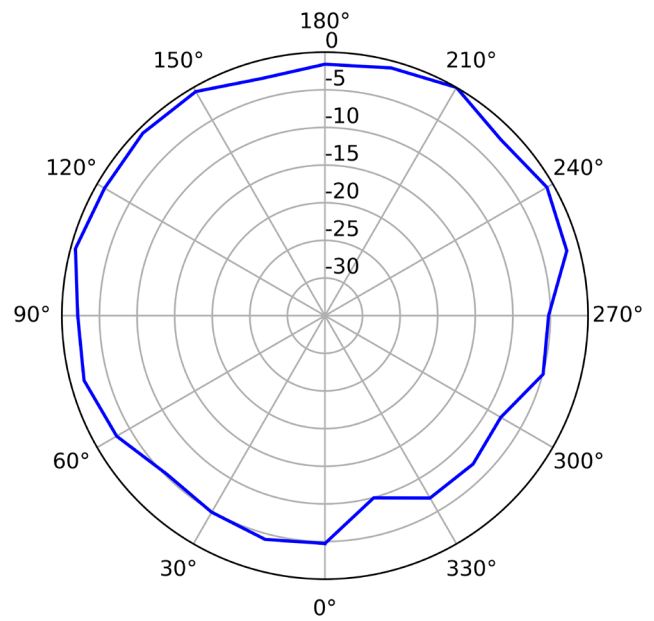
5G (Vertical)

More Information

For more information about Huawei WLAN products, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support web: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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Website:www.huawei.com

Huawei AC6508 Wireless Access Controller Datasheet

Product Overview

The AC6508 is a small-capacity box wireless access controller (AC) for small and medium enterprises. It can manage up to 512 access points (APs) and integrates the GE Ethernet switch function, achieving integrated access for wired and wireless users. The WLAN AC features high scalability and offers users considerable flexibility in configuring the number of managed APs. When used with Huawei's full series 802.11ax, 802.11ac,802.11n and 802.11be APs, the AC6508 can be used to construct small and medium campus networks, enterprise office networks, wireless Metropolitan Area Networks (MANs), and hotspot coverage networks.

Huawei AC6508 wireless access controller

Product Features

Large-capacity and high-performance design

- The AC6508 can manage up to 512 APs, meeting requirements of small and medium campuses.
- Provides 2 x 10GE optical interfaces and 10 x GE electrical interfaces, supporting up to 10 Gbit/s forwarding performance.

SmartRadio for air interface optimization

- Load balancing during smart roaming: The load balancing algorithm can work during smart roaming for load balancing detection among APs on the network after STA roaming to adjust the STA load on each AP, improving network stability.

- Intelligent DFA technology: The dynamic frequency assignment (DFA) algorithm is used to automatically detect adjacent-channel and co-channel interference, and identify any 2.4 GHz redundant radio. Through automatic inter-AP negotiation, the redundant radio is automatically switched to another mode (dual-5G AP models support 2.4G-to-5G switchover) or is disabled to reduce 2.4 GHz co-channel interference and increase the system capacity.

- Intelligent conflict optimization technology: The dynamic enhanced distributed channel access (EDCA) and airtime scheduling algorithms are used to schedule the channel occupation time and service priority of each user. This ensures that each user is assigned relatively equal time for using channel resources and user services are scheduled in an orderly manner, improving service processing efficiency and user experience.

Various roles

- The AC6508 has a built-in Portal/AAA server and can provide Portal/802.1X authentication for users, reducing customer investment.

Flexible networking

- The WLAN AC can be deployed in inline, bypass, bridge, and Mesh network modes, and supports both centralized and local forwarding.

- The WLAN AC and APs can be connected across a Layer 2 or Layer 3 network. In addition, NAT can be deployed when APs are deployed on the private network and the WLAN AC is deployed on the public network.

- The WLAN AC is compatible with Huawei full-series 802.11n, 802.11ac, 802.11ax and 802.11be APs and supports hybrid networking of 802.11n, 802.11ac, 802.11ax and 802.11be APs for simple scalability.

Built-in application identification server

- Supports Layer 4 to Layer 7 application identification and can identify over 6000 applications, including common office applications and P2P download applications, such as Lync, FaceTime, YouTube, and Facebook.
- Supports application-based policy control technologies, including traffic blocking, traffic limit, and priority adjustment policies.
- Supports automatic application expansion in the application signature database.

Comprehensive reliability design

- Supports AC 1+1 HSB, and N+1 backup, ensuring uninterrupted services.
- Supports port backup based on the Link Aggregation Control Protocol (LACP) or Multiple Spanning Tree Protocol (MSTP).
- Supports WAN authentication escape between APs and WLAN ACs. In local forwarding mode, this feature retains the online state of existing STAs and allows access of new STAs when APs are disconnected from WLAN ACs, ensuring service continuity.

Built-in visualized network management platform

The AC6508 has a built-in web system that is easy to configure and provides comprehensive monitoring and intelligent diagnosis.

Health-centric one-page monitoring, visualized KPIs

- One page integrates the summary and real-time statistics. KPIs are displayed in graphs, including user performance, radio performance, and AP performance, enabling users to extract useful information from the massive amounts of monitored data, while also knowing the device and network status instantly.

Monitoring interface
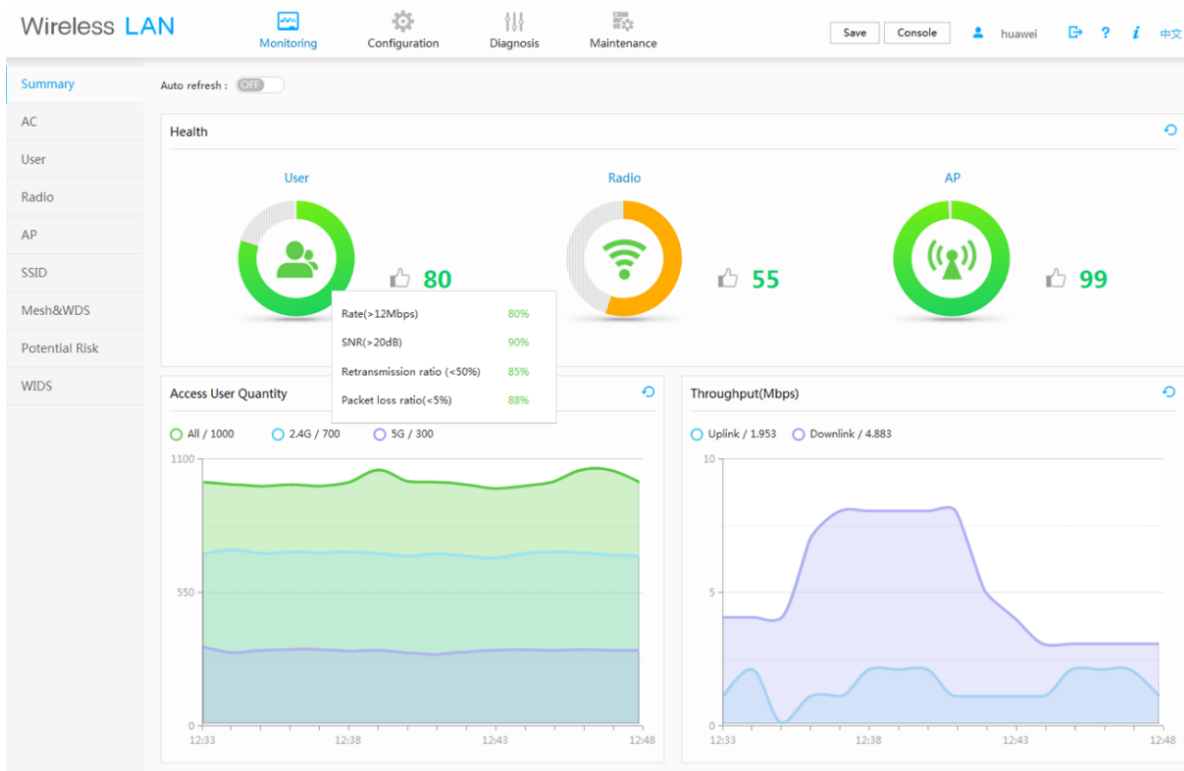
Profile-based configuration by AP group simplifies configuration procedure and improves efficiency.

- The web system supports AP group-centric configuration and automatically selects the common parameters for users, meaning that users do not need to pre-configure the common parameters, simplifying the configuration procedure.
- If two AP groups have small configuration differences, users can copy the configurations of one AP group to the other. This improves configuration efficiency because users only need to modify the original configurations, not create entirely new ones each time.
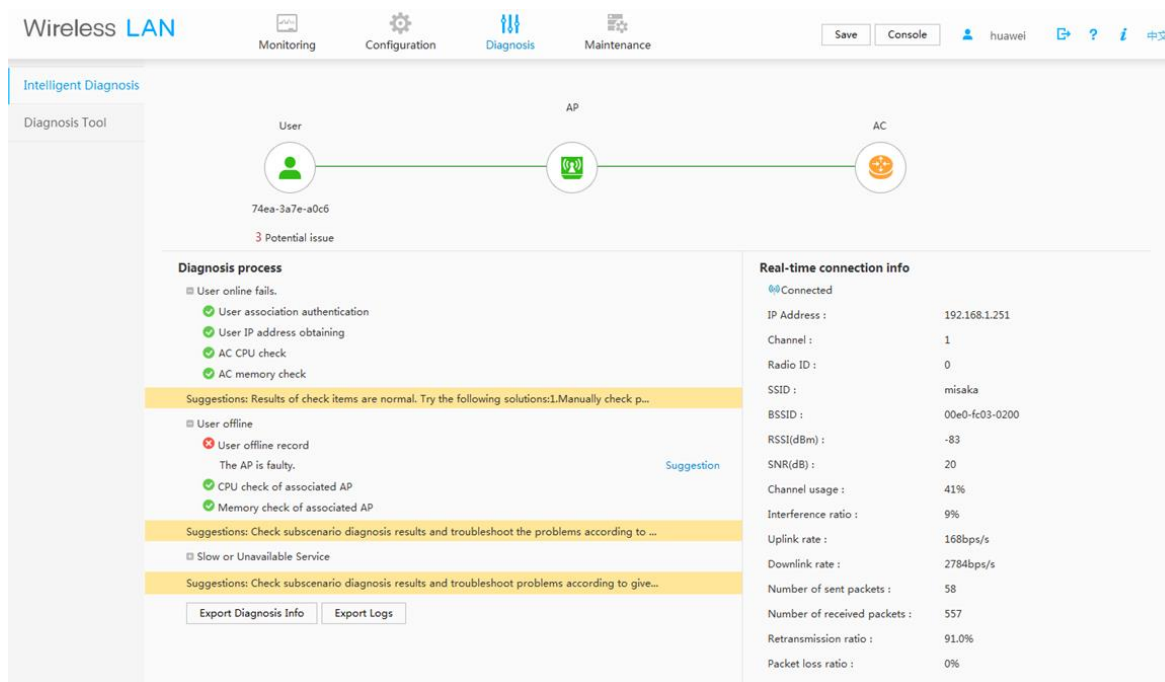
Configuration interface
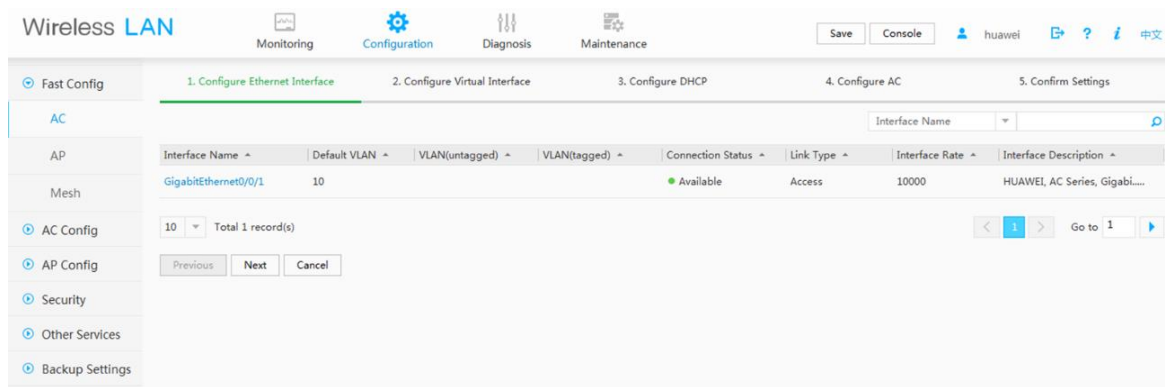
One-click diagnosis solves 80% of common network problems.

- The web system supports real-time and periodic one-click intelligent diagnosis from the dimensions of users, APs, and WLAN ACs, and provides feasible suggestions for troubleshooting the faults.

Intelligent diagnosis

AC6508 Features

Switching and forwarding features

Feature		Description
Ethernet features	Ethernet	Operating modes of full duplex, half duplex, and auto-negotiation
		Rates of an Ethernet interface: 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, and auto-negotiation
		• Flow control on interfaces
		• Jumbo frames
		• Link aggregation
		• Load balancing among links of a trunk
		• Interface isolation and forwarding restriction
		• Broadcast storm suppression

Feature		Description
		• 802.3az Energy Efficient Ethernet (EEE)
	VLAN	Access modes of access, trunk, and hybrid
		Default VLAN
		VLAN pool
	MAC	Automatic learning and aging of MAC addresses
		Static, dynamic, and blackhole MAC address entries
		Packet filtering based on source MAC addresses
		Interface-based MAC learning limiting
	ARP	Static and dynamic ARP entries
		ARP in a VLAN
		Aging of ARP entries
	LLDP	LLDP
Ethernet loop protection	MSTP	STP
		RSTP
		MSTP
		BPDU protection, root protection, and loop protection
		Partitioned STP
IPv4 forwarding	IPv4 features	ARP and RARP
		ARP proxy
		Auto-detection
		NAT
		Bonjour protocol
	Unicast routing features	Static route
		RIP-1 and RIP-2
		OSPF
		BGP
		IS-IS
		Routing policies and policy-based routing
		URPF check
		DHCP server and relay
		DHCP snooping
	Multicast routing features	IGMPv1, IGMPv2, and IGMPv3
		PIM-SM
		Multicast routing policies
		RPF
IPv6 forwarding	IPv6 features	ND protocol
	Unicast routing features	Static route
		RIPng
		OSPFv3
		BGP4+
		IS-IS IPv6
		DHCPv6

TFP-PANELS

Fiber Mode   Multimode | Singlemode

Environmental Specifications

Operating Temperature   -40 ºC to +85 ºC (-40 ºF to +185 ºF)

Storage Temperature   -40 °C to +85 °C (-40 °F to +185 °F)

Packaging and Weights

Included   Mounting hardware

Packaging quantity   1

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant/Exempted
UK-ROHS	Compliant/Exempted

COMMSCOPE®