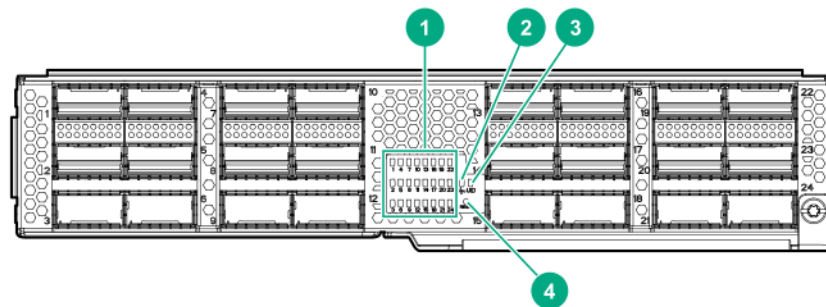


### Overview

### HPE Apollo 100GbE 48-port Intel Omni-Path Architecture Unmanaged Switch

HPE Apollo 100GbE 48-port Intel Omni-Path Architecture Unmanaged Switch is a 48-port integrated switch in HPE Apollo 6000 Gen10 System with 24 downlink ports and 24 QSFP28 uplink ports. The HPE Apollo 100Gb 48p OPA Unmanaged Switch cost-effectively supports HPC clusters from small to extremely large sizes. This HPE Apollo 100Gb 48p OPA Unmanaged Switch is a new member of the Intel® Omni-Path Fabric series of switches supported by Hewlett Packard Enterprise, delivering an exceptional set of high-speed networking features and functions.

The HPE Apollo 100Gb 48p OPA Unmanaged Switch is ideal for customers who deploy high-performance computing (HPC) clusters based on HPE Apollo 6000 Gen10 Servers using the Intel Omni-Path technology.



HPE Apollo 100Gb 48-port Intel Omni-Path Architecture Unmanaged Switch

1. Link Status LEDs
2. Health LED
3. UID LED/button
4. Reset pin-hole

1-24 QSFP28 ports

### Model

851341-B21

## Overview

### Platform Information



#### Top Level Switches – Support Connectivity

Intel Omni-Path Architecture 100Gb 48-port Unmanaged Switch	829910-B21
Intel Omni-Path Architecture 100Gb 48-port Managed Switch	829911-B21
Intel Omni-Path Architecture 192-port QSFP28/288-port Optical Director Switch Chassis	829912-B21
Intel Omni-Path Architecture 768-port QSFP28/1152-port Optical Director Switch Chassis	829913-B21



## Standard Features

### Key features

- 48 ports, each providing 100 Gbps performance
  - 24 downlink ports to servers
  - 24 QSFP28 uplink ports
- 9.6 Tbps aggregate bandwidth
- Optimized for message rate and latency
- Multiple Virtual Lanes (VLs) per physical port
- Supports virtual fabric partitioning
- Supports adaptive routing

### Features and benefits

#### Switch Specifications

- Based on Intel® Omni-Path Architecture Switch Silicon 100 Series 48-port ASIC
- 100 Gbps per port bidirectional
- Virtual lanes: configurable from one to eight VLs plus one management VL
- Configurable MTU size of 2 KB, 4 KB, 8 KB, or 10KB
- Maximum multicast table size: 8192 entries
- Maximum unicast table size: 49151 entries
- Supports QSFP28 passive copper and active optical cables on 24 uplink port

#### Management

- Unmanaged switch
- Requires Intel Fabric Suite (IFS) for in-band management of switch

#### Connectors and cabling

- QSFP28 uplinks ports support passive copper or active optical cables

#### Internal downlink connectors to servers

- Per QSFP28 port status LED for link and activity
- Switch reset button
- One (1) switch health LED indicator (Solid Green = Normal; Solid Amber = Power and fault detected)
- One UID
- Each port LED (Solid Green = Link up; Off = No link)

#### Power and cooling

- Provided by Apollo 6000 Gen10 Chassis

#### Fabric Management

- A host based Fabric Manager is required using the Intel® Omni-Path Fabric stack running on a Linux Server to access, configure and manage the fabric



## Standard Features

### Warranty and support

- This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners (may vary by region). Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Pointnext operational services or customized service agreements. Hard drives have either a one year or three year warranty

**Notes:** Server Warranty includes 3 year Parts, 3 year Labor, 3-year on-site support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:  
<http://h18004.www1.hpe.com/products/servers/platforms/warranty/index.html>



## Service and Support

### HPE Pointnext - Service and Support

**Get the most from your HPE Products.** Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services** focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

#### Consume IT on your terms

**HPE GreenLake** brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

#### Managed services to run your IT operations

**HPE GreenLake Management Services** provides services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.

### Recommended Services

#### HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care is available in three response levels. Basic, which provides 9x5 business hour availability and a 2 hour response time. Essential which provides a 15 minute response time 24x7 for most enterprise level customers, and Critical which includes a 6 hour repair commitment where available and outage management response for severity 1 incidents.

<https://www.hpe.com/services/techcare>

#### HPE Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

<https://www.hpe.com/services/complecare>



## Service and Support

**Parts and Materials** Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

**HPE Factory Express for Servers and storage** HPE Factory Express offers configuration, customization, integration and deployment services for HPE servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging. HPE products supported through Factory Express include a wide array of servers and storage: HPE Integrity, HPE ProLiant, HPE Apollo, HPE ProLiant Server Blades, HPE BladeSystem, HPE 9000 servers as well as the MSAxxxx3PAR suite, XP, rackable tape libraries and configurable network switches.

**HPE Technology Services Support Credits** Offer flexible services and technical skills to meet your changing IT demands. With a menu of service that is tailored to suit your needs, you get additional resources and specialist skills to help you maintain peak performance of your IT. Offered as annual credits, you can plan your budgets while proactively responding to your dynamic business.

**HPE Flexible Capacity** With Flexible Capacity, you get the speed, scalability, and economics of the public cloud in the privacy of your data center. Gain the advantages of the public cloud—consumption-based payment, rapid scalability without worrying about capacity constraints. Reduce the “heavy lifting” needed to operate a data center. And retain the advantages that IT provides the business (i.e., control, security). Deliver the right user experience, choose the right technology for the business, manage privacy and compliance, and manage the cost of IT. And, you have the option to use the public cloud when needed.

**DC for Hyperscale** Complete Care for Hyperscale is available for Service Providers and HPC customers who use a scale out approach to computing with a high volume homogenous infrastructure and resilient architecture can take advantage of this environment support tailored to their operating model.

**HPE Education Services** Keep your IT staff trained making sure they have the right skills to deliver on your business outcomes. Book on a class today and learn how to get the most from your technology investment.  
<http://www.hpe.com/ww/learn>

**HPE Support Center** The HPE Support Center is a personalized online support portal with access to information, tools and experts to support HPE business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers.  
Learn more <http://www.hpe.com/support/hpesc>  
HPE's Support Center Mobile App\* allows you to resolve issues yourself or quickly connect to an agent for live support. Now you can get access to personalized IT support anywhere, anytime.  
HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Support Service or HPE contractual support agreement.  
**Notes:** \*HPE Support Center Mobile App is subject to local availability  
**For more information:** <http://www.hpe.com/services>



Technical Specifications

<b>Shipping Dimensions</b>	<b>Length</b>	17.75 in. (450.9mm)
	<b>Width</b>	14.75 in. (375.7mm)
	<b>Height</b>	6.5 in. (165.1mm)
	<b>Shipping weight</b>	8 lbs (3.63kgs)
<b>Performance</b>	<b>Latency</b>	≤110 ns port-to-port
	<b>Throughput</b>	up to 9.6 Tbps
	<b>Maximum multicast table size</b>	8192 entries
	<b>Maximum unicast table size</b>	49151 entries
<b>Dimensions</b>	<b>Length</b>	12.41 in (315.2mm)
	<b>Width</b>	8.62 in (219mm)
	<b>Height</b>	1.70 in (43.3mm)
	<b>Weight</b>	5.8 lbs. (2.63 kgs)
<b>Environment</b>	<b>Operating temperature</b>	10° to 35° C (50° to 95° F)
	<b>Storage temperature</b>	-30° to 60° C (-22° to 140° F)
	<b>Operating humidity</b>	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	<b>Operating Altitude</b>	0 to 3050m (0 to 10,000 feet)
<b>Electrical characteristics</b>	<b>Voltage</b>	12V DC +/- 10%
	<b>Power w/Copper Cables</b>	Max 130W
	<b>Power w/Optical Cables</b>	Max 187W
<b>Others</b>	RoHS-6 compliant	
<b>Environment-friendly Products and Approach</b>	<b>End-of-life Management and Recycling</b>	Hewlett Packard Enterprise offers end-of-life product return, trade-in, and recycling programs, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE Directive (2012/19/EU) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site: <http://www.hpe.com/RECYCLE>. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.



## Summary of Changes

<b>Date</b>	<b>Version History</b>	<b>Action</b>	<b>Description of Change</b>
15-Nov-2021	Version 3	Changed	Service and Support section was updated
23-Oct-2017	Version 2	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
11-Jul-2017	Version 1	Created	Initial version of QuickSpecs for Intel Omni-Path 1U Switches.



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