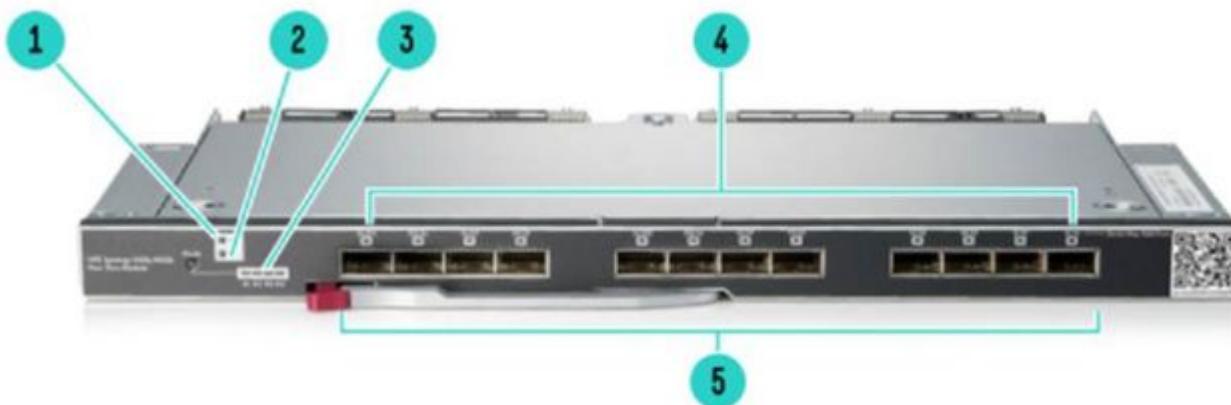


### Overview

#### HPE Synergy 10Gb Pass-Thru Module

The HPE Synergy 10Gb Pass-Thru Module is designed for the HPE Synergy 12000 Frame for customers requiring a non-blocking, one -to-one connection between each Synergy Compute Module and the network. The pass-thru module provides 12 uplink ports that can accept SFP+ connectors using a QSFP+ to SFP+ adapter.

The HPE Synergy 10Gb Pass-Thru Module can support 10Gb connections on a port by port basis. Optical as well as Direct Attach Copper (DAC) cables are also supported. Both standard Ethernet as well as Converged Enhanced Ethernet (CEE) traffic to an FCoE capable switch is possible when using the appropriate HPE Synergy Converged Network Adapter.



#### HPE Synergy 10Gb Pass-Thru Module

1. UID LED	4. Ethernet port link status and speed LEDs
2. Module Status/Health LED	5. Uplink ports that accept QSFP+ to SFP+ adapter to support SFP+ transceivers and Direct Attach Cables (DAC)
3. Mode LED	

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### At A Glance

#### Performance:

- 12 direct Synergy Compute Module to network connections
- Auto-sense 10Gb operation on a port by port basis
- Supports standard Ethernet as well as Converged Enhanced Ethernet
- Supports HPE Synergy Ethernet Converged Network Adapters

#### Management:

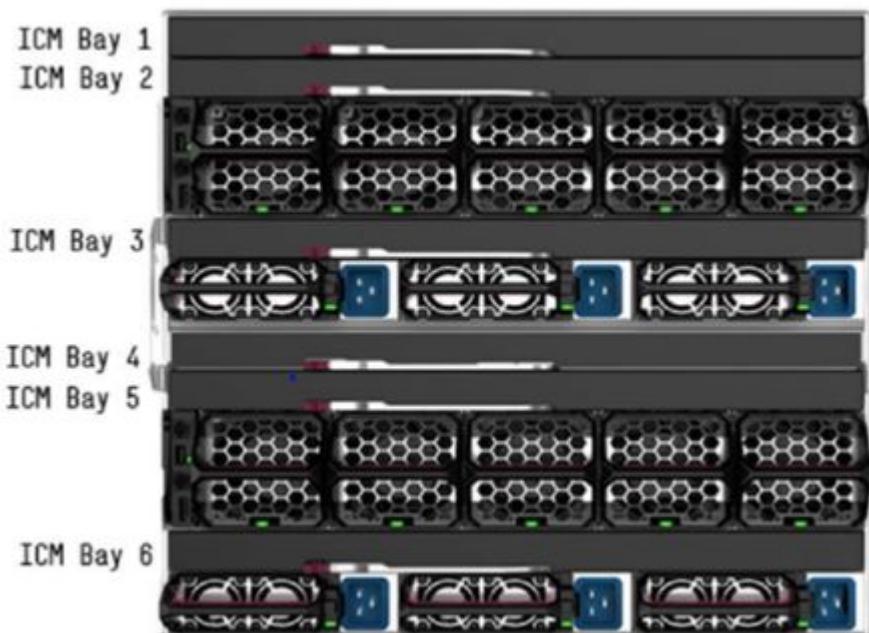
- No management required - automatic discovery by HPE Synergy Composer
- Module performance monitored by the HPE Synergy Composer
- Hardware diagnosis, error reporting, and firmware updates through HPE Synergy Composer

### Overview

#### Compute Module to HPE 10Gb Pass-Thru Module Port Mapping

Faceplate Port	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
PTM in Odd Bay (1,3,5)	CM6	CM12	CM5	CM11	CM4	CM10	CM3	CM9	CM2	CM8	CM1	CM7
PTM in Even Bay (2,4,6)	CM12	CM6	CM11	CM5	CM10	CM4	CM9	CM3	CM8	CM2	CM7	CM1

Notes: CM - Compute Module



HPE Synergy 12000 Frame - Rear View

### Platform Information

#### Models

HE Synergy 10Gb Pass-Thru Module	799330-B21
HPE Synergy 10Gb TAA-compliant Pass-Thru Module	799330-B22

#### Notes:

- TAA in the name of this product provides that this product meets the US Trade Agreements Act (19 U.S.C & 2501-2581) and is compliant for resale on GSA (General Services Administration) agreements or contracts.
- HPE now includes TAA products and options for the Synergy line of product solutions. TAA refers to the US Trade Agreements Act (19 U.S.C & 2501-2581). TAA compliance for HPE simply means that as a product manufacturer or reseller on GSA (General Services Administration), the "final products" that we sell through your GSA Schedule are manufactured or substantially transformed in a TAA-compliant country. HPE Synergy TAA products are aligned for the configuration of a complete TAA-compliant solution or subsets of the complete solution.
- HPE Synergy 12000 TAA Configure-To-Order Frames may include TAA specific, naturally compliant, or standard product options and become a TAA approved solutions when substantially transformed/integrated at a designated HPE TAA Compliant Factory. Please look for TAA in the name when defining HPE Synergy Options or Solutions that may require TAA compliance.
- The package ships with 12 quantities of HPE BladeSystem c-Class QSFP+ to SFP+ Adapter  
(Part Number - 720193-B21)

#### Compatibility

HPE Synergy 10Gb Pass-Thru Module supports the following hardware.

#### HPE Synergy Compute Modules

- HPE Synergy 480 Gen9 Compute Module
- HPE Synergy 620 Gen9 Compute Module
- HPE Synergy 660 Gen9 Compute Module
- HPE Synergy 680 Gen9 Compute Module
- HPE Synergy 480 Gen10 Compute Module
- HPE Synergy 660 Gen10 Compute Module
- HPE Synergy 480 Gen10Plus Compute Module
- HPE Synergy 480 Gen11 Compute Module

#### HPE Network Adapters

##### Converged Network Adapter:

- HPE Synergy 2820C 10Gb Converged Network Adapter
- HPE Synergy 3820C 10/20Gb Converged Network Adapter
- HPE Synergy 4820C 10/20/25Gb Converged Network Adapter
- HPE Synergy 4610C 10/25Gb Ethernet Adapter

**Notes:** Consult individual compute module TechSpecs for specific adapter support.

### Platform Information

### Supported Configurations



### Cabling and Transceivers

#### SFP+ cables connected to QSFP+ to SFP+ Adapter:

- HP BladeSystem c-Class QSFP+ to SFP+ Adapter  
**Notes:** One HP BladeSystem c-Class QSFP+ to SFP+ Adapter is required for each QSFP+ port to connect 10Gb DAC cables to the HPE Synergy 10Gb Pass-Thru Module.
- HP BladeSystem c-Class Small Form-Factor Pluggable 3m 10GbE Copper Cable
- HP BladeSystem c-Class Small Form-Factor Pluggable 5m 10GbE Copper Cable

**Notes:** The above cables have been tested and verified to work with the HPE 10Gb Pass-Thru Module. However, the module will accept cables from any vendor. Hewlett Packard Enterprise does not guarantee the performance of non HPE cables and users may receive a warning message via the CLI when a non-verified cable has been inserted.

#### Transceivers:

- HPE BladeSystem c-Class QSFP+ to SFP+ Adapter
- HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver
- HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver
- HPE 10GBase-T SFP+ Transceiver

#### Notes:

- One HPE QSFP+ to SFP+ adapter is required for each QSFP+ port to connect 10Gb transceivers to the HPE Synergy 10Gb Pass-Thru Module
- Only HPE transceivers listed above may be used in the HPE 10Gb Pass-Thru Module.

### Service and Support

#### HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.

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

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#### Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.

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

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#### HPE Managed Services

HPE runs your IT operations, providing 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.

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

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#### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.

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

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#### HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service 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/completec>

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#### HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service 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 Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service 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>

### Service and Support

#### HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

**Notes:** To review the list of Lifecycle Services available for your product go to:

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

For a list of the most frequently purchased services using service credits, see the [HPE Service Credits Menu](#)

#### Other Related Services from HPE Services:

##### HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

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

##### Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

##### Parts and Materials

HPE 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.

##### How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at <https://ssc.hpe.com/portal/site/ssc/>

### Service and Support

#### AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

<https://support.hpe.com/hpsc/public/home/signin>

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### Consume IT On Your Terms

**HPE GreenLake** edge-to-cloud platform 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 edge-to-cloud platform 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

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" <https://www.hpe.com/us/en/contact-hpe.html>

For more information

<http://www.hpe.com/services>

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### Related Options

#### Cables and Transceiver

##### SFP+ Direct attached cables

HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 3m Direct Attach Copper Cable

487655-B21

HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 5m Direct Attach Copper Cable

537963-B21

**Notes:** QSFP+ to SFP+ adapter required for each QSFP+ port to connect SFP+ cables/transceivers

##### Transceivers

HPE BladeSystem c-Class QSFP+ to SFP+ Adapter

720193-B21

HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver

455883-B21

HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver

455886-B21

HPE 10GBase-T SFP+ Transceiver

813874-B21

### Technical Specifications

Product Specifications				
<b>Shipping Dimensions</b>				
Length	19.45 in (494 mm)			
Width	15.55 in (395 mm)			
Height	5.75 in (145 mm)			
Shipping Weight	3.2 kg (7.0 lbs)			
<b>Product Specifications Hardware</b>				
Performance	240 Gbps external port bandwidth per module at 10Gb			
Connectors and Cabling	Uplink Ports	12 QSFP+/SFP+ Modules		
	Management	Mini-USB Management		
Network Transfer Rate	10 Gbps port (20,000 Mbps full duplex)			
LED Indicators	UID LED	Blue light on module is activated. Blue light off module is deactivated.		
	Mode LED	Green lights		
	Health LED	Solid Amber: The pass-thru module is powered off. Green: The pass-thru module is powered up, and all ports match. Flashing Amber: Fault exists.		
	Ethernet port	Green Link is 10G Flashing blue QSFP+ indicator Red configuration error		
<b>Product Dimensions</b>				
Length	10.5 in (267.7 mm)			
Width	7.5 in (192.79 mm)			
Height	1.1 in (27.94mm)			
Product Weight	1.6 kg (3.97 lbs)			
<b>Environmental Ranges</b>				
<b>Temperature Range</b> <sup>2</sup>				
Specification	10°C to 40°C (50°F to 104°F) <sup>1</sup>			
Operating	10°C to 40°C (50°F to 104°F)			
Shipping	Shipping -40°C to 70°C (-40°F to 158°F)			
Storage	-30°C to 60°C (-22°F to 140°F)			
Maximum wet bulb temperature	38.7°C (101.66°F)			
<b>Relative Humidity (noncondensing)</b> <sup>3</sup>				
Operating	5% to 95%			
Shipping	5% to 95%			
<b>Notes:</b>				
-1,2 All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8°F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048m (10,000 ft) or 70 KPa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3 KPa/4.4 psia.				
-3 Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.				
Power Specification	12V @ 10A (124 W max)			

### Technical Specifications

#### Safety and Compliance

Safety Certifications	UL/CUL Recognition to UL/CSA 60950-1
	TUV to EN 60950-1
	CB report and certificate to IEC 60950-1 with all country deviations
	CE Marking

#### Electromagnetic Information

Electromagnetic Emissions	FCC Part 15 Class A
Certifications	EN 55022 Class A (CISPR22 Class A)
FCC Part 15	VCCI Class A
Class A	CE Marking

### Environment-friendly Products and Approach

#### End-of-life Management and Recycling

Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <http://www.hpe.com/info/recycle>. To recycle your product, please go to: <http://www.hpe.com/info/recycle> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

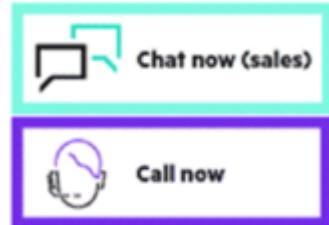
The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site at: <http://www.hpe.com/info/recycle>. These instructions 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

Date	Version History	Action	Description of Change
08-Jan-2024	Version 13	Changed	Service and Support section was updated
01-May-2023	Version 12	Changed	Platform Information and Service and Support sections were updated Updated to show Gen10Plus Gen11 compatibility
15-Sep-2021	Version 11	Changed	Related Options section was updated Services and Support Pointnext Tech Care and Complete Care information added
06-Apr-2021	Version 10	Changed	Platform Information section was updated
06-May-2019	Version 9	Changed	Platform Information and Related Options sections were updated. Obsolete SKU was deleted: 487652-B21
05-Nov-2017	Version 8	Changed	Platform Information section was updated.
11-Jul-2017	Version 7	Changed	Overview, Platform Information and SKU added in Platform Information: 799330-B22.
18-Nov-2016	Version 6	Changed	Models and Options section was updated.
26-Aug-2016	Version 5	Changed	Modules and Options and Service and Support sections were updated.
29-Jul-2016	Version 4	Changed	QuickSpecs updated.
06-Jun-2016	Version 3	Changed	Overview, Compatibility, Service and Support, Related Options, and Technical Specifications sections were updated. SKUs were added in Related Options Sections: 799330-B21, 487652-B21, 487655-B21, 537963-B21, 720193-B21, 455883-B21, 455886-B21, 813874-B21.
11-Dec-2015	Version 2	Changed	Sections in QuickSpecs were updated.
01-Dec-2015	Version 1	New	New QuickSpecs

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