## Overview

## HPE Networking Transceiver Options

### Models

| Description | SKU |
| --- | --- |
| **10G Transceivers** | |
| HPE 10GBASE-T SFP+ RJ45 30m 1-pack Transceiver | R0R41B |
| HPE 10GbE SFP+ SR Multi-mode 300m Transceiver | Q6M30A |
| **25G Transceivers and Cables** | |
| HPE 25Gb SFP28 Short Wave Extended Temperature 1-pack Pull Tab Optical Transceiver | Q2P64B |
| HPE 25Gb SFP28 SR 30m Transceiver | R0R42A |
| HPE 25GbE SFP28 to SFP28 3m Smart Active Optical Cable | Q9S67A |
| HPE 25GbE SFP28 to SFP28 5m Smart Active Optical Cable | Q9S68A |
| HPE 25GbE SFP28 to SFP28 10m Smart Active Optical Cable | Q9S69A |
| HPE 25GbE SFP28 to SFP28 15m Smart Active Optical Cable | Q9S70A |
| HPE 25/50GbE SFP56 SR 100m 1-pack Transceiver | R8M65A |
| **40G Transceivers and Cables** | |
| HPE 40GbE QSFP+ to 4x10GbE SFP+ 5m Active Optical Cable | Q9S66A |
| **100G Transceivers and Cables** | |
| HPE 100GbE QSFP28 SR4 100m Transceiver | Q2F19A |
| HPE 100GbE QSFP28 SR4 Extended Temperature Pull Tab Transceiver | S2T35A |
| HPE 100Gb QSFP28 LC SWDM4 Multi-mode 100m Transceiver | R0R40A |
| HPE 100GbE QSFP28 500m 1310mm PSM4 Transceiver | Q8J73A |
| HPE 100GbE QSFP28 to QSFP28 5m Active Optical Cable | Q9S71A |
| HPE 100GbE QSFP28 to 4x25GbE SFP28 1m Direct Attach Copper Cable | Q9S72A |
| HPE 100GbE QSFP28 LC DR1 500m 1-pack Transceiver | R8M61A |
| HPE 100Gb QSFP28 to QSFP28 0.5m Direct Attach Copper Cable | R8M59A |
| HPE 100GbE QSFP28 to QSFP28 Extended Temperature 5m Active Optical Cable | S2T38A |
| HPE 100GbE QSFP28 to QSFP28 Extended Temperature 10m Active Optical Cable | S2T39A |
| HPE 100GbE QSFP28 to QSFP28 Extended Temperature 15m Active Optical Cable | S2T40A |
| HPE 100GbE QSFP28 to QSFP28 Extended Temperature 25m Active Optical Cable | S2T41A |
| **200G Transceivers and Cables** | |
| HPE 200Gb QSFP56 to QSFP56 0.5m Direct Attach Copper Cable | R5Z76A |
| HPE 200Gb QSFP56 to QSFP56 1m Direct Attach Copper Cable | R5Z77A |
| HPE 200Gb QSFP56 to QSFP56 2m Direct Attach Copper Cable | R5Z78A |
| HPE 200Gb QSFP56 to QSFP56 2.5m Direct Attach Copper Cable | R5Z79A |
| HPE 200Gb QSFP56 to QSFP56 5m Active Optical Cable | R5Z80A |
| HPE 200Gb QSFP56 to QSFP56 10m Active Optical Cable | R5Z81A |
| HPE 200Gb QSFP56 to QSFP56 15m Active Optical Cable | R5Z82A |
| HPE 200Gb QSFP56 MPO SR4 100m Transceiver | R5Z83A |
| HPE 200Gb QSFP56 to 2x100Gb QSFP56 3m Active Optical Cable | R6F24A |
| HPE 200Gb QSFP56 to 2x100Gb QSFP56 5m Active Optical Cable | R6F25A |
| HPE 200Gb QSFP56 to 2x100Gb QSFP56 15m Active Optical Cable | R6F26A |
| HPE 200Gb QSFP56 to 4x50/25Gb SFP56 2.5m Direct Attach Copper Cable | R6F27A |

**Hewlett Packard Enterprise**

## Overview

| Description | SKU |
| --- | --- |
| HPE 200GbE QSFP56 to 2xQSFP56 2m Direct Attach Copper Cable | R8M57A |
| HPE 200GbE QSFP56 to 2xQSFP56 2.5m Direct Attach Copper Cable | R8M58A |
| HPE 200Gb QSFP56 LC CWDM4 FR4 Transceiver | R5Z84A |
| HPE 400GbE QSFP-DD to QSFP-DD 0.5m Direct Attach Copper Cable | R8M44A |
| HPE 400GbE QSFP-DD to QSFP-DD 1m Direct Attach Copper Cable | R8M45A |
| HPE 400GbE QSFP-DD to QSFP-DD 2m Direct Attach Copper Cable | R8M46A |
| HPE 400GbE QSFP-DD to 2xQSFP56 1m Direct Attach Copper Cable | R8M51A |
| HPE 400GbE QSFP-DD to 2xQSFP56 2m Direct Attach Copper Cable | R8M52A |
| HPE 400GbE QSFP-DD to 4xQSFP28 1m Direct Attach Copper Cable | R8M55A |
| HPE 400GbE QSFP-DD to 4xQSFP28 2m Direct Attach Copper Cable | R8M56A |
| HPE 400GbE QSFP-DD to 8xSFP56 2m Direct Attach Copper Cable | R8M53A |
| HPE 400GbE QSFP-DD to 8xSFP56 2.5m Direct Attach Copper Cable | R8M54A |
| HPE 400GbE QSFP-DD to QSFP-DD 5m Active Optical Cable | R8M47A |
| HPE 400GbE QSFP-DD to QSFP-DD 15m Active Optical Cable | R8M48A |
| HPE 400GbE QSFP-DD to 2xQSFP56 5m Active Optical Cable | R8M49A |
| HPE 400GbE QSFP-DD to 2xQSFP56 15m Active Optical Cable | R8M50A |
| HPE 400GbE QSFP-DD MPO DR4 500m Transceiver | R8M60A |
| HPE 400GbE QSFP-DD MPO BD/SR4.2 100m Transceiver | R8M62A |
| HPE 400GbE QSFP-DD MPO SR8 100m Transceiver | R8M63A |
| HPE 400GbE QSFP-DD LC FR4 2km Transceiver | R8M64A |

## Service and Support

Most HPE branded options sourced from HPE that are compatible with your product will be covered under your main product support at the same level of coverage, allowing you to upgrade freely. Additional support is required on select workload accelerators, switches, racks and UPS options 12KVA and over. Coverage of the UPS battery is not included under HPE support services; standard warranty terms and conditions apply.

### Warranty and Support Services

Warranty and Support Services will extend to include HPE options configured with your server or storage device. The price of support service is not impacted by configuration details. HPE sourced options that are compatible with your product will be covered under your server support at the same level of coverage allowing you to upgrade freely. Installation for HPE options is available as needed.

To keep support costs low for everyone, some high value options will require additional support. Additional support is only required on select high value workload accelerators, fibre switches, InfiniBand and UPS options 12KVA and over.

Coverage of the UPS battery is not included under TS support services; standard warranty terms and conditions apply.

### 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**

### 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**

### 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.
**HPE Managed Services | HPE**

### 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**

## Service and Support

### 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/completecare**

### 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**

### 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**

## Service and Support

### 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/**

### 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/hpesc/public/home/signin**

### 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**

## Technical Specifications

### HPE 10GBase-T SFP+ RJ45 30m Transceiver (R0R41B)

A 10-Gigabit transceiver in SFP+ form-factor that supports 10GBase-T Links up to 30m using Cat6a Cable. Low power consumption. 1.5W max.

| Connectivity | Connector type | RJ45 using Cat6a Cable |
|---|---|---|
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.1 lb. (50 g) |
| | **Transceiver form factor** | SFP+ |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | active |
| | **Power consumption Maximum** | 1.5 |
| **Cabling** | **Cable type** | Cat6a |
| | **Cable length** | 30 meter |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 10GBase-T SFP+ RJ45 30m Transceiver (R0R41A)

A 10-Gigabit transceiver in SFP+ form-factor that supports 10GBase-T Links up to 30m using Cat6a Cable. Low power consumption. 1.8W max. *Replaced by R0R41B

| Ports | 1  10GbE SFP+ port | |
|---|---|---|
| **Connectivity** | **Connector type** | RJ45 using Cat6a Cable |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.1 lb. (50 g) |
| | **Transceiver form factor** | SFP+ |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | active |
| | **Power consumption Maximum** | 1.8w |
| **Cabling** | **Cable type** | Cat6a |
| | **Cable length** | 30 meter |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 10Gb SFP+ SR 300m Transceiver (Q6M30A)

A 10-Gigabit transceiver in SFP+ form-factor that supports the SR standard, providing 10-Gigabit connectivity up to 300m on multi-mode fiber. Up to 300m (OM3); up to 375m (OM4). .

| Ports | 1 10-GbE port | |
|---|---|---|
| Connectivity | Connectivity Connector type | LC |
| | Wavelength | 850 nm |
| Physical characteristics | Dimensions | -2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| Environment | Weight | 0.04 lb. (20 g) |
| | Transceiver form factor | SFP+ |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 0.5w |
| | Power consumption Maximum | 1.0w |
| Cabling | Cable Type | OM3, OM4. |
| | Cable length | Up to 300m (OM3), up to 375m (OM4) |
| | Fiber type | Multi-Mode |
| **Notes:** | | |
| — For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| — Angled Physical Contact (APC) is not recommended. | | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 25Gb SFP28 SR 100m Transceiver (Q2P64A)

A 25-Gigabit transceiver in SFP28 form-factor that supports the SR standard, providing 25-Gigabit connectivity up to 100m on multi-mode fiber. Up to 70m (OM3); up to 100m (OM4).

| Ports | 1 25-GbE port | |
|---|---|---|
| **Connectivity** | **Connectivity Connector type** | LC |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.04 lb. (20 g) |
| | **Transceiver form factor** | SFP28 |
| | **Operating temperature** | 32°F to 158°F (0°C to 85°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 0.7w |
| | **Power consumption Maximum** | 0.8w |
| **Cabling** | **Cable Type** | OM3, OM4 |
| | **Cable length** | Up to 70m (OM3), up to 100m (OM4) |
| | **Fiber type** | Multi-Mode |
| **Notes:** For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

# Technical Specifications

### HPE 40Gb QSFP+ MPO SR4 100m Transceiver (Q7F11A)

A 40-Gigabit transceiver in QSFP+ form-factor that supports the 4x10-Gigabit SR standard, providing 40-Gigabit connectivity up to 100m with multi-mode fiber .

| | | |
|---|---|---|
| **Ports** | 1 40-GbE port | |
| **Connectivity** | **Connector type** | MPO |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP+ |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.3 w |
| | **Power consumption Maximum** | 2.5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | Up to 70m (OM3), up to 100m OM4 |
| | **Fiber type** | Multi-Mode |
| **Notes:** | | |
| – Conditioning patch cord cables are not supported. | | |
| – For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| – Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

# Technical Specifications

### HPE 100Gb QSFP28 MPO SR4 100m Transceiver (Q2F19A)

A 100-Gigabit transceiver in QSFP28 form-factor that supports the 4x25-Gigabit SR4 standard, providing 100-Gigabit connectivity up to 100m on using standard MPO connector with multi-mode fiber. Each channel/fiber operates at signaling rates up to 25.78125 GBd

| Ports | 1 100-GbE port | |
|---|---|---|
| **Connectivity** | **Connector type** | MPO |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.3 w |
| | **Power consumption maximum** | 2.5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | Up to 70m (OM3), up to 100m (OM4) |
| | **Fiber type** | Multi-Mode |
| **Notes:** | | |
| – Conditioning patch cord cables are not supported. | | |
| – For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| – Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

# Technical Specifications

### HPE 100GbE QSFP28 SR4 Extended Temperature Pull Tab Transceiver (S2T35A)

A 100-Gigabit transceiver in QSFP28 form-factor that supports the 4x25-Gigabit SR4 standard, providing 100-Gigabit connectivity up to 100m on using standard MPO connector with multi-mode fiber. Each channel/fiber operates at signaling rates up to 25.78125 GBd

| Ports | 1 100-GbE port | |
|---|---|---|
| **Connectivity** | **Connector type** | MPO |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 |
| | **Operating temperature** | 32°F to 185°F (0°C to 85°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.3 w |
| | **Power consumption maximum** | 2.5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | Up to 70m (OM3), up to 100m (OM4) |
| | **Fiber type** | Multi-Mode |
| **Notes:** | | |
| — Conditioning patch cord cables are not supported. | | |
| — For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| — Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100Gb QSFP28 MPO PSM4 2km Transceiver (Q2F20A)

A 100-Gigabit transceiver in QSFP28 form-factor that supports the 100-Gigabit PSM4 standard, The transceiver operates over PSM4 parallel single mode ribbon fiber, up to 2km link

| | | |
|---|---|---|
| **Ports** | 1 100-GbE port | |
| **Connectivity** | **Connector type** | MPO |
| | **Wavelength** | 1550 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.5 w |
| | **Power consumption maximum** | 2.7 w |
| **Cabling** | **Cable type** | Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1 |
| | **Cable length** | Up to 2km |
| | **Fiber type** | Single-Mode |
| **Notes:** | | |
| – Conditioning patch cord cables are not supported. | | |
| – For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| – Angled Physical Contact (APC) is required to reduce reflection. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

# Technical Specifications

## HPE 100GbE QSFP28 1310nm PSM4 500m Transceiver (Q8J73A)

A 100-Gigabit transceiver in QSFP28 form-factor that supports the 100-Gigabit PSM4 standard, The transceiver operates over PSM4 parallel single mode ribbon fiber, up to 500m link

| | | |
|---|---|---|
| **Ports** | 1 100-GbE port | |
| **Connectivity** | **Connector type** | MPO |
| | **Wavelength** | 1310 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.5 w |
| | **Power consumption maximum** | 2.7 w |
| **Cabling** | **Cable type** | Low metal content, single-mode fiber-optic, complying with ITU-T G.652 and ISO/IEC 793-2 Type B1 |
| | **Cable length** | Up to 500m |
| | **Fiber type** | Single-Mode |
| **Notes:** | | |
| – Conditioning patch cord cables are not supported. | | |
| – For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| – Angled Physical Contact (APC) is required to reduce reflection. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

**HPE 25GbE SFP28 to SFP28 Smart AOC** (Q9S67A 3m Q9S68A 5m Q9S69A 10m Q9S70A 15m)
A 25-Gigabit Active Optical cable in SFP28 form-factor that supports the SR standard, providing 25-Gigabit connectivity on multi-mode fiber.

| Ports | 1 LC 25-GbE port | |
|---|---|---|
| **Connectivity** | **Connectivity Connector type** | No separable connector |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.04 lb. (20 g) |
| | **Transceiver form factor** | SFP28 |
| | **Operating temperature** | 32°F to 158°F (0°C to 70°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 0.7w |
| | **Power consumption Maximum** | 0.8w |
| **Cabling** | **Cable Type** | OM3, OM4. |
| | **Cable length** | 3, 5, 10 and 15m |
| | **Fiber type** | Multi-Mode |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 40GbE QSFP+ to 4x10GbE SFP+ 5m AOC (Q9S66A)

A 40-Gigabit transceiver in QSFP+ form-factor that splits to 4 10-Gigabit SR standard, providing 40-Gigabit connectivity to 5m with multi-mode fiber

| | | |
|---|---|---|
| **Ports** | 1 QSFP 40-GbE port to 4 SFP 10-GbE port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) <br> 2.19 x 0.54 x 0.47 in. |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP+ and SFP+ |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.3 w |
| | **Power consumption Maximum** | 2.5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | 5m AOC |
| | **Fiber type** | Multi-Mode |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100GbE QSFP+ to 4x25GbE SFP+ 5m AOC (Q9S71A)

A 100-Gigabit transceiver in QSFP+ form-factor that splits to 4 25-Gigabit SR standard, providing 100-Gigabit connectivity to 5m with multi-mode fiber

| Ports | 1 QSFP28 100-GbE port to 4 SFP28 25-GbE port | |
|---|---|---|
| Connectivity | Connector type | No separable connector |
| | Wavelength | 850 nm |
| Physical characteristics | Dimensions | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| Environment | Weight | 0.08 lb. (36 g) |
| | Transceiver form factor | QSFP28 and SFP28 |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 2.3 w |
| | Power consumption Maximum | 2.5 w |
| Cabling | Cable type | OM3, OM4 |
| | Cable length | 5m AOC |
| | Fiber type | Multi-Mode |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100GbE QSFP28 to QSFP28 Extended Temperature Active Optical Cable
(S2T38A, 5m  S2T39A 10m,, S2T40A 15m,, S2T41A 25m)
A 100-Gigabit transceiver in QSFP+ form-factor that splits to 4 25-Gigabit SR standard, providing 100-Gigabit connectivity to 5m with multi-mode fiber

| Ports | 1 QSFP28 100-GbE port to 100-GbE port | |
|---|---|---|
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 and QSFP28 |
| | **Operating temperature** | 32ºF to 185ºF (0ºC to 85ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 2.3 w |
| | **Power consumption Maximum** | 2.5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | 5, 10, 15, and 25m AOC |
| | **Fiber type** | Multi-Mode |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100GbE QSFP+ to 4x25GbE SFP+ 1m DAC (Q9S72A)

A 100-Gigabit transceiver in QSFP28 form-factor that splits to 4 25-Gigabit, providing 100-Gigabit connectivity to 1m with copper cables

| | | |
|---|---|---|
| **Ports** | 1 QSFP28 100GbE port to 4 25GbE SFP28 port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.08 lb. (36 g) |
| | **Transceiver form factor** | QSFP28 and SFP28 |
| | **Operating temperature** | 32°F to 158°F (0°C to 70°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 1 meter |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100Gb QSFP28 LC SWDM4 MM 100m XCVR (R0R40A)

A 100-Gigabit transceiver in QSFP28 form-factor that provides 100-Gigabit connectivity up to 100m on using standard LC duplex connector with multi-mode fiber.

| Ports | 1 QSFP28 100GbE port | |
|---|---|---|
| Connectivity | Connector type | LC |
| | Wavelength | 850nm-940nm |
| Physical characteristics | Dimensions | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| Environment | Weight | 0.08 lb. (36 g) |
| | Transceiver form factor | QSFP28 |
| | Operating temperature | 32°F to 158°F (0°C to 70°C) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4°F to 185°F (-40°C to 85°C) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 2.5w |
| | Power consumption Maximum | 3.5w |
| Cabling | Cable type | OM3, OM4 |
| | Cable length | Up to 70m (OM3), up to 100m (OM4) |
| | Fiber type | Multi-mode |
| **Notes:** For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 25Gb SFP28 SR 30m XCVR (R0R42A)

A 25-Gigabit transceiver in SFP28 form-factor that supports the SR standard, providing 25-Gigabit FEC-free on host: BER 10E-12 connectivity up to 40m on multi-mode fiber. Up to 30m (OM3); up to 40m (OM4).

| Ports | 1 25-GbE port | |
|---|---|---|
| **Connectivity** | **Connectivity Connector type** | LC |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.04 lb. (20 g) |
| | **Transceiver form factor** | SFP28 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 0.7w |
| | **Power consumption Maximum** | 0.8w |
| **Cabling** | **Cable Type** | OM3, OM4 |
| | **Cable length** | Up to 30m (OM3), up to 40m (OM4).  FEC-free on host: BER 10E-12 |
| | **Fiber type** | Multi-Mode |
| **Notes:** For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

# Technical Specifications

### HPE M-series 25GbE SFP28/SFP28 0.5m DAC (R4G18A)

A 25-Gigabit transceiver in SFP28 form-factor providing 25-Gigabit connectivity to 0.5m with copper cables

| | |
|---|---|
| **Ports** | 1 25GbE SFP28 port to 1 25GbE SFP28 port |
| **Connector type** | No separable connector |
| **Wavelength** | |
| **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Weight** | 0.04 lb. (20 g) |
| **Transceiver form factor** | SFP28 to SFP28 |
| **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| **Operating relative humidity** | 5% to 85%, noncondensing |
| **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| **Altitude** | Up to 10,000 ft. (3 km) |
| **Power consumption typical** | passive |
| **Power consumption Maximum** | |
| **Cable type** | Copper |
| **Cable length** | 0.5 meter |
| **Fiber type** | |
| For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE M-series 25GbE SFP28/SFP28 1m DAC (R4G19A)

A 25-Gigabit transceiver in SFP28 form-factor providing 25-Gigabit connectivity to 1m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 25GbE SFP28 port to 1 25GbE SFP28 port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 2.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 cm) |
| **Environment** | **Weight** | 0.04 lb. (20 g) |
| | **Transceiver form factor** | SFP28 to SPF28 |
| | **Operating temperature** | 32°F to 158°F (0°C to 70°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 1 meter |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56/QSFP56 DAC (R5Z76A 0.5m, R5Z77A 1m, R5Z78A 2m, R5Z79A 2.5m)

A 200-Gigabit transceiver in QSFP56 form-factor that provides 200-Gigabit connectivity from 0..5m to 2.5m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 QSFP56 200GbE port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.22 lb. (100 g) |
| | **Transceiver form factor** | QSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 0.5m, 1m, 2m, 2.5m |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56/QSFP56 AOC (R5Z80A 5m, R5Z81A 10m, R5Z82A 15m)

A 200-Gigabit transceiver in QSFP56 form-factor that provides 200-Gigabit connectivity from 5m to 15m with multi-mode fiber.

| Ports | 1 QSFP28 100-GbE port to 4 SFP28 25-GbE port | |
|---|---|---|
| Connectivity | Connector type | No separable connector |
| | Wavelength | 850 nm |
| Physical characteristics | Dimensions | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| Environment | Weight | 0.2 lb. (100 g) |
| | Transceiver form factor | QSFP56 |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 4.5 w |
| | Power consumption Maximum | 5 w |
| Cabling | Cable type | OM3, OM4 |
| | Cable length | 5m, 10m, 15m AOC |
| | Fiber type | Multi Mode |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56 MPO 100m XCVR (R5Z83A)

A 200-Gigabit transceiver in QSFP56 form-factor that supports the 4x50-Gigabit SR4 standard, providing 200-Gigabit connectivity up to 100m with standard MPO connector with multi-mode fiber. Each channel/fiber operates at signaling rates up to 50 GBd.

| | | |
|---|---|---|
| **Ports** | 1 200-GbE port | |
| **Connectivity** | **Connector type** | MPO12 |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 4.5 w |
| | **Power consumption maximum** | 5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | Up to 70m (OM3), up to 100m (OM4) |
| | **Fiber type** | Multi-Mode |
| For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56/2x100Gb QSFP56 AOC (R6F24A 3m, R6F25A 5m, R6F26A 15m)

A 200-Gigabit transceiver in QSFP56 form-factor that splits to 2 100Gigabit connectivity from 3m to 15m with multi-mode fiber.

| | | |
|---|---|---|
| **Ports** | 1 QSFP56 200-GbE port to 2 QSFP56 100-GbE port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 4.5 w |
| | **Power consumption Maximum** | 5 w |
| **Cabling** | **Cable type** | OM3, OM4 |
| | **Cable length** | 3m ,5m and 15m AOC |
| | **Fiber type** | Multi Mode |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56/4x50/25G SFP56 DAC (R6F27A 2.5m)

A 200-Gigabit transceiver in QSFP56 form-factor that splits to 4 lanes of 50 or 25-Gigabit connectivity 2.5m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 QSFP56 200-GbE port to 4 SFP56 50/25GbE ports | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 2.5m DAC |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100GbE QSFP28/QSFP28 0.5m DAC (R8M59A)

A 100-Gigabit transceiver in QSFP28 form-factor providing 100-Gigabit connectivity to 0.5m with copper cables.

| | |
|---|---|
| **Ports** | 1 100GbE QSFP28 port to 1 100GbE QSFP28 port |
| **Connector type** | No separable connector |
| **Wavelength** | |
| **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Weight** | 0.2 lb. (100 g) |
| **Transceiver form factor** | QSFP28 to QSFP28 |
| **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| **Operating relative humidity** | 5% to 85%, noncondensing |
| **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| **Altitude** | Up to 10,000 ft. (3 km) |
| **Power consumption typical** | passive |
| **Power consumption Maximum** | |
| **Cable type** | copper |
| **Cable length** | 0.5 meter |
| **Fiber type** | |
| For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56/2xQSFP56 DAC (R8M57A 2m, R8M58A 2.5m)

A 200-Gigabit transceiver in QSFP56 form-factor that splits to 2 lanes of 100 Gigabit connectivity from 2m to 2.5m with copper cables.

| Ports | 1 QSFP56 200-GbE port to 2 QSFP56 100-GbE port | |
|---|---|---|
| Connectivity | Connector type | No separable connector |
| | Wavelength | |
| Physical characteristics | Dimensions | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| Environment | Weight | 0.2 lb. (100 g) |
| | Transceiver form factor | QSFP56 |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | passive |
| | Power consumption Maximum | |
| Cabling | Cable type | copper |
| | Cable length | 2m, 2.5m |
| | Fiber type | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 25/50GbE SFP56 SR 100m 1pk XCVR (R8M65A)

A 50-Gigabit transceiver in SFP56 form-factor that provides 50-Gigabit or 25-Gigabit connectivity up to 100m on using standard LC duplex connector with multi-mode fiber.

| Ports | 1 SFP56 50GbE port | |
|---|---|---|
| Connectivity | Connector type | LC duplex |
| | Wavelength | 840nm-860nm |
| Physical characteristics | Dimensions | 02.19(d) x 0.54(w) x 0.47(h) in. (55.7 x 13.8 x 11.9 mm) |
| Environment | Weight | 0.1 lb. (50 g) |
| | Transceiver form factor | SFP56 |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 1.7w |
| | Power consumption Maximum | 2w |
| Cabling | Cable type | OM3, OM4 |
| | Cable length | Up to 70m (OM3), up to 100m (OM4) |
| | Fiber type | Multi-mode |
| **Notes:** For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 100Gb QSFP28 LC DR1 500m 1-pack Transceiver (R8M61A)

A 100-Gigabit transceiver in QSFP28 form-factor that supports the 4x25-Gigabit SR4 standard. The transceiver operates over duplex LC single mode fiber, up to 500m link.

| | | |
|---|---|---|
| **Ports** | 1 100-GbE port (IEEE 802.3 4x25.78Gbs NRZ, or IEEE802.3cd 4x26.56Gbs PAM4) | |
| **Connectivity** | **Connector type** | LC |
| | **Wavelength** | 1310 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP28 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 4 w |
| | **Power consumption maximum** | 4.5 w |
| **Cabling** | **Cable type** | Single-mode |
| | **Cable length** | Up to 500m |
| | **Fiber type** | Single-Mode |
| **Notes:**<br>– Conditioning patch cord cables are not supported.<br>– For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish.<br>– Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 200Gb QSFP56 LC CWDM4 FR4 500m 1-pack Transceiver (R5Z84A)

A 200-Gigabit transceiver in QSFP56 form-factor that supports the 4x50-Gigabit LC CWDM4 FR4 standard, providing 200-Gigabit connectivity up to 2km using standard LC connector with 0.1-2km single-mode fiber. Each channel/fiber operates at signaling rates up to 26.56 GBd

| | | |
|---|---|---|
| **Ports** | 1 200-GbE port | |
| **Connectivity** | **Connector type** | LC |
| | **Wavelength** | 1310nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 2.86 x 0.33 in. (18.35 x 72.7 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 5 w |
| | **Power consumption maximum** | 5.5 w |
| **Cabling** | **Cable type** | Single-Mode |
| | **Cable length** | Up to 2000m |
| | **Fiber type** | Single-Mode |
| **Notes:**<br>– Conditioning patch cord cables are not supported.<br>– For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish.<br>– Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD/QSFP-DD DAC (R8M44A 0.5m, R8M45A 1m R8M46A 2m)

A 400-Gigabit QSFP-DD form-factor to 400 QSFP-DD Gigabit connectivity from 0.5m to 2m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 QSFP-DD 400-GbE port to 1 QSFP-DD 400-GbE port | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 0.4 lb to 1 lb. (200g 0.5m to 450g 2m) |
| | **Transceiver form factor** | QSFP-DD |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 0.5m, 1m, 2m |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD/2xQSFP56 DAC (R8M51A 1m R8M52A 2m)

A 400-Gigabit QSFP-DD form-factor that splits to 2 lanes of QSFP56 200 Gigabit connectivity from 1m to 2m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 QSFP-DD 400-GbE port to 2 QSFP56 200-GbE ports | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 0.6 lb to 1.5 lb. (300g 1m to 680g 2m) |
| | **Transceiver form factor** | QSFP-DD to 2xQSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 1m, 2m |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD/4xQSFP28 DAC (R8M55A 1m R8M56A 2m)

A 400-Gigabit QSFP-DD form-factor that splits to 4 lanes of QSFP28 100 Gigabit connectivity from 1m to 2m with copper cables.

| | | |
|---|---|---|
| **Ports** | 1 QSFP-DD 400-GbE port to 4 QSFP28 100-GbE ports | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 1 lb to 2 lb. (450g 1m to 900g 2m) |
| | **Transceiver form factor** | QSFP-DD to 4xQSFP28 |
| | **Operating temperature** | 32°F to 158°F (0°C to 70°C) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4°F to 185°F (-40°C to 85°C) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | passive |
| | **Power consumption Maximum** | |
| **Cabling** | **Cable type** | copper |
| | **Cable length** | 1m, 2m |
| | **Fiber type** | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD/8xSFP56 DAC (R8M53A 2m R8M54A 2.5m)

A 400-Gigabit QSFP-DD form-factor that splits to 8 lanes of SFP56 50 Gigabit connectivity from 2m to 2.5m with copper cables.

| Ports | 1 QSFP-DD 400-GbE port to 4 QSFP28 100-GbE ports | |
|---|---|---|
| Connectivity | Connector type | No separable connector |
| | Wavelength | |
| Physical characteristics | Dimensions | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| Environment | Weight | 2 lb to 2.5 lb. (900g 2m to 1134g 2.5m) |
| | Transceiver form factor | QSFP-DD to 8xSFP56 |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | passive |
| | Power consumption Maximum | |
| Cabling | Cable type | copper |
| | Cable length | 2m, 2.5m |
| | Fiber type | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD to QSFP-DD AOC (R8M47A 5m, R8M48A 15m)

A 400-Gigabit transceiver in QSFP-DD form-factor that provides connectivity from 5m to 15m with multi-mode fiber.

| Ports | 1 QSFP-DD 400-GbE port to 1 QSFP-DD 400-GbE port | |
|---|---|---|
| Connectivity | Connector type | No separable connector |
| | Wavelength | 850 nm |
| Physical characteristics | Dimensions | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| Environment | Weight | 0.33 lbs. for 5m, 0.55lbs for 15m  (150 g for 5m, 250g for 15m) |
| | Transceiver form factor | QSFP-DD to QSFP-DD |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 7.5 w |
| | Power consumption Maximum | 8 w |
| Cabling | Cable type | OM3, OM4 MPO16 |
| | Cable length | 5m and 15m AOC |
| | Fiber type | Multi Mode |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD/2x200Gb QSFP56 AOC (R8M49A 5m, R8M50A 15m)

A 400-Gigabit transceiver in QSFP-DD form-factor that splits to 2 200Gigabit QSFP56 form factor providing connectivity from 5m to 15m with multi-mode fiber.

| | | |
|---|---|---|
| **Ports** | 1 QSFP-DD 400-GbE port to 2 QSFP56 200-GbE ports | |
| **Connectivity** | **Connector type** | No separable connector |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 0.49 lbs. for 5m, 0.71lbs for 15m  (220 g for 5m, 320g for 15m) |
| | **Transceiver form factor** | QSFP-DD to 2xQSFP56 |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 7.5 w at QSFP-DD end,  5.5W at QSFP56 end |
| | **Power consumption Maximum** | 8 w |
| **Cabling** | **Cable type** | OM3, OM4 MP16 |
| | **Cable length** | 5m and 15m AOC |
| | **Fiber type** | Multi Mode |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400GbE QSFP-DD MPO DR4 1310nm 500m Transceiver (R8M60A)

A 400-Gigabit transceiver in QSFP-DD form-factor that supports the 400-Gigabit DR4 standard, The transceiver operates over DR4 parallel single mode ribbon fiber, up to 500m link

| Ports | 1 QSFP-DD 400-GbE port | |
|---|---|---|
| Connectivity | Connector type | MPO12 |
| | Wavelength | 1310 nm |
| Physical characteristics | Dimensions | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| Environment | Weight | 0.2 lb. (100 g) |
| | Transceiver form factor | QSFP-DD |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 11.5 w |
| | Power consumption maximum | 12 w |
| Cabling | Cable type | Single-Mode MPO12 |
| | Cable length | Up to 500m |
| | Fiber type | Single-Mode |
| **Notes:** | | |
| – Conditioning patch cord cables are not supported.<br>– For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish.<br>– Angled Physical Contact (APC) is required to reduce reflection. | | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD MPO BD/SR4.2 100m XCVR (R8M62A)

A 400-Gigabit transceiver in QSFP-DD form-factor that provides 400-Gigabit connectivity up to 100m on using standard MPO12 connector with multi-mode fiber.

| Ports | 1 QSFP-DD 400GbE port | |
|---|---|---|
| Connectivity | Connector type | MPO12 |
| | Wavelength | 850nm-940nm |
| Physical characteristics | Dimensions | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| Environment | Weight | 0.2 lb. (100 g) |
| | Transceiver form factor | QSFP-DD |
| | Operating temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| | Operating relative humidity | 5% to 85%, noncondensing |
| | Non-operating/Storage temperature | -4ºF to 185ºF (-40ºC to 85ºC) |
| | Altitude | Up to 10,000 ft. (3 km) |
| Electrical characteristics | Power consumption typical | 13 w |
| | Power consumption Maximum | 14 w |
| Cabling | Cable type | OM3, OM4 MPO12 |
| | Cable length | Up to 70m (OM3), up to 100m (OM4), up to 150m (OM5) |
| | Fiber type | Multi-mode |
| Notes: For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. Angled Physical Contact (APC) is not recommended. | | |
| Services | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD MPO SR8 100m XCVR (R8M63A)

A 400-Gigabit transceiver in QSFP-DD form-factor that supports the 8x50-Gigabit SR8 standard, providing 400-Gigabit connectivity up to 100m with standard MPO16 connector with multi-mode fiber. Each channel/fiber operates at signaling rates up to 50 GBd.

| | | |
|---|---|---|
| **Ports** | 1 400-GbE port | |
| **Connectivity** | **Connector type** | MPO16 |
| | **Wavelength** | 850 nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP-DD |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 9 w |
| | **Power consumption maximum** | 10 w |
| **Cabling** | **Cable type** | OM3, OM4 MPO16 |
| | **Cable length** | Up to 70m (OM3), up to 100m (OM4) |
| | **Fiber type** | Multi-Mode |
| **Notes:** | | |
| − Conditioning patch cord cables are not supported. | | |
| − For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish. | | |
| − Angled Physical Contact (APC) is required to reduce reflection. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

## Technical Specifications

### HPE 400Gb QSFP-DD LC FR4 2km 1-pack Transceiver (R8M64A)

A 400-Gigabit transceiver in QSFP-DD form-factor that supports the 8x50-Gigabit LC FR4 standard, providing 400-Gigabit connectivity up to 2km single-mode fiber. Each channel/fiber operates at signaling rates up to 50 GBd

| | | |
|---|---|---|
| **Ports** | 1 400-GbE port | |
| **Connectivity** | **Connector type** | LC |
| | **Wavelength** | 1310nm |
| **Physical characteristics** | **Dimensions** | 0.72 x 3.62 x 0.33 in. (18.35 x 92 x 8.5 mm) |
| **Environment** | **Weight** | 0.2 lb. (100 g) |
| | **Transceiver form factor** | QSFP-DD |
| | **Operating temperature** | 32ºF to 158ºF (0ºC to 70ºC) |
| | **Operating relative humidity** | 5% to 85%, noncondensing |
| | **Non-operating/Storage temperature** | -4ºF to 185ºF (-40ºC to 85ºC) |
| | **Altitude** | Up to 10,000 ft. (3 km) |
| **Electrical characteristics** | **Power consumption typical** | 11 w |
| | **Power consumption maximum** | 12 w |
| **Cabling** | **Cable type** | Single-Mode |
| | **Cable length** | Up to  2000m |
| | **Fiber type** | Single-Mode |
| **Notes:**<br>– Conditioning patch cord cables are not supported.<br>– For fiber patch cords, use Ultra Physical Contact (UPC) surface termination/polish.<br>– Angled Physical Contact (APC) is not recommended. | | |
| **Services** | For details about services and response times in your area, please contact your local Hewlett Packard Enterprise sales office. | |

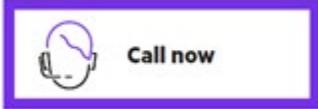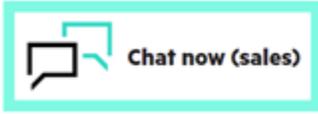## Summary of Changes

| Date | Version History | Action | Description of Change |
|------|-----------------|--------|-----------------------|
| 05-Feb-2024 | Version 15 | Changed | Overview and Technical Specifications sections were updated |
| 13-Nov-2023 | Version 14 | Changed | HPE Services Rebranding |
| 19-Jun-2023 | Version 13 | Changed | Overview section was updated |
| 01-May-2023 | Version 12 | Changed | Overview and Technical Specifications sections were updated |
| 16-Jan-2023 | Version 11 | Changed | Technical Specifications section was updated |
| 03-Oct-2022 | Version 10 | Changed | Overview and Technical Specifications sections were updated |
| 07-Feb-2022 | Version 9 | Changed | Overview and Technical Specifications sections were updated. |
| 04-May-2021 | Version 8 | Changed | Overview and Technical Specifications sections were updated. |
| 01-Mar-2021 | Version 7 | Changed | Overview and Technical Specifications sections were updated. |
| 03-Aug-2020 | Version 6 | Changed | QuickSpecs layout was updated and Branding Refresh was applied. |
| 06-Apr-2020 | Version 5 | Changed | Added 25GbE 1m and 0.5m DAC |
| 01-Jul-2019 | Version 4 | Changed | Overview and Technical Specifications sections were updated |
| 04-Sep-2018 | Version 3 | Added | Added new cables (DAC & AOC). |
| 04-Dec-2017 | Version 2 | Added | Added new 25GbE and 100GbE transceivers. |
| 25-Sep-2017 | Version 1 | New | New QuickSpecs. |

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