

# HPE SR416i-a Gen10 Plus x16 Lanes 4GB Cache NVMe/SAS 24G Controller (P12688-B21)

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## What's new

- High-speed 144b DDR4 8 GB cache with integrated cache protection to accelerate RAID and cache performance in the SR932i-p.
- Impressive RAID 5 Write Performance: Up to 12 GB/s throughput and up to 850K IOPs with the SR932i-p.
- Integrated Switchtec™ PCIe switch enabling increased performance and reduced latency access to NVMe storage devices for HBA and RAID modes.
- Supports Hardware Root of Trust.

## Overview

Do your SMB and enterprise-level applications require a flexible controller with increased performance reliability, security, and efficiency to address your evolving data storage needs?

The HPE SR Gen10 Plus Controllers support 12 Gb/s SAS and PCIe 4.0 for increased performance while supporting advanced RAID levels with up to 8 GB flash-backed write cache (FBWC). These tri-mode (SAS/SATA/NVMe) controllers operate in Mixed Mode which combines RAID and HBA operations simultaneously, giving you improved deployment flexibility. The HPE SR Gen10 Plus Controllers portfolio provides the ability to support internally attached drives, allowing integration with existing hardware. These controllers also feature HPE SmartRAID SR Secure Encryption for data-at-rest using Controller-Based Encryption (CBE) for SAS, SATA and NVMe devices which improves reliability.

## Features

### Industry's Highest Performance RAID Controller

The HPE SR Gen10 Plus Controllers feature up to 46 GB/s bi-directional throughput and up to 3.5M IOPs.

### Impressive RAID 5 Transactional Performance

Up to 12 GB/s throughput and up to 850K IOPs via high-speed 144b DDR4 8 GB cache with integrated cache protection.

### Increase RAID Controller Density

The HPE SR Gen10 Plus Controllers offers a type-a Flexible/Modular Controller and does not occupy a PCIe Expansion Slot.

Supports up to 32 direct-connected NVMe/SAS/SATA storage devices.

Fully-utilized online capacity expansion and RAID level migration, a dynamic caching algorithm, and hot-plug drive support.

### Integrated Switchtec PCIe Switch

The HPE SR Gen10 Plus Controllers feature increased performance and reduced latency access to NVMe storage devices for HBA and RAID modes.

With the HPE Silicon Root of Trust integration, this product is designed with enhanced security and a controller-based encryption feature.

Utilize secure boot support for the uEFI host BIOS and Smart Storage Administrator GUI and CLI utilities for configuration, management and diagnosis of SmartRAID controllers.

Controller-based Encryption feature.

## Technical specifications

### HPE SR416i-a Gen10 Plus x16 Lanes 4GB Cache NVMe/SAS 24G Controller

<b>Product Number</b>	P12688-B21
<b>Transfer rate</b>	Up to 24 GB/s of bi-directional throughput and up to 3.5M IOPs
<b>Form factor</b>	Full-height, half-length PCIe stand up card (SR932i-p) or Type-a Modular (SR416i-a)
<b>Ports</b>	16 onternal tri-mode ports (SlimSAS SFF-9402 connectors supporting U.2 and U.3) supporting up to 16 direct-connected SAS/SATA/NVMe devices
<b>Cache</b>	4 GB 72b DDR4-3200 MHz with integrated cache protection using HPE Smart Storage Battery solution
<b>RAID levels</b>	RAID 0, 1, 1 ADM, 10, 10 ADM, 5, 6, 50, 60
<b>Servers supported</b>	Refer to HPE SR Gen10 Plus Controllers QuickSpecs for detail.
<b>Additional features</b>	See HPE SR Gen10 Plus Controllers QuickSpecs for additional detail.
<b>Supported disk enclosure</b>	N/A
<b>Certifications</b>	EMC, CE, CNS, CT, FC, IC, KC, VC, EMC Doc, CE, C-tick, FCC, KCC, VCCI, BSMI, UL, EN 60950 and 62368, AU_NZ LoA and SDoC, RoHs, TW and EU
<b>Secure encrypted drives</b>	Not supported at this time
<b>Storage protocol</b>	6 G SATA, 6 G/12 G/24 G SAS, Gen 3/Gen4 NVMe
<b>Storage management</b>	Smart Storage Administrator (SSA)
<b>Product dimensions (metric)</b>	99.1 mm x 111.8 mm
<b>Weight</b>	120 g
<b>Warranty</b>	3 year parts only



[For additional technical information, available models and options, please reference the QuickSpecs](#)

## HPE Services

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

### Consulting services

Experts can help you map out your path to hybrid cloud and optimize your operations.

### Managed services

HPE runs your IT operations, giving you unified control, so can focus on innovation.

### Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources.

- HPE Complete Care Service: a modular service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals. All delivered by an assigned team of HPE experts.
- HPE Tech Care Service: the operational service experience for HPE products. The service provides access to product specific experts, an AI driven digital experience, and general technical guidance to help reduce risk and search for ways to do things better.

### Lifecycle Services

Address your specific IT deployment project needs with tailored project management and deployment services.

### HPE Education Services

Training and certification designed for IT and business professionals across all industries. 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.

The [Defective Media Retention \(DMR\)](#) service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction. [Comprehensive Defective Material Retention \(CDMR\)](#) allows you to keep all data retentive components.

## HPE GreenLake

[HPE GreenLake edge-to-cloud platform](#) is HPE's market-leading as-a-Service offering that brings the cloud experience to apps and data everywhere – data centers, multi-clouds, and edges – with one unified operating model, on premises, fully managed in a pay per use model.

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Parts and Materials: HPE will provide HPE-supported replacement parts and materials required to maintain the covered hardware.

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.

Image may differ from the actual product  
[PSN1013314975AEEN](#), September, 2023.