

PCIE-6002 Payload Card

PCI Express Storage Card

Data Sheet

The PCIE-6002 is ideal for applications where high-speed storage is critical

- Carrier for four (4) M.2 SSD modules*
- Supports standard servers and Artesyn MaxCore™ platform
- Four “M” keyed M.2/NGFF sockets
- Compatible with either 8-lane or 16-lane PCI Express 3.0 slots
- Switchable bandwidth to each M.2 socket
- Wide range of supported SSD form factors:
 - 42mm to 110mm
 - Double-sided
- Supports both AHCI and NVMe protocols
- Status LEDs for each SSD

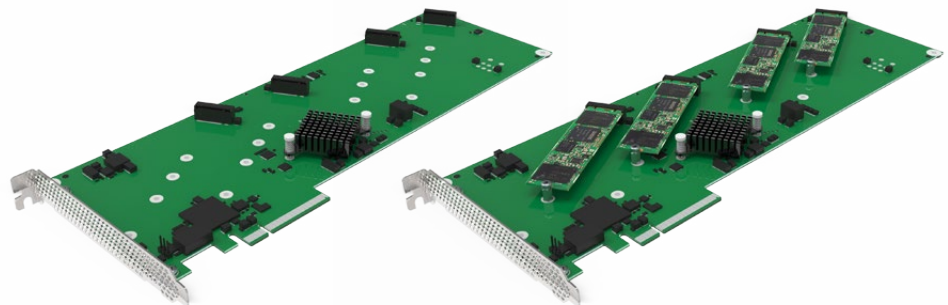
The Artesyn PCIE-6002 PCI Express storage card provides up to four independent SSD modules* which can be directly attached to any server CPU or up to four CPUs on MaxCore server cards. The PCIE-6002 card is a carrier for COTS SSD modules with the M.2 form factor and leverages NVMe technology, currently the fastest way to attach an SSD to a CPU. M.2 modules are considered mainstream for data center and consumer market and deliver outstanding size/price/performance ratio.

The PCIE-6002 payload card connects four M.2 sockets, each with a dedicated four-lane PCIe Gen 3 interface, to a PCIe switch. The switch in turn connects to the MaxCore backplane or server CPU through two four-lane PCIe Gen 3 interfaces. In the Maxcore platform the backplane can then be configured to connect individual sockets to microserver CPUs using any Gen 3 x8 PCIe slot. In a server application 1,2, or 4 M.2 SSD modules can be connected to the host CPU.

The PCIE-6002 PCI Express card is targeted for applications where high-speed storage is critical. This card is particularly suited to the following:

- Audio/video processing
- Cloud services
- High-performance computing
- Relational database systems
- Web hosting/caching/reverse proxy services

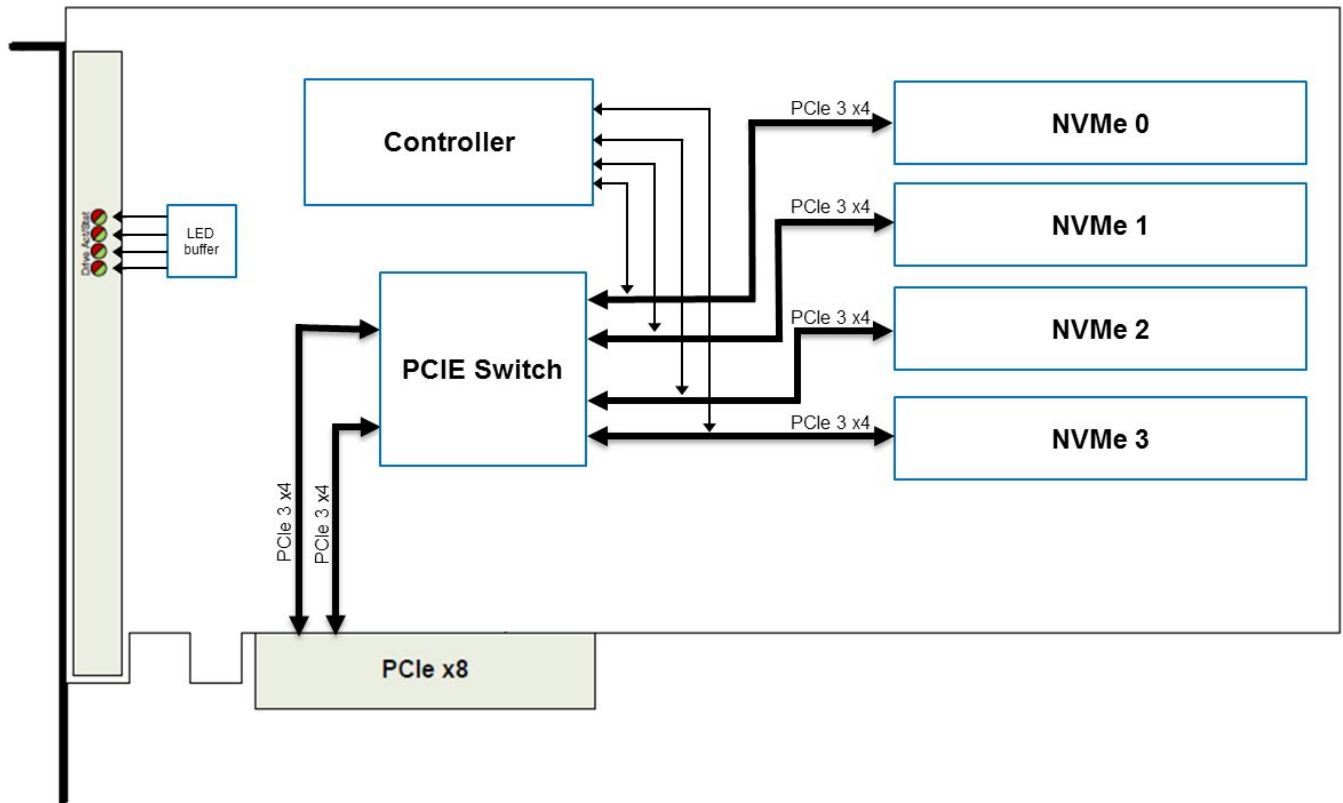
*SSD modules sold separately



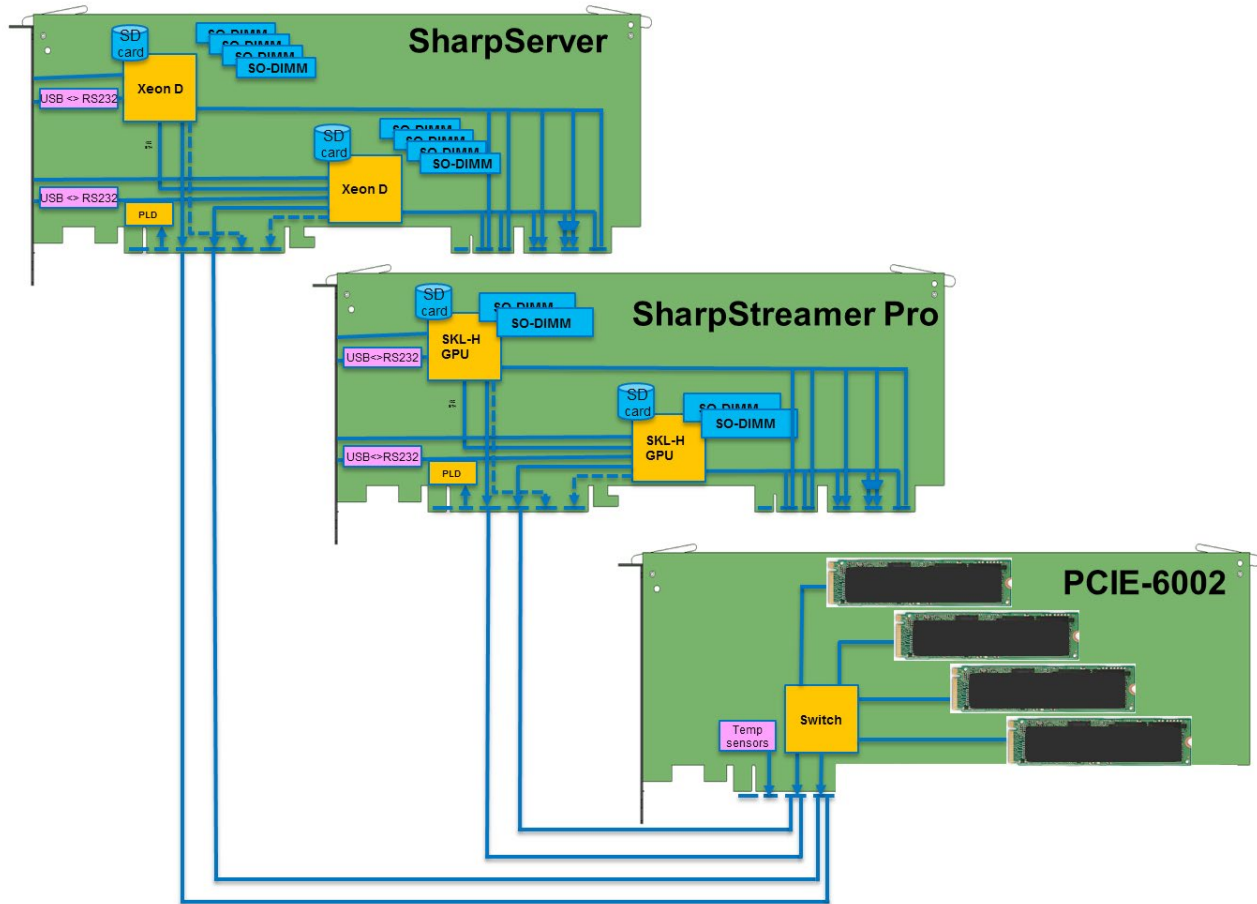
PCIE-6002 Payload Card

PCIE-6002 Payload Card with SSDs installed
(SSD modules sold separately)

Block Diagram



Configuration Example



Hardware Overview

Card Integration

The System Services Framework (SSF) management system provides the MaxCore operator console which enables the user to connect each SSD on a PCIE-6002 card to any CPU on a SharpServer card or SharpStreamerPro card in the same box.

The PCIE-6002 SSD will show up in the CPUs PCIe device tree after booting the CPUs, along with many other PCIe devices which were connected by SSF to a CPU. This SSD can be mounted at run time but can also be used as boot device. All four module slots are accessible in an 8-lane MaxCore slot. The amount and location of 8-lane slots differs depending on the MaxCore platform being used.

Module Environment

The PCIE-6002 payload card accepts single and double-sided modules up to a power consumption of 10W per module. The module interface must comply with the NVMe (NVM Express) standard.

The MaxCore platform will read the thermal sensors and take care of providing sufficient cooling.

Environmental Compliance*

Requirement	Operating	Non-Operating
Temperature	+5 °C to +50 °C (normal operation), +5 °C to +55 °C (exceptional operation), according to NEBS Standard GR-63-CORE	-40 °C to +70 °C
Forced air flow, air volume, pressure loss (reference to sea level)	5 CFM @ 20 °C host system ambient, 12.5 CFM @ 35 °C host system ambient, and 20 CFM @ 55 °C host system ambient	
Temperature change	+/- 0.5 °C/min	+/- 1 °C/min
Relative humidity	5% to 95% non-condensing at +40 °C	5% to 95% non-condensing at +40 °C
Shock and vibration	Sinusoidal vibration 0.01Gs, 5 to 200Hz, 10 minute/axis	5g (RMS) random
Free fall		1200 mm/all edges and corners (packed state) 100 mm/3 axis (unpacked)

*Consider that the SSD module being used may have more stringent environmental requirements.

Ordering Information

Product Family	Part Number	Description
PCI Express	PCIE-6002	MaxCore carrier card for four (4) M.2 NVMe modules

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