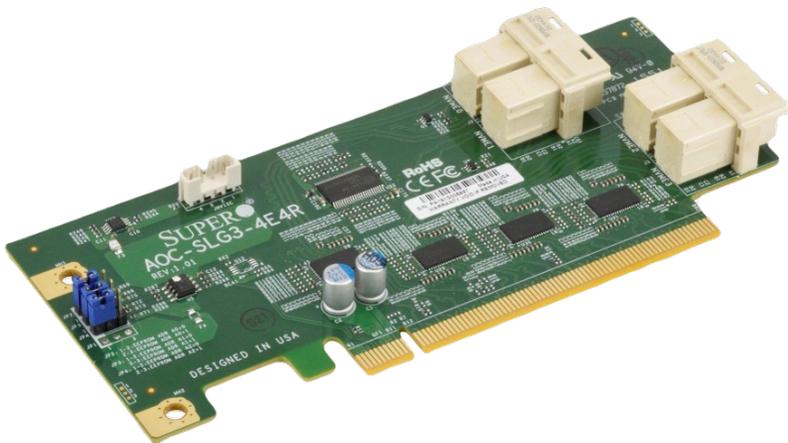




AOC-SLG3-4E4R



## User's Guide

Revision 1.0a

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**WARNING:** Handling of lead solder materials used in this product may expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

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User's Guide Revision 1.0a

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## Preface

### About this User's Guide

This user's guide is written for system integrators, IT technicians and knowledgeable end users. It provides information for the installation and use of the AOC-SLG3-4E4R expansion card.

### About this Expansion Card

The Supermicro NVMe AOC-SLG3-4E4R features four internal NVMe connectors (SFF 8643) for high-performance storage connectivity. This HBA card is built on the latest PCIe NVMe redriver technology. The AOC-SLG3-4E4R is streamlined to meet the growing demand for increased data throughput and scalability requirements across the enterprise-class server platforms. It is a low power and cost-effective near-line storage solution that delivers maximum performance and reliability.

### An Important Note to the User

All images and layouts shown in this user's guide are based upon the latest PCB revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this user's guide.

## Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning the AOC-SLG3-4E4R card to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete. For faster service, you can also request a RMA authorization online <http://www.supermicro.com/RmaForm/>.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alternation, misuse, abuse or improper maintenance of products.

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# Chapter 1

## Overview

### 1-1 Overview

Congratulations on purchasing your expansion card from an acknowledged leader in the industry. Supermicro products are designed with the utmost attention to detail to provide you with the highest standards in quality and performance. For product support and updates, please visit our website at <http://www.supermicro.com/>

### 1-2 Technical Specifications

#### General

Low power, four port PCI-E Gen-3 NVMe controller

Four internal lanes per MiniSAS HD port, 3.2GB/s per port

Supports four physical NVMe devices

Ambient operating temperature from 10°C - 55°C

Supports X10DSC+ and X11DPU-Z+ motherboards.

#### OS Support

Windows, Linux, VMware

#### Power Consumption

4 Watts

#### Physical Dimensions

Card PCB dimensions: 6.02" x 2.71 " (L x H)

## Notes

## Chapter 2

### Hardware Components

#### 2-1 Expansion Card Layout and Components



**Figure 2-1. AOC-SLG3-4E4R**

The AOC-SLG3-4E4R is a low-profile expansion card with an aggregate 12.8 GB/s four port NVMe internal Host Bus Adapter. The following pages describe the components and settings for the AOC-SLG3-4E4R.

## 2-2 Major Components

The following are the major components that make up the AOC-SLG3-4E4R expansion card:

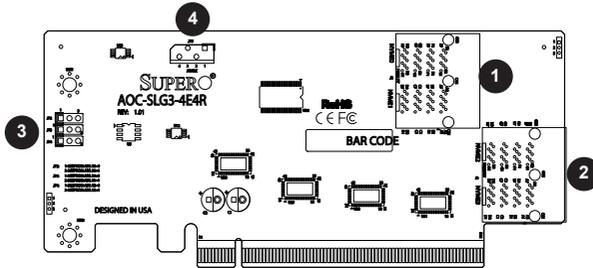


Figure 2-2. AOC-SLG3-4E4R Layout

AOC-SLG3-4E4R	
Component	Description
1	NVMe Connectors NVMe 0 and NVMe1
2	NVMe Connectors NVMe 2 and NVMe3
3	Jumpers JP2, JP3, and JP4
4	VPP I <sup>2</sup> C Connector JNV12C, JP5

## 2-3 Connectors and LEDs

### NVMe Connectors

There are four NVMe connectors on the expansion card. Together these connectors provide a transfer rate speed of up to 12.8 GB/s.

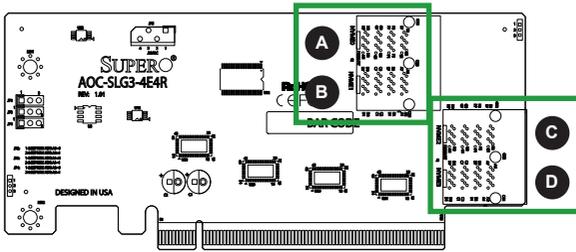


Figure 2-3. NVMe Connectors

AOC-SLG3-4E4R	
Component	Description
A	NVMe connector, designated NVMe 0
B	NVMe connector, designated NVMe 1
C	NVMe connector, designated NVMe 2
D	NVMe connector, designated NVMe 3

## 2-4 Front Jumper Location and Settings

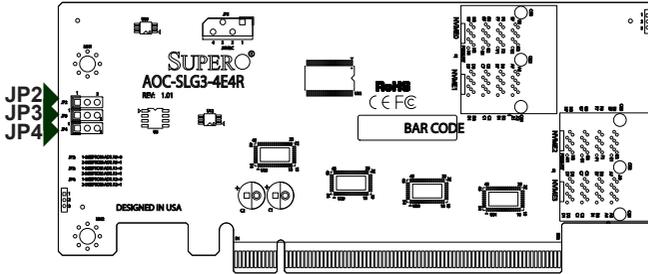
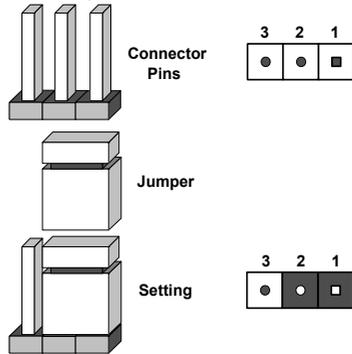


Figure 2-4. Front Jumpers

### Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. Note: On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



Note: Unless explicitly instructed otherwise by the manufacturer, do not move the jumpers from their default locations of pins 1-2. Doing so will likely cause the card to become disabled.

These jumpers are used to configure the SMBus address at which the card is discovered by the BIOS. By default, it is set to "A0" and can be configured to another value to avoid an address conflict with other devices on the SMBus. It should never be changed unless explicitly instructed by Supermicro.

Table of Addresses Based on Jumper Settings					
MSN	JP4 A2	JP3 A1	JP2 A0	LSB	Hex Address
1010	0	0	0	0	A 0
1010	0	0	1	0	A 2
1010	0	1	0	0	A 4
1010	0	1	1	0	A 6
1010	1	0	0	0	A 8
1010	1	0	1	0	A A
1010	1	1	0	0	A C
1010	1	1	1	0	A E

## Chapter 3

# Installation

### 3-1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your expansion card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

#### Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the expansion card from the antistatic bag.
- Handle the expansion card by its edges only; do not touch its components or peripheral chips.
- Put the expansion card back into the antistatic bags when not in use.
- For grounding purposes, make sure that your system chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the expansion card.

#### Unpacking

The expansion card is shipped in antistatic packaging to avoid static damage. When unpacking your component, make sure you are static protected.

**Note:** To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing or changing any hardware components.

## 3-2 Before Installation

To install the expansion card properly, follow the steps below.

### ***Prior to Installation***

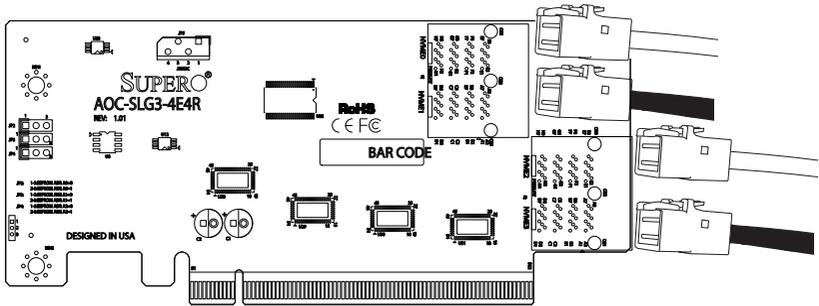
1. Power down the system and unplug the power cord.
2. Use industry-standard anti-static equipment (such as gloves or wrist strap) and follow the precautions on page 3-1 to avoid damage caused by ESD.

## 3-3 Installing the Expansion Card

Depending upon which system configuration is used, a riser card may or may not be required to install the AOC-SLG3-4E4R.

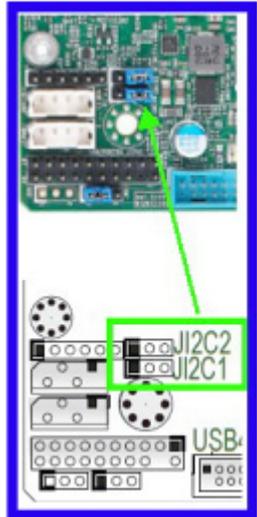
### ***Installing the Expansion Card***

1. Power down the system, remove the power cords from the rear of the power supply and remove the system cover.
2. Verify that your expansion card is equipped with the correct length of PCIe slot bracket for your system. AOC-SLG3-4E4R expansion cards include a low-profile PCIe bracket. However, if your system features full-length PCIe slots, replace the low-profile bracket with a full-length bracket.
3. For the X10DSC+ motherboard, insert the AOC-SLG3-4E4R into the CPU2 Slot3 only. For any other motherboard, consult the motherboard manual for expansion card placement.
4. Connect the NVMe cables to the backplane, connecting NVMe0 to NVMe0 and so on through NVMe3 to NVMe3.
5. Connect the cables to the expansion card. The cable latch will click into the locked position when connected properly.



**Figure 3-1. Connecting the Cables**

6. Connect the CBL-CDAT-0674 data cable to JNV12C connector on the motherboard. If more than one AOC-SLG3-4E4R is used on the same CPU, then only the lowest-numbered slot expansion card needs to be connected to the motherboard's JN-V12C (consult motherboard manual for details).
7. For configuring the backplane connections, consult the jumper settings section of your backplane user guide.
8. Enable the SMBus on the motherboard by setting J12C1 and J12C2 (if present) jumpers to pins 1-2. (Location on motherboard may vary. Consult the motherboard manual for details).
9. Replace the system cover, plug in the power cord, and power up the system.



## 3-4 Static Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your expansion card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

### Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the expansion card from the antistatic bag.
- Handle the expansion card by its edges only; do not touch its components or peripheral chips.
- Put the expansion card back into the antistatic bags when not in use.
- For grounding purposes, make sure that your system chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the expansion card.

### Unpacking

The expansion card is shipped in antistatic packaging to avoid static damage. When unpacking your component, make sure you are static protected.

**Note:** To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing or changing any hardware components.

## 3-5 Installing the Drivers in Windows

Refer to the instructions that came with your expansion card and follow the manufacturer's recommended steps for installing the NVMe driver. Download the latest drivers from the Supermicro project board at <ftp://ftp.supermicro.com/driver/NVMe/>.

## 3-6 Uninstalling the Drivers

### *To Uninstall the Drivers in Windows:*

Follow the instructions provided by the manufacturer.

### *To Uninstall the Drivers in Linux:*

Run the following command to uninstall the NVMe drivers:

```
./RemoveService.sh
```

(Disclaimer Continued)

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