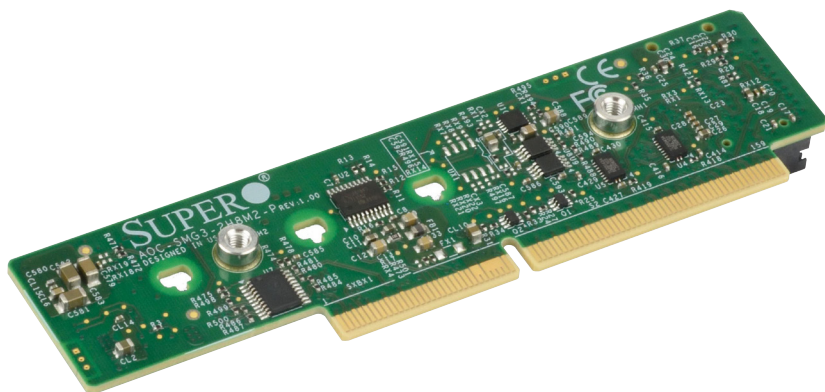




AOC-SMG3-2H8M2



## User's Guide

Revision 1.0

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Manual Revision 1.0

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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-SMG3-2H8M2 expansion card.

### About this Expansion Card

The AOC-SMG3-2H8M2 is an M.2 SSD carrier card that connects up to two M.2 solid state drives (SSDs), and is built for use in TwinPro™ systems. It supports SATA and NVMe, and three form factors: 22x42 mm, 22x60 mm, or 22x80 mm. It can be pre-installed on a server, or can be ordered and added separately. M.2 solid-state technology is an optimized, high-performance scalable storage solution, effectively streamlined for enterprise and client systems that leverage the cutting-edge capabilities of PCI Express.

### 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-SMG3-2H8M2 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 alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

## Conventions Used in the User's Guide

Pay special attention to the following symbols for proper system installation and for safety instructions to prevent damage to the system or injury to yourself.

**Note:** Additional information given for proper system setup.

## Contacting Supermicro

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's-Hertogenbosch, The Netherlands

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Website: [www.supermicro.com.tw](http://www.supermicro.com.tw)

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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 refer to our website at <http://www.supermicro.com>.

### 1-2 Technical Specifications

#### General

'Stacked' Hybrid (NVMe or SATA) M.2 carrier card for Twin Pro

Supports x2 M.2 M-key connectors for the following lengths: 80 mm, 60 mm, 42 mm

Auto-detects SATA or NVMe M.2

Functionality only for either 1x NVMe M.2 SSD or 2x SATA M.2 SSDs

Each NVMe M.2 SSD links to a full x4 PCIe

Supports activity LED onboard for each M.2 SSD

Single toolless standoff secures both M.2 SSDs

#### OS Support

The following operating systems and their later versions are supported:

Windows

Linux

VMware

Contact Supermicro tech support at [www.supermicro.com](http://www.supermicro.com) for assistance with any hardware limitations associated with your motherboard. (Note: For proper system configuration and setup, please refer to the product page at [www.supermicro.com](http://www.supermicro.com) for any limitations associated with your motherboard.)

## **Physical Dimensions**

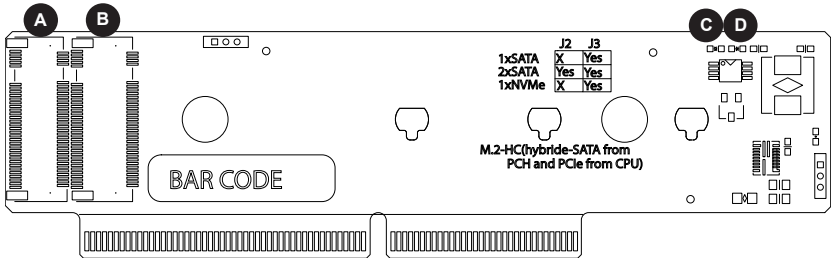
Card PCB dimensions: 1.21" x 4.43" (H x L)



## Chapter 2

### Hardware Components

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



The AOC-SMG3-2H8M2 Layout

#### 2-2 Major Components

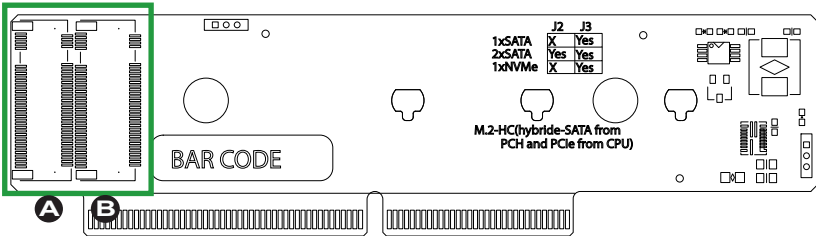
The following major components are on the AOC-SMG3-2H8M2:

- A. M.2 Socket 1
- B. M.2 Socket 2
- C. M.2 Socket 1 Activity LED
- D. M.2 Socket 2 Activity LED

## 2-3 Connectors and LEDs

### M.2 Sockets

There are two M.2 sockets on the expansion card, designated J2 and J3. The card can support one SATA SSD on J3, two SATA SSDs on J2 and J3, or one NVMe SSD on J3.

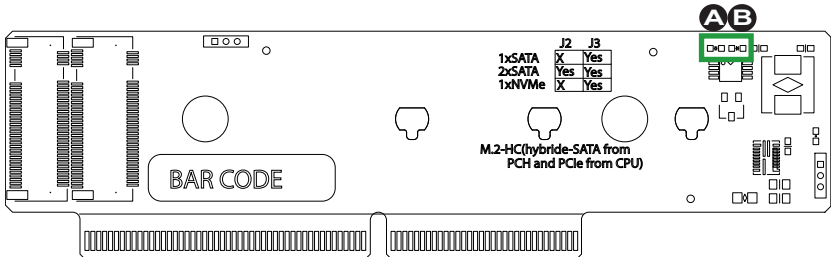


The AOC-SMG3-2H8M2 SATA & NVMe Connectors

- A. M.2 Socket 1, designated J2
- B. M.2 Socket 2, designated J3

## Activity and Fail LEDs

There are two Activity LEDs on the AOC-SMG3-2H8M2, designated LED1 and LED2. See the table below for information.



### The AOC-SMG3-2H8M2 LEDs

A. Activity LED, designated LED1

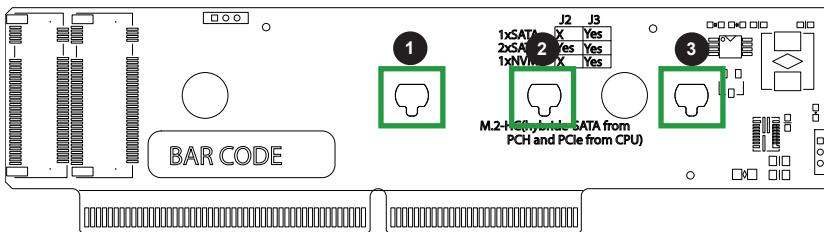
B. Activity LED, designated LED2

Activity LED Status		
LED	Color	Status
LED1	Green	Blinks whenever there is read or write activity on M.2 Socket 1
LED2	Green	Blinks whenever there is read or write activity on M.2 Socket 2

## 2-4 Standoffs

The AOC-SMG3-2H8M2 is designed with movable standoffs which support three different M.2 SSD lengths. Place the standoffs as indicated below:

M.2 Length	Standoff Positions
22 mm x 42 mm	1
22 mm x 60 mm	2
22 mm x 80 mm	3



The AOC-SMG3-2H8M2 Standoff Positions

## 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.

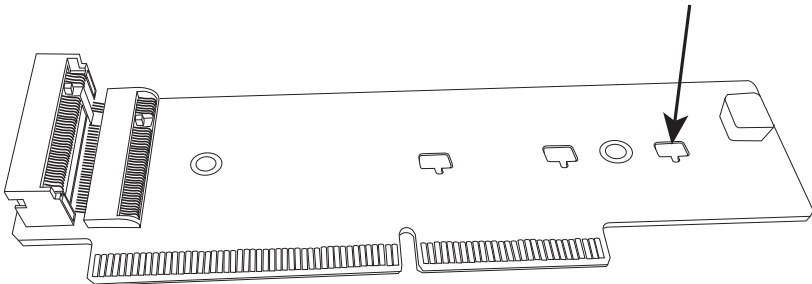
**Note:** To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing, or changing any hardware components.

## 3-2 Installing Expansion Cards

The AOC-SMG3-2H8M2 supports two M.2 SSDs in 42 mm, 60 mm, or 80 mm length. Visit the Supermicro website for a current list of supported M.2 SSDs.

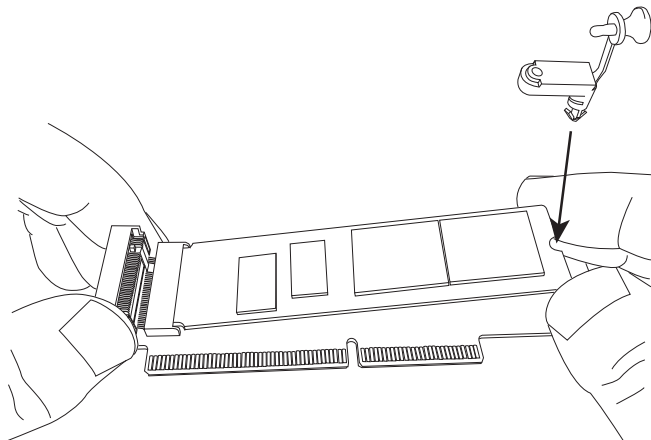
### ***Installing Expansion Cards***

1. Power down the system and remove the power cord from the rear of the power supply.
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. For each SSD, install the standoff in the appropriate hole that corresponds with the form factor of the SSD(s) to be installed.



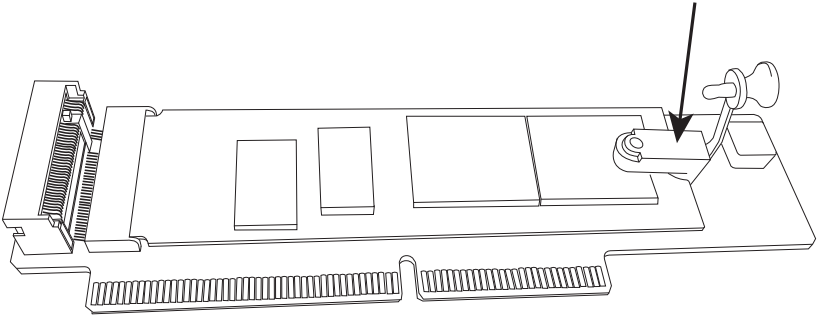
**Figure 1. Selecting the Standoff Hole**  
(drawing shows selection for 80 mm SSD)

4. Insert the SSD into the lower socket on the carrier card, then hook the plastic standoff onto the indent of the SSD.



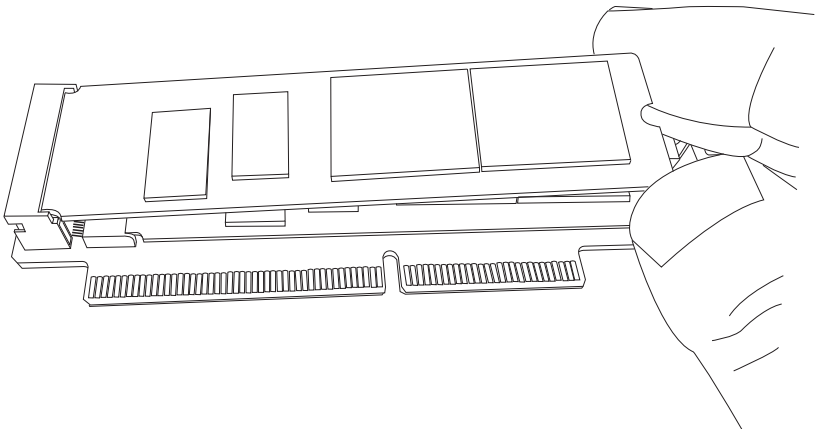
**Figure 2. Inserting the First SSD**

5. Push the plastic standoff down until it snaps into the carrier card.



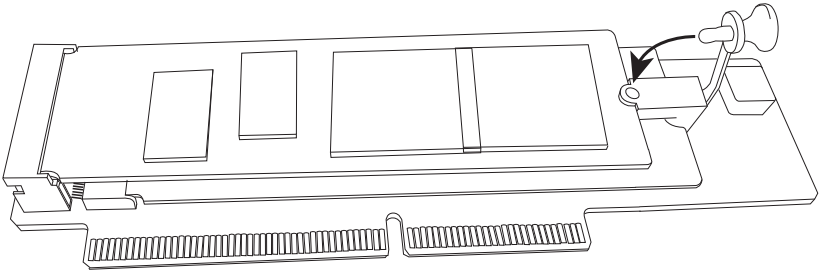
**Figure 3. Inserting the Standoff**

6. Insert the second SSD into the upper socket on the carrier card.

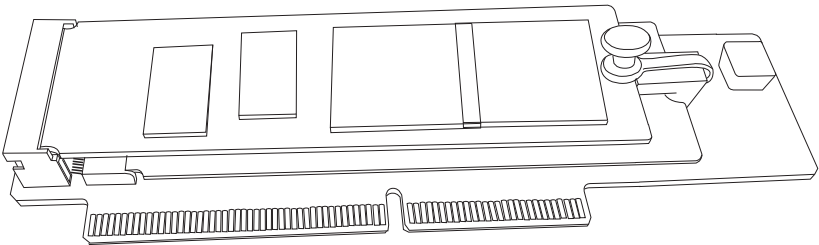


**Figure 4. Inserting the Second SSD**

7. Push the edge of the SSD flat against the plastic standoff and then secure it by firmly inserting the standoff plug.

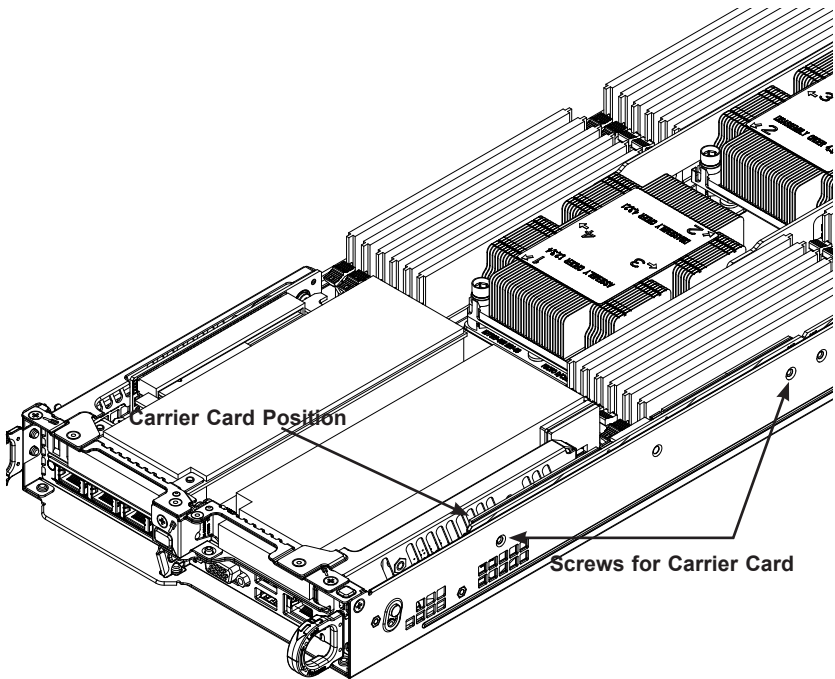


**Figure 5. Inserting Standoff Plug**



**Figure 6. Inserted Standoff Plug**





**Figure 7. Locating the M.2 Carrier Card Slot and Screws**

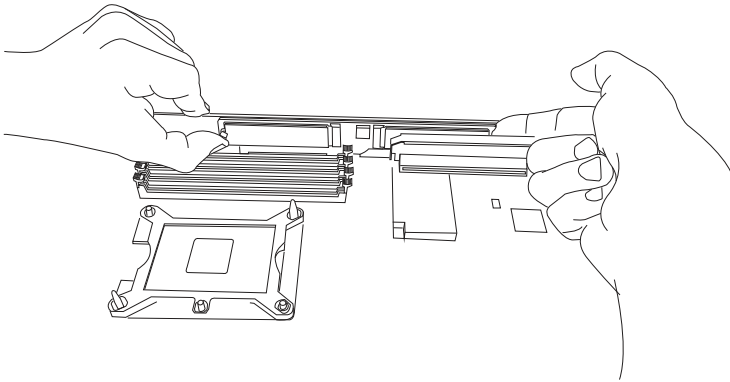
8. Power down the node and remove it from the chassis.
9. On the motherboard, remove any DIMMs obstructing access to the carrier card slot.
10. Push the carrier card into the slot on the motherboard. With the screws provided, secure it to the side of the node chassis.
11. Replace any DIMMs that may have been removed.
12. Replace the node into the chassis, and power up the system.

## Removing the M.2 Carrier Card

If an M.2 carrier card is installed in your server, remove it to add M.2 solid state devices (SSDs).

### **To Remove the M.2 Carrier Card**

1. Power down the node and remove it from the chassis.
2. Remove any DIMMs obstructing access to the carrier card.
3. Remove the two screws from the left side (viewed from the chassis front) of the node chassis that secure the carrier card to the node chassis. (See Figure 8.)



**Figure 8. Removing the Carrier Card**

4. Pull the card out of the socket by both notched edges (front and back) of the card. Be careful not to exert any force on any M.2 SSDs already installed on the card.
5. If you want to remove an installed SSD, remove the plug from the standoff and allow the M.2 SSD to lift up at an angle before removing it from the M.2 socket.

### 3-3 Additional Settings

Depending on the system, motherboard, and BIOS version, the following BIOS settings may be necessary for the proper operation of M.2 NVMe drives:

- Having the CPU IOU settings set to x4x4x4x4 PCIe bifurcation. This option may be found under **BIOS Setup -> Advanced -> Chipset Configuration -> North Bridge -> IIO Configuration -> CPU Configuration -> IOU Setting -> x4x4x4x4**.
- Having the NVMe Firmware Source set to AMI Native Support. This option may be found under **BIOS Setup -> Advanced -> PCIe/PCI/PnP Configuration -> NVMe Firmware Source -> AMI Native Support**.

Refer to the applicable system or motherboard User Manual.