

PE5100D

Getting Started Guide for AWS IoT Greengrass

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1 Document information

1.1 Document revision history

Date	Version	Description
2025/2/19	V01	First release

1.2 Applicable operating systems for this guide

This guide is applied to the PE5100D system with an Intel processor and a Windows operating system to run AWS Greengrass.

2 Overview

The ASUS IOT PE5100D is a rugged high-performance and fanless edge computer with Intel® R680E chipset that supports Intel® 14th/ 13th/ 12th Gen Core™ i processors featuring up to 24 cores and 32 threads, and DDR5 support up to 4800 MHz. A dual 2.5-inch hot-swappable SSD/HDD tray and RAID 0/1 support takes both data security and convenience into consideration.

With phenomenal thermal design and power solutions, the PE5100D supports wide temperatures ranging from -25° C to 70° C, and wide-range 8 to 48V DC-in with ignition power control. Furthermore, it features various I/O connections including three 2.5 GbE ports, six COM ports, ten USB ports and optional 8-bit isolated DIO. It also integrates three M.2 slots for Wi-Fi, 4G/5G and NVMe storage, and one mini PCIe slot for various add-on modules. The mechanical design satisfies MIL-STD-810H US military testing standards and is engineered to withstand shocks and vibration.

3 Hardware description

3.1 Datasheet

https://www.asus.com/networking-iot-servers/aiot-industrial-solutions/embedded-computers-edge-ai-systems/pe5100d/helpdesk_manual?model2Name=PE5100D

3.2 Standard kit contents

Default packing list include:

- PE5100D system
- Power terminal block
- wall mount kit

3.3 User provided items

Additional accessories available for order:

- Power Adapter + Power Cord

3.4 3rd party purchasable items

None.

4 Set up your development environment

4.1 Tools installation (IDEs, Toolchains, SDKs)

As an industrial PC, the development environment for this device should be determined by the user based on its intended use.

5 Set up device hardware

Please refer to link below for all the manuals of PE5100D, including PE5100D [user manual](#).

If you have problem access the link above, go to [ASUS PE5100D product page](#), click the “Support” then “Manual & Documents” button for all the product manuals download.

6 About AWS IoT Greengrass

To learn more about AWS IoT Greengrass, see [How AWS IoT Greengrass works](#) and [What's new in AWS IoT Greengrass Version 2](#).

7 Greengrass prerequisites

If you do not have an existing AWS account and user, refer to the online AWS documentation at Set up your AWS Account (<https://docs.aws.amazon.com/iot/latest/developerguide/settingup.html>).

To get started, follow the steps outlined in the sections below:

- Sign up for an AWS account
(<https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#aws-registration>)
- Create an administrative user
(<https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#create-an-admin>)
- Open the AWS IoT console
(<https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#iot-consolelogin>)

Refer to the online documentation detailing the [prerequisites](#) needed for AWS IoT Greengrass. Follow the instructions in the following sections:

[Step 1: Set up an AWS account](#)

[Step 2: Set up your environment](#)

Pay special attention to the Notes.

8 Install AWS IoT Greengrass

Follow the online guide to [Install with automatic provisioning](#). Refer to the instructions in the following steps:

- [Set up the device environment](#)
- [Provide AWS credentials to the device](#). For development environments, you can use the option “Use long-term credentials from an IAM User”. An example of how to do this is shown below:

```
export AWS_ACCESS_KEY_ID=<the access key id for your user>  
export AWS_SECRET_ACCESS_KEY=<the secret access key for your user>
```

Note: Production environment should use temporary credentials.

- [Download the AWS IoT Greengrass Core software](#)
- [Install the AWS IoT Greengrass Core software](#)

9 Create a “Hello World” component

9.1 Create the component on your edge device

Follow the instructions online under the section [Develop and test a component on your device](#) to create a simple component on your device.

9.2 Upload the “Hello World” component

Follow the instructions online at [Create your component in the AWS IoT Greengrass service](#) to upload your component to the cloud, where it can be deployed to other devices as needed.

9.3 Deploy your component

Follow the instructions online at [Deploy your component](#) to deploy and verify that your component is running.

10 Debugging

If you meet a problem with the PE5100D system, please contact our local FAE team with your questions, ASUS FAE team would help you clarify and solve the issue.

11 Troubleshooting

For more information, refer to the online documentation [Troubleshooting Greengrass v2](#).