

High-Performance Edge Computer Built for Harsh Environments



ASUS IoT PE5101D Rugged Edge Computer

Rugged Edge Computer with Wide-Temp Support for AI and Analytics

The ASUS IoT PE5101D is a rugged edge computer built to deliver high performance and reliability in demanding industrial environments. Powered by 14th/13th Generation Intel® Core™ processors with the Intel® R680E Chipset, it supports up to 24 cores and DDR5 memory for advanced workloads such as AI inference, machine vision, and video analytics. Dual hot-swappable 2.5-inch SSD/HDD trays with RAID 0/1 ensure both flexibility and data security, while PCIe slots accommodate discrete GPUs up to 200W for intensive edge applications.

Designed for durability, the PE5101D meets MIL-STD-810H standards for shock and vibration and operates in extreme conditions from -25°C to 60°C. With wide-range 8–48V DC input, ignition power control, and rich I/O including triple 2.5 GbE, 10 USB, and 6 COM ports, it provides versatile connectivity and reliable performance. This makes it ideal for smart manufacturing, transportation, kiosks, and other mission-critical edge deployments.

Intel Products and Technologies

Accelerating AI and Analytics at the Edge



Intel® Core™
Processors



OpenVINO™

ASUS × **intel ai**

***Rugged edge
computer with
up to 24-core
Intel® Core™
processor, DDR5,
hot-swappable
storage, and
MIL-STD-810H
reliability for
industrial AI
workloads***

Key Features

Empowered by Intel.



High-
Performance
Computing



GPU-Ready



Dual-Drive
Design



Rugged
& Reliable
Design

ASUS PE5101D



Product Specifications

CPU	14th/13th Generation Intel® Core™ processors i CPU with Intel® R680E Chipset
Graphics	N/A
Memory	2 x SO-DIMM (supports DDR5 ECC/non-ECC, up to 4800 MHz, max. 64GB)
Storage	2 x 2.5" (supports hot-swappable SSD/HDD tray, RAID 0/1), 1 x M.2 2280 M-key (PCIe Gen4x4)
Wireless Network	1 x M.2 2230 E-key (PCIex1/USB2.0) 1 x M.2 3042/3052 B-key with dual nano-SIM slot (PCIex1/USB 3.2 Gen1/USB2.0)
LAN	3 x 2.5 GbE, RJ45 (Intel® Ethernet Controller I226-IT)
Operating / Storage Temp.	-25° C to 60° C / -40° C to 85° C
Dimension (W x D x H)	242mm x 137mm x 241.4mm
Weight	5.81 kg
OS	Windows® 11 IoT Enterprise (64-bit) / Windows® 10 IoT Enterprise (64-bit) / Linux by Project Support

Learn More

[ASUS PE5101D](#)

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