



**DS-1500 Series – Rugged Embedded Fanless
Expandable System with Intel® Ultra 200S Series
Processors**

The DS-1500 series is a high-performance, expandable, rugged embedded computer, supporting modular I/O expansion and up to two PCI/PCIe slots. It has international certifications for stable and reliable performance in harsh environments, making it perfect for smart manufacturing, railway, and more. This PC supports Intel® Core™ Ultra 200S Series processors with integrated CPU, GPU, and NPU, delivering up to 36 TOPS of AI performance — 3.5x higher than the previous generation — making it an ideal choice for Edge AI applications.

SPECIFICATIONS

CPU	Arrow Lake-S Ultra 200S Series CPUs
Chipset	Intel® W880
Memory Type	DDR5 SODIMM/CSODIMM, unbuffered and ECC supported
Memory Slots	2
Maximum Memory Supported	Ultra 9/7 supports up to 6400MHz, 96GB; Ultra 5 supports up to 5600MHz, 96GB
Integrated Graphics	Integrated Intel Xe LPG Graphics
Watchdog Timer	Software Programmable Supports 256 Levels System Reset
TPM	Supports Discrete TPM2.0 (with Optional CFM Module)
Instant Reboot	Supports 0.2sec Instant Reboot Technology
External Fan Connector	1x External FAN Connector, 4-pin Terminal Block (Support Smart Fan by BIOS)
Video	1 x VGA, 1 X HDMI 4k @ 30Hz, 2 x DisplayPort 4k @ 60Hz

LAN Ports	1x 2.5 GbE Intel i226 LAN; 1x GbE LAN Intel i219
Serial ATA (SATA)	1x 2.5" Front Accessible SATA HDD/SSD Bay (SATA 3.0); 1x 2.5" Internal SATA HDD/SSD Bay (SATA 3.0)
Serial (COM) Port	2x RS-232/422/485 with Auto Flow Control (Supports 5V/12V), DB9
USB	2x 10Gbps USB 3.2 Gen2x1, Type A; 4x 5Gbps USB 3.2 Gen1x1, Type A ; 2x 480Mbps USB 2.0, Type A
PS/2	1x PS/2, 6-pin Mini DIN Female Connector
Audio	Realtek ALC888 HD Audio
RAID	Supports RAID 0/1/5/10
PCIe	DS 1501: 1 x PCI/PCIe Expansion Slot with Optional Riser Card (Supports maximum dimensions of add-on card (L x H) 235 x 124 mm and GPU card up to 75W; DS 1502: 2 x PCI/PCIe Expansion Slot with Optional Riser Card (Supports maximum dimensions of add-on card (L x H) 235 x 124 mm and GPU card up to 130W
M.2 Interface	1x M.2 Key B Type 3042/3052 Socket (PCIe Gen 4×2 / USB3.2 Gen2x1 / SATA), Support 5G / GNSS / Storage / Add-on Card Expansion; 2x M.2 Key B Type 3042/3052 Socket (PCIe Gen 3×2 / USB2.0 / SATA), Support GNSS / Storage / Add-on Card Expansion; 1x M.2 Key M Type 2280 Socket (PCIe Gen3 x4 / SATA), Support Storage / Add-on Card Expansion
SIM	2x SIM Socket
CMI (See Ordering Options)	2x High Speed CMI Interface for optional CMI Module Expansion; 2x Low Speed CMI Interface for optional CMI Module Expansion
CFM (See Ordering Options)	1x CFM IGN Interface for optional CFM-IGN Module Expansion; 1x CFM-TPM Interface for optional CFM-TPM Module Expansion
Power Requirement	9 ~ 48V DC Input 3-Pin Terminal Block
Reverse Power Input Protection	Yes
Over Voltage Protection	Protection Range: 51~58V; Protection Type: shut down operating voltage, re-power on at the preset level to recover
Remote Power	1x Remote Power On/Off, 2-pin Terminal Block; 1 x Remote Power LED, 2-pin Terminal Block
Dimensions	DS-1400: 8.94" x 10.28" x 3.46" (227mm x 261mm x 88mm), DS-1401: 8.94" x 10.28" x 4.25" (227mm x 261mm x 108mm), DS-1402: 8.94" x 10.28" x 5.04" (227mm x 261mm x 128mm)
Mechanical Construction	Extruded Aluminum with Heavy Duty Metal
Physical Design	Fanless, Cableless, Jumper-Less, Unibody Design
MTBF	307,224 Hours

Operating Temperature	35W Processor: -40 ~ 70°C (-40 ~ 158°F), 65W Processor with External Fan Kit: -40 ~ 50°C (-40 ~ 122°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Relative Humidity	95%@60°C (non-Condensing)
Shock	MIL-STD-810H
Vibration	MIL-STD-810H
EMC	CE, UKCA, FCC, ICES-003 Class A
EMI	CISPR 32 Conducted & Radiated: Class A; EN/BS EN 50121-3-2 Conducted & Radiated: Class A; EN/BS EN IEC 61000-3-2 Harmonic current emissions: Class A; EN/BS EN61000-3-3 Voltage fluctuations & flicker; FCC 47 CFR Part 15B, ICES-003 Conducted & Radiated: Class A
EMS	EN/IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV; EN/IEC 61000-4-3 RS: 80 MHz to 1000 MHz: 20 V/m; EN/IEC 61000-4-4 EFT: AC Power: 2 kV; Signal: 2 kV; EN/IEC 61000-4-5 Surges: AC Power: 2 kV; EN/IEC 61000-4-6 CS: 10V; EN/IEC 61000-4-8 PFMF: 50 Hz, 1A/m; EN/IEC 61000-4-11 Voltage Dips & Voltage Interruptions: 0.5 cycles at 50 Hz
Railway	EMC: EN 50155: 2021 Clause 4.4.6, 13.4.9; EN 50121-1 : 2017; EN 50121-3-2: 2016 + A1: 2019
Safety	UL, cUL, CB, IEC, EN 62368-1
Fire Protection	EN 45545-2
Operating System Support	Windows 11; Ubuntu Linus 24.04
Global P/N / SKU	1708643

Ordering Options

DS-1500 (SKU# 1708643A): 13th/12th Gen High Performance Rugged Expandable Embedded System DS-1501 (SKU# 1708643B): 13th/12th Gen High Performance Rugged Expandable Embedded System with 1 x PCI/PCIe Slot DS-1502-R10 (SKU# 1708643C): 13th/12th Gen High Performance Rugged Expandable Embedded System with 2 x PCI/PCIe Slots Package Includes: Wall Mounting Kit, Power Terminal Block Connector, Fan Terminal Block Connector, Heatsink Pack, Screw Pack, Remote Function Terminal Block Connector x2, M.2 Key B Type 3052 to 3042 Adapter Bracket x3 [CMI and CFM Module List \(https://globalamericaninc.com/wp-content/uploads/2026/08/CMI-and-CFM-List.pdf\)](https://globalamericaninc.com/wp-content/uploads/2026/08/CMI-and-CFM-List.pdf)

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