



KEY FEATURES

- Intel® Core™ processors (Arrow Lake-S) with W880 chipset
- 4 x 288-pin ECC/non-ECC CU-DIMM DDR5 6400 MHz, U-DIMM DDR5 5600 MHz, up to 192GB (48GB per DIMM)
- 1 x PCIe x16 (Gen5), 1 x PCIe x8 (Gen5), 3 x PCIe x4 (Gen4), 2 x PCIe x1 (Gen4), 2 x USB4/Thunderbolt™4, 6 x USB 3.2 Gen2, 4 x USB 3.2 Gen1, 1 x M.2 Key B, 1 x M.2 Key E, 2 x M.2 Key M, 6 x COM, 4 x SATA3
- 2 x Intel 1 Gigabit LAN, 1 x Marvell 10 Gigabit LAN
- Supports Quad display, 2 x HDMI 2.1 TMDS, 2 x DP 2.1 (2 from Type-C), 1 x DP 1.4a
- TPM 2.0 onboard IC
- Supports Intel® vPro, VMD RAID 0/1/5/10
- ATX PWR (8+8+24 Pin)

SPECIFICATIONS

Form Factor

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|------------|---|
| Dimensions | ATX (12-in x 9.6-in x 1.81-in, 30.5 cm x 24.4 cm x 4.61 cm) |
|------------|---|

Processor System

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|---------|--|
| CPU | Intel® Core™ processors (Arrow Lake-S), up to 125W |
| Chipset | W880 |
| Socket | LGA1851 |
| BIOS | AMI SPI 256 Mbit |

Memory

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|------------|---|
| Technology | Dual Channel ECC/non-ECC DDR5 6400/5600 MHz |
| Capacity | 192GB (48GB per DIMM) |
| Socket | 4 x 288-pin Long-DIMM |

Graphics

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|--------------|---|
| Controller | Intel® X ^e LPG Graphics |
| HDMI | HDMI 2.1 TMDS Max resolution up to 7680x4320@60Hz |
| DisplayPort | DisplayPort 2.1/1.4a, DP++ Max resolution up to 4096x2160@60Hz |
| MultiDisplay | Quad display (Included 2 output from Type-C) |

Expansion Slot

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|------|---|
| PCIe | 2 x PCIe Gen5 Slots (PCIe1/PCIe5: single at x16 (PCIe1); dual at x8 (PCIe1) / x8 (PCIe5)) (PCIe1: Support Riser card x8/x8) 3 x PCIe x4 (Gen4) 2 x PCIe x1 (Gen4) |
| M.2 | 1 x M.2 (Key E, 2230) with PCIe Gen4 x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe Gen4 x1, USB 2.0 |

Audio

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|-----------|---|
| Interface | Realtek ALC897 HD, High Definition Audio. Line-In, Line-Out, Mic-In |
|-----------|---|

Ethernet

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|-------------------|---|
| Controller/ Speed | LAN1: Intel® I219LM with 10/100/1000 Mbps, supports vPro LAN2: Intel® I210AT with 10/100/1000 Mbps LAN3: Marvell AQc113 with 10/100/1000/2500/5000/10000 Mbps |
| Connector | 3 x RJ-45 |

Rear I/O

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|-------------|--|
| HDMI | 2 x HDMI 2.1 TMDS |
| DisplayPort | 1 x DP 1.4a++ |
| Ethernet | 1 x 10 Gigabit LAN 2 x 1 Gigabit LAN |
| USB | 5 x USB 3.2 Gen2 1 x USB4/Thunderbolt™4 (5V/3A, supports DP 2.1 display output) * For Thunderbolt support, please refer to support list. |
| Audio | 3 (Line-In/Line-Out/Mic-In) |
| COM | COM1, COM2 (RS-232/422/485) |

Internal Connector

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|----------|--|
| USB | 4 x USB 3.2 Gen1 (2 x USB 3.2 header) 1 x USB 3.2 Gen2 vertical Con 1 x USB4/Thunderbolt™4 (5V/3A, supports DP 2.1 display output) * For Thunderbolt support, please refer to support list. |
| COM | COM3 (RS-232/TTL 5V/ccTalk, switch by Jumper setting) COM4, COM5, COM6 (RS-232) |
| Parallel | 1 (shared with GPIO) |
| GPIO | 8 x GPI, 8 x GPO (shared with LPT header) |

Storage

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|------|---|
| M.2 | 1 x M.2 (Key M, 2242/2280/22110/25110) with PCIe Gen5 x4 for SSD 1 x M.2 (Key M, 2242/2280) with PCIe Gen4 x4 for SSD |
| SATA | 4 x SATA3 (6Gb/s) |
| RAID | Intel® VMD RAID 0/1/5/10 **supported by identical interface (PCIe or SATA) PCIe interface: 2 x M.2 Key M SATA interface: SATA port |

Security

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|-----|--------------------|
| TPM | TPM 2.0 onboard IC |
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Watchdog Timer

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|----------|----------------------------------|
| Output | From Super I/O to drag RESETCON# |
| Interval | 256 Segments, 0, 1, 2, ...255sec |

Power Requirements

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|-----------|---|
| Input PWR | ATX PWR (24+8+8-pin) |
| Power On | AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready |

Environment

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|--------------------|--------------|
| Operating Temp | -20°C ~ 70°C |
| Storage Temp | -40°C ~ 85°C |
| Operating Humidity | 5% ~ 90% |
| Storage Humidity | 5% ~ 90% |