

# The4thware Industrial Board (MATX)

10<sup>th</sup> Generation Intel Xeon E, Pentium Series Platform

T4WARR-C256-MATX1



## PRODUCT SPECIFICATION

Physical Status	
Form Factor	Micro-ATX
Dimensions	9.6" x 9.6" (244 mm x244 mm)
Processor System	
CPU	Supports Intel® Xeon® E-2300 and 10th Gen Intel® Pentium® series processors
Socket	Single Socket H5 (LGA1200)
Thermal Design Power	95W
Chipset	Intel® C256
System Memory	
Supported DIMM Quantity	4 DIMM slots (2DPC)
Supported Type	DDR4 288-pin ECC/non-ECC UDIMM
Max. Capacity per DIMM	32GB
Max. DIMM Frequency	3200MT/s* *Up to DDR4 2666MT/s when installing 10th Gen Intel® Pentium® Series Processors
Voltage	1.2V
PCIe Expansion Slots (SLOT7 close to CPU)	
PCIe x 16	SLOT6: PCIe4.0* x16 [CPU] *When installing 10th Gen Intel® Pentium® Series Processors, SLOT6 supports PCIe3.0 only and SLOT4 will not function
PCIe x 4	SLOT4: PCIe4.0* x4 [CPU] *When installing 10th Gen Intel® Pentium® Series Processors, SLOT6 supports PCIe3.0 only and SLOT4 will not function
Other PCIe Expansion Connectors	
M.2 slot	1 M-key* (PCIe3.0 x4 or SATA 6Gb/s); support 22110/2280/2260 form factor [PCH] 1 M-key (PCIe3.0 x4); support 2280/2260 form factor [PCH] *SATA0 will be disabled when M2_1 populated with SATA device
SATA/SAS Storage	
PCH Built-in Storage	Intel® C256 (8 SATA 6Gb/s; RAID 0/1/5/10): 7 SATA 7-pin, 1 SATA DOM or 1 M.2
Ethernet	
Additional GbE Controller	2 RJ45 (10GbE) by Broadcom BCM57416 2 RJ45 (1GbE) by Intel® i210
Server Management	
BMC Controller	ASPEED AST2500: IPMI2.0 with iKVM and vMedia support
IPMI Dedicated GLAN	1 RJ45 Dedicated IPMI LAN port by Realtek RTL8211E

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Graphics	
Controller	ASPEED AST2500: 1 DB15 (VGA) Intel® Integrated Processor Graphics: 1 HDMI
Rear I/O	
UID Button/LED	1 button w/ LED
VGA Port	1 DB15 (VGA), 1 HDMI
Serial Port	1 DB9 (COM)
USB 3.2 Gen1 Port	4 Type-A (USB3.2 Gen1)
RJ45	2 RJ45 (10GbE), 2 RJ45 (1GbE), 1 dedicated IPMI
Internal Connector/Headers	
Power Connector or	1 (24-pin, ATX main power), 1 (8-pin, ATX 12V)
Other Power Connectors	1 (3-pin SATA DOM Power)
Auxiliary Panel Header	1 (18-pin): chassis intrusion, system fault LED, LAN1/LAN2 activity LED, locate, SMBus
System Panel	1 (9-pin): power switch, reset switch, system power LED, HDD activity LED
VGA header	1
Speaker Header	1
Buzzer	1
Fan Header	7 (4-pin)
Thermal Sensor Header	1
TPM Header	1 (13-pin, SPI)
SGPIO Header	1
SMBus header	1
PMBus header	1
IPMB Header	1
Clear CMOS	1 (contact pads)
ME/SPS Recovery	1
Front Lan LED Connector	1
USB 3.2 (Gen1) Header	1 (19-pin, 2 USB3.2 Gen1)
USB 2.0 Header	1 (9-pin, 2 USB2.0)
NMI Header	1

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LED Indicators	
Standby PWR LED 5vsb	1
80 Debug Port LED	1
Fan Fail LED	7
BMC heartbeat LED	1
System BIOS	
BIOS Type	AMI 256Mb SPI Flash ROM
BIOS Features	Plug and Play (PnP), ACPI 6.2 and above compliance wake up events, SMBIOS 3.3 and above, ASRock Rack Instant Flash
Hardware Monitor	
Temperature	CPU, MB, PCH, Card Side, M.2, TR Temperature Sensing
Fan	Fan Tachometer CPU Quiet Fan (Allow Chassis Fan Speed Auto-Adjust by CPU Temperature) Fan Multi-Speed Control
Voltage	3VSB, 5VSB, VCORE, VCCSA, VCCM, V1.0M, VCCIO, VPPM, 3V, 5V, 12V, BAT
Supported OS	
OS	<p>Microsoft® Windows® :</p> <p>Server 2019 (64 bit) Server 2022 (64 bit)</p> <p>Linux :</p> <p>RedHat Enterprise Linux Server 8.6 (64 bit) / 8.3 (64 bit) CentOS 8.5 ( 64 bit) / 8.3 (64 bit) SUSE Enterprise Linux Server 15 SP3 (64 bit) / 15 SP2 (64 bit) Ubuntu 21.10 (64 bit)</p> <p>Hypervisor :</p> <p>VMWare® ESXi 7.0U3d</p> <p>* Supports UEFI BOOT only</p>
Environment	
Temperature	Operation temperature: 10°C ~ 35°C / Non operation temperature: -40°C ~ 70°C
Humidity	Non operation humidity: 20% ~ 90% ( Non condensing)