

19 inch rack mount type Custom Computers Solution-ePC Series MR4300



* Specifications, color and design of the products are subject to change without notice.

Features

High-power, 4U rack-mounted PC

This product is an EIA 19 rack-mounted (4U) industrial computer compatible with 13th generation Intel® Core™ processors (Raptor Lake). It is ideal for fields requiring advanced multiprocessing such as semiconductor manufacturing equipment, inspection equipment, social infrastructure, and medical equipment.

Can house up to seven function expansion cards

This product is equipped with one PCI Express Gen(x16) *, two PCI Express Gen4(x4), one PCI Express Gen3(x4) and two PCI slots. It can house the signal input and output required for measurement control systems as well as multiple expansion interface cards required for AI/ML workloads and machine vision.

* You can use a jumper to switch the PCI Express Gen5(x16) slot to a PCI Express Gen5(x8) slot.

Equipped with various expansion interfaces

This product is equipped with various expansion interfaces including two 2.5GBASE-T, one 1000BASE-T, six USB 3.2 Gen2 (USB3.1), two USB 2.0, five COM communication ports, and video output ports (Display Port, HDMI and VGA).

Supports Windows 11 IoT Enterprise LTSC 2024 in multiple languages

Windows 11 IoT Enterprise LTSC 2024, an OS designed for specific applications, can be selected in one of four languages: English, Japanese, Chinese, and Korean. This OS can be used as a long-term fixed version with no function updates.

The built-in lockdown function allows users to limit writing to storage.

This product is a 19-inch rack-mount industrial-use PC that supports the 13th (Raptor Lake) of Intel® Core™ series and contains the Q670E chipset. In addition to a wide range of interfaces, expansion slots of PCI bus x 2, PCI Express Gen5(x16) bus x 1, or PCI Express Gen5(x8) x 2, PCI Express Gen4(x4) x 2, PCI Express Gen3(x4) x 1 bus are equipped. A reliable, Japan-made power supply can be selected. A power supply equipped with a nickel metal hydride battery, for optimal countermeasures against momentary and prolonged power outages are also available.

Solution-ePC is an industrial-use computer that offers BTO (Build to Order) specifications to suit the requests of customers.

Only carefully selected components offering high reliability and stable supply are used, making the product suitable for industrial use.

- * The contents in this document are subject to change without notice.
- * Visit the CONTEC website to check the latest details in the document.
- * The information in the data sheets is as of May 2025.

Specifications

Function specification

Item		Description
CPU [Selection]	Intel® Core i9 13900E Processor 1.8GHz Intel® Core i7 13700E Processor 1.9GHz Intel® Core i5 13500E Processor 2.4GHz Intel® Core i3 13100E Processor 3.3GHz	
Chip set	Intel® Q670E	
BIOS	AMI UEFI BIOS	
Memory [Selection]	Max. 128GB 16GB: 16GB DDR5 4400MHz x 1 Non-ECC 32GB: 16GB DDR5 4400MHz x 2 Non-ECC 64GB: 16GB DDR5 4400MHz x 4 Non-ECC 128GB: 32GB DDR5 4400MHz x 4 Non-ECC	
NVMe [Selection]	256GB: NVMe 2280 SSD 256GB 512GB: NVMe 2280 SSD 512GB 1TB: NVMe 2280 SSD 1TB 2TB: NVMe 2280 SSD 2TB	
Graphic		
Controller		Intel® UHD Graphics 730/770 (CPU integrated)
System Resolution	HDMI	3840 x 2160 @ 60Hz
	DisplayPort	7680 x 4320 @ 60Hz
	Analog RGB	1920 x 1200 @ 60Hz
Storage [Selection]	SATAIII 3.5-inch HDD 2TB SATAIII 3.5-inch HDD 4TB SATAIII 2.5-inch SSD 256GB SATAIII 2.5-inch SSD 512GB SATAIII 2.5-inch SSD 1TB SATAIII 2.5-inch SSD 2TB Hardware RAID (Mirroring)	
Optical Drive [Selection]	DVD slim drive	
Interface	Display	Analog RGB, HDMI x 1, DisplayPort x 1
	USB	A-Type connector Front : USB2.0 x 2ports Rear : USB3.2 Gen2 (USB3.1) x 6ports
	Audio	HD Audio compliant, 3.5p stereo mini jack, Rear : LINE OUT x 1, LINE IN x 1, MIC IN x 1
	Serial	9pin D-SUB connector(male) x 2 (RS-232C/422A/485 x 1) RS-232C x 4 (Internal connector) Baud rate : 50 - 115,200bps
	LAN	3ports (RJ-45 connector) 2.5GbE LAN Port (use Intel I226LM) x 2 1GbE LAN Port (use Intel I219LM) x 1 1000BASE-T/100BASE-TX/10BASE-T, Wake On LAN
Expansion Slot *1 [Selection]	- PCI Express Gen5(x16)/(x8) slot x 1 * Switched with the jumper *1 Usable card dimension: Max. 313.9mm(L) x 112mm(H) - PCI Express Gen4(x4) slot x 2 Usable card dimension: Max. 313.9mm(L) x 112mm(H) - PCI Express Gen5(x8) slot x 1 * Not usable when PCI Express 5.0(x16) is selected Usable card dimension: Max. 313.9mm(L) x 112mm(H) - PCI slot x 2 Usable card dimension: Max. 314.9mm(L) x 107mm(H) - PCI Express Gen3(x4) slot x 1 Usable card dimension: Max. 313.9mm(L) x 112mm(H)	
RAS	WDT: 1sec - 255 sec (Causes a reset upon time-out.) Remote reset / Remote power on, External input signal Monitoring function (fan speed, CPU temperature, voltage data readout)	
Security (TPM)	TCG TPM2.0	
RTC/CMOS	The real-time clock is accurate within ±3 minutes (at 25°C) per month, Lithium backup battery life : 7 years or more	
Supportable OS	None	

Item	Description
[Selection]	Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean) Windows 11 IoT Enterprise LTSC 2024 (Japanese / English / Chinese / Korean)
Power Supply [Selection]	Japan-made 520W ATX power supply (50/60Hz Input auto switching) Japan-made 520W ATX power supply Supports UPS nickel metal hydride battery (50/60Hz Input auto switching) Non-Japan-made 500W ATX power supply (50/60Hz Input auto switching)
Rated input voltage	100 - 240VAC
Range of input voltage	90 - 264VAC
Power consumption	With 500/520 W power supply : 3.6A (100VAC) (Max)
External device power supply capacity	USB 2.0 : 5V 0.5A x 4 2.0A *3 USB 3.2 Gen2 (USB 3.1) : 5V 0.9A x 6 5.4A*3 PCI Express (x16) slot : 3.3V 3A, 12V 5.5A PCI Express (x4) slot : 3.3V 6A, 12V 4.2A (3 slots total) Expansion PCI : 3.3V 1A, 5V 1A, 12V 0.3A (2 slots total)
Physical dimensions (mm)	430(W) x 445(D) x 177(H) (Excluding Front Bezel and Handles)
Weight *2	15.6Kg (approx.) (500W power supply, HDD x 2 (Removable), optical drive configuration) *2

*1 If the expansion card is wider than 18.71 mm, it may cover the adjacent PCI Express bus, limiting the available PCI Express buses to three or four slots. (Example: The adjacent PCI Express buses cannot be used with a dual-slot graphics card. Depending on the card being installed, the adjacent bus may also not be usable with some single-slot graphics cards.)

*2 The weight (which does not include accessories) may vary depending on the product configuration.

*3 Ensure that the power supply capacity provided to USB devices is 5 V, 3.6 A or less during use.

Environment Requirements

Item	Description
Operating ambient temperature	5 - 40°C
Non-operating ambient temperature	-20 - +60°C * With nickel metal hydride battery : 0 - 50°C
Humidity	20 - 80%RH (No condensation)
Floating dust particles	Not to be excessive
Corrosive gases	None
Line-noise resistance	Line noise AC line / ±2kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3), Signal line / ±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
Static electricity resistance	Contact discharge / ±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2), Air discharge / ±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance - HDD configuration (when powered on) 10 - 50Hz / 0.5G 25 min. each in x, y, and z directions (JIS C60068-2-6 compliant, IEC60068-2-6 compliant) - SSD configuration (when powered on) 10 - 57Hz / semi-amplitude : 0.075mm, 57 - 150Hz / 1.0G 40 min. each in x, y, and z directions (JIS C60068-2-6 compliant, IEC60068-2-6 compliant) * Excluding vertical installation and optical drive usage
Impact resistance	10G, half-sine shock for 11ms in x, y, and z directions (JIS C60068-2-27 compliant, IEC 60068-2-27 compliant)
Grounding	Class D grounding, SG-FG / continuity
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive). UKCA

Specifications

- Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)
- Windows 11 IoT Enterprise LTSC 2024 (Japanese / English / Chinese / Korean)

Included Items

Product...1
AC Cable...1
Front Bezel Key...2
Key For Removable...4 *1
Vertical Resin Stand...1 Set
Mount Bracket...1set
RS-232C Cable For Battery...1 *1
Vertical orientation stand bracket...2 *1
Keyboard...1 *1
Mouse...1 *1
Product Guide...1

*1 The quantity varies depending on the product configuration.

Replacement Parts for Maintenance

Parts name	Type	Description
Hard Disk	HDD-2TS-3	3.5 inch SATA HDD 2TB
	HDD-2TS-3R	3.5 inch SATA HDD 2TB (Support for RAID)

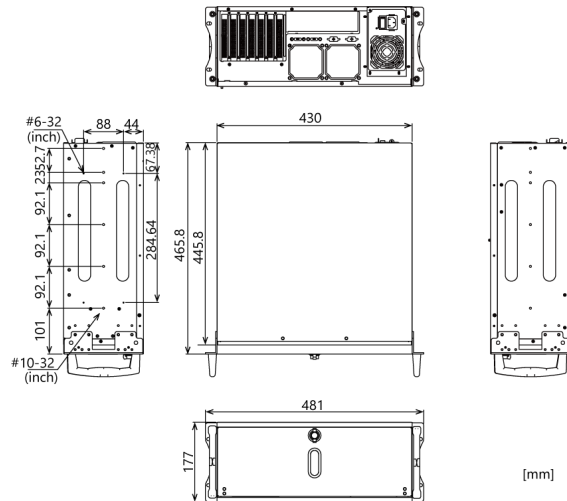
CAUTION

If a product other than our replacement parts one is used, the normal operation may be impaired or the functions may be limited.

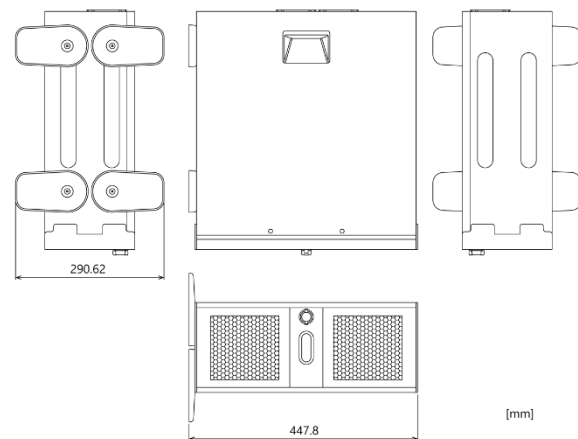
- * Visit the CONTEC website for the latest replacement parts for maintenance.

Physical Dimensions

Horizontal Installation

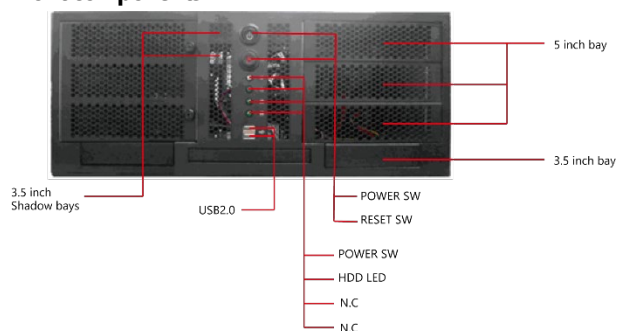


With Vertical Resin Stands Attached

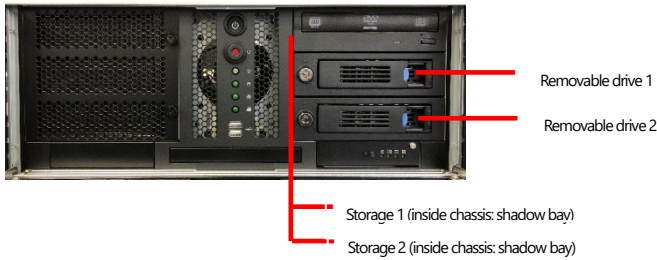


Component Name

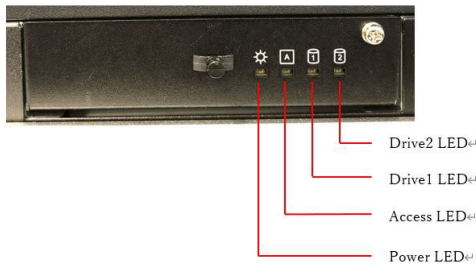
Front View Front components



Front components with options installed



LEDs with hardware RAID selected (3.5 inch bay)



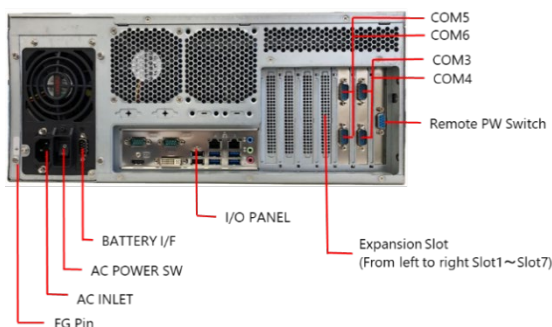
With front cover attached



- * The 5 inch bays store the customer-selected optical drives, batteries, and storage devices.
- * The 3.5 inch bay stores the RAID board when RAID is selected.
- * The 3.5 inch shadow bays store the selected storage devices.

Name	Function
Optical drive	DVD super multi drive (5 inch bay)
Nickel metal hydride battery	Selectable when the Japan-made 520 W power supply is selected (upper 5 inch bay)
Power LED (For hardware RAID)	Power LED with hardware RAID selected (3.5 inch bay for hardware RAID)
Access LED	Status LED with hardware RAID selected (3.5 inch bay for hardware RAID)
Drive 1 LED	SATA device 1 access LED with hardware RAID selected (3.5 inch bay for hardware RAID)
Drive 2 LED	SATA device 2 access LED with hardware RAID selected (3.5 inch bay for hardware RAID)
POWER SW	Power switch
RESET SW	System reset switch
POWER LED	Power LED (For PC main body)
HDD LED	SATA device LED
USB2.0	USB2.0 (TYPE-A connector) x 2
Removable drive 1	SATAIII, 2.5 inch / 3.5 inch removable drive (5 inch bay)
Removable drive 2	SATAIII, 2.5 inch / 3.5 inch removable drive (5 inch bay)
Storage 1	SATAIII, 3.5 inch drive (Shadow bay)
Storage 2	SATAIII, 3.5 inch drive (Shadow bay)

Rear View



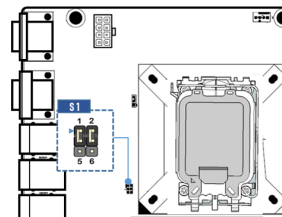
Name	Function
I/O PANEL	Stores various interfaces
COM 2/3/4/5	RS-232C (9pin D-SUB connector (Male)) 2 port x2 *Selection
USB 2.0	USB2.0 (TYPE-A connector) x 2 *Selection
Remote PW Switch	Allows the product to be started remotely
FG Pin	Frame ground terminal
AC INLET	100 - 240VAC Power Input Connector
AC POWER SW	AC Power Switch
Expansion Slot *1	From the left Slot1 (PCI Express 1) : PCI Express Gen5(x16)/(x8) slot x1 *2 Slot2 (PCI Express 2) : PCI Express Gen4(x4) slot x1 Slot3 (PCI Express 3) : PCI Express Gen4(x4) slot x1 Slot4 (PCI1) : PCI slot x1 Slot5 (PCI Express 4) : PCI Express Gen5(x8) slot x1 *2- Slot6 (PCI 2) : PCI slot x1 Slot7 (PCI Express 5) : PCI Express Gen3(x4) slot x1
BATTERY I/F	COM port for battery

*1 Remote PW switch, COM 2/3/4/5 occupy expansion slots. From right to left on the rear panel: Remote PW switch, COM 2/3, COM 4/5 and right to left.

*2 Use the jumper (S1) to switch between PCI Express Gen5(x16) and PCI Express Gen5(x8).

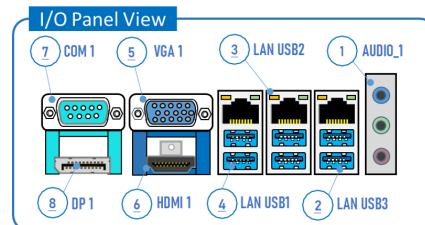
Jumper (S1) settings

When configuring this setting, use the jumper (S1) on the motherboard.



Label	Setting	Function
S1	(Initial value) 2 - 4 : connection 1 - 3 : connection	PCI Express 3.0(x16) x 1
	2 - 4 : connection 3 - 5 : connection	PCI Express 3.0(x8) x 2

I/O panel details



Name	No.	Function
AUDIO1 (LINE IN)	1	Line input (3.5pPHONE JACK)
AUDIO1 (LINE OUT)	1	Line output (3.5p PHONE JACK)
AUDIO1 (MIC IN)	1	Mic input (3.5p PHONE JACK)
LANUSB1 (LAN A)	4	1000BASE-T/100BASE-TX/10BASE-T (RJ-45 Connector)
LANUSB1 (USB3.2 Gen2)	4	USB3.2 Gen2 (USB3.1) (TYPE-A Connector) 2 ports
LANUSB2 (LAN B)	3	2.5BASE-T/1000BASE-T/100BASE-TX/10BASE-T E (RJ-45 Connector)
LANUSB2 (USB3.2 Gen2)	3	USB3.2 Gen2 (USB3.1) (TYPE-A Connector) 2 ports
LANUSB2 (LAN C)	2	2.5BASE-T/1000BASE-T/100BASE-TX/10BASE-T E (RJ-45 Connector)
LANUSB3 (USB3.2 Gen2)	2	USB3.2 Gen2 (USB3.1) (TYPE-A Connector) 2 ports
VGA1	5	Analog RGB (15pin, female)
HDMI 1	6	Display (19pin, female)
COM 1	7	RS-232C/422/485 (9pin D-SUB Connector (male)) 1 port
DP 1(Display Port)	8	DisplayPort (20pin, female)

Model Name Description

MR4300 Type Rule

Model Name **MR4300**

Type Name **F 1 3 8 9 9 1 H 3 1 0 0**
No. **1 2 3 4 5 6 7 8 9 10 11 12**

No.	Item	Type Name	Description
1	Power	F	Non-Japan-made (500W) power supply
		N	Japan-made (520W) power supply
		U	Japan-made (520W) power supply (with nickel metal hydride battery pack)
2	CPU	1	Intel® Core™ i3 13100E Processor 3.3GHz
		2	Intel® Core™ i5 13500E Processor 2.4GHz
		3	Intel® Core™ i7 13700E Processor 1.9GHz
		4	Intel® Core™ i9 13900E Processor 1.8GHz
3	Memory	1	Reserved
		2	16GB : DDR5 non-ECC DIMM (16GB x 1)
		3	32GB : DDR5 non-ECC DIMM (16GB x 2)
		A	64GB : DDR5 non-ECC DIMM (16GB x 4)
		B	128GB : DDR5 non-ECC DIMM (32GB x 4)
4	Optical Drive	0	Without optical drive, Without NVMe
		1	Without optical drive, NVMe 256GB SSD
		2	Without optical drive, NVMe 512GB SSD
		3	Without optical drive, NVMe 1TB SSD(TLC)
		4	Without optical drive, NVMe 2TB SSD(TLC)
		8	With optical drive, Without NVMe
		9	With optical drive, NVMe 256GB SSD
		A	With optical drive, NVMe 512GB SSD
		B	With optical drive, NVMe 1TB SSD(TLC)
		C	With optical drive, NVMe 2TB SSD(TLC)
5	Removable drive Storage 1 * The setting selected for whether a removable drive is present is common for storage 1 and storage 2. (Example: If you select that storage 1 is present, storage 2 is also selected to be present.)	0	Without 3.5" removable, No Storage
		1	3.5 inch SATA/HDD 2TB
		2	3.5 inch SATA/HDD 4TB
		3	2.5 inch SATA/SSD 256GB (BICSS)
		4	2.5 inch SATA/SSD 512GB (BICSS)
		5	2.5 inch SATA/SSD 1TB (BICSS)
		6	2.5 inch SATA/SSD 2TB (BICSS)
		9	3.5 inch SATA/HDD 2TB (removable)
		A	3.5 inch SATA/HDD 4TB (removable)
		B	2.5 inch SATA/SSD 256GB (BICSS) (removable)
		C	2.5 inch SATA/SSD 512GB (BICSS) (removable)
		D	2.5 inch SATA/SSD 1TB (BICSS) (removable)
		E	2.5 inch SATA/SSD 2TB (BICSS) (removable)
6	Removable drive Storage 2 * The setting selected for whether a removable drive is present is common for storage 1 and storage 2. (Example: If you select that storage 1 is present, storage 2 is also selected to be present.)	0	Without 3.5" removable, No Storage
		1	3.5 inch SATA/HDD 2TB
		2	3.5 inch SATA/HDD 4TB
		3	2.5 inch SATA/SSD 256GB (BICSS)
		4	2.5 inch SATA/SSD 512GB (BICSS)
		5	2.5 inch SATA/SSD 1TB (BICSS)
		6	2.5 inch SATA/SSD 2TB (BICSS)
		9	3.5 inch SATA/HDD 2TB (removable)
		A	3.5 inch SATA/HDD 4TB (removable)
		B	2.5 inch SATA/SSD 256GB (BICSS) (removable)
		C	2.5 inch SATA/SSD 512GB (BICSS) (removable)
		D	2.5 inch SATA/SSD 1TB (BICSS) (removable)
		E	2.5 inch SATA/SSD 2TB (BICSS) (removable)
7	OS	0	None
		1	Windows10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)
		2	Windows 11 IoT Enterprise LTSC 2024 (Japanese / English / Chinese / Korean)
		A	Reserved
8	RAID	0	None
		H	Hardware RAID
9	Keyboard & Mouse	0	None
		1	USB Japanese 109 keyboard (JP109)
		2	USB Optical mouse

No.	Item	Type Name	Description
10	Expansion slot COM	3	USB Japanese 109 keyboard (JP109) + USB Optical mouse
		4	USB English 104 keyboard (US104)
		6	USB English 104 keyboard (US104) + USB Optical mouse
		0	No COM port expansion
		1	COM2, COM3 2 ports expansion
		2	Reserved
		3	COM2, COM3, COM4, COM5 4 port expansion
11	Vertical Stand Remote PW Switch	4	USB2.0 2port expansion
		5	COM2, COM3 2 ports expansion, USB2.0 2port expansion
		6	Reserved
		7	COM2, COM3, COM4, COM5 4 port expansion, USB2.0 2port expansion
		0	Without Vertical Stand, Without remote PW switch
		1	With Vertical stand, Without remote PW switch
		2 - 7	Reserved
12	Reserved	8	Without Vertical Stand, With remote PW switch
		9	With Vertical Stand, With remote PW switch
		A -	Reserved
12	Reserved	-	Reserved