

Embedded-PC AC Power type  
**EPC-C5000 series**



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

**Features**

**Compatible with Intel® Xeon® W / Core™ / Pentium processor series Comet Lake**

Available with a high-performance 10th generation Xeon® processor or power-saving, high-performance 10th generation Core™ processor. Adopting embedded-type CPU contributes to a stable supply. The lineup includes 14 CPUs for use in various applications.

**CPU built-in high-performance graphics**

CPU corresponds to the Intel® HD Graphics 630/610. Full HD video can be smoothly played.

It also supports full HD output of the three-screen with the VGA, HDMI and DisplayPort.

**"Power failure protection system" features power-off without OS shutdown**

Equipped with the "Power failure protection system" function that protects data and prohibits writing to storage in the event of power failure. Along with the lockdown (disk writing suppression) function of Windows IoT Enterprise, power can be safely turned off without a shutdown process. Moreover, file system damage or data damage caused by sudden power failure can be avoided.

\* 2.5" HDDs are not subject to "Power failure protection system".

**Extend peripherals freely. Rich interface**

This product is equipped with a variety of expansion interfaces such as VGA, HDMI, DisplayPort, LAN x 3, USB3.2 Gen2 x 6, serial (RS-232C/RS-422A/RS-485) x 1, audio, Power SW signal connector. You can assist our use in various scenes.

**Equipped with expansion slots that can house PCI Express (x16) cards**

The product comes equipped with a PCI-Express (x16) bus slot. The maximum size of cards that can be installed is 167 (L) × 68 (H) mm.

\* Models equipped with a GPU card will come with an NVIDIA GPU card in the expansion slot.

**NVIDIA GPU card available**

Models equipped with a GPU card will come with an NVIDIA GPU card in the expansion slot.

This card can be used for expanded screen output options and data server applications thanks to advanced computing power.

**The attachment fitting and cable ties prevent problems caused by cable disconnections**

For connectors with no locking mechanism such as USB cable, unnecessary trouble can be avoided by the use of cable ties for prevention of cable disconnection.

This product is a PC for embedded use that is equipped with a processor from the 10th generation Intel® Xeon® or Core™ processor series.

Embedded-type chipset and CPU have been adopted. The use of readily available parts ensures the ease of the use of the product.

Models with one PCI-Express (x16) bus slot can select an NVIDIA GPU card for the expansion slot.

- \* 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 September, 2023.

**Included Items**

Name	EPC-C50x0A-Jx00x	EPC-C50x0A-Jx00x
	[Non-Storage Type]	[Other Type]
	Pcs.	Pcs.
Product	1	1
The Attachment Fittings	2	2
Screws for Attachment Fittings (M3)	4	4
Cable Tie for Cable	3	3
SATA Cable	1	*1
Screws for Fixing The 2.5-inch Storage	4	*1
AC Cable	1	1
DP to miniDP conversion cable	*2	*2
Product Guide	1	1

\*1 Preset upon shipment

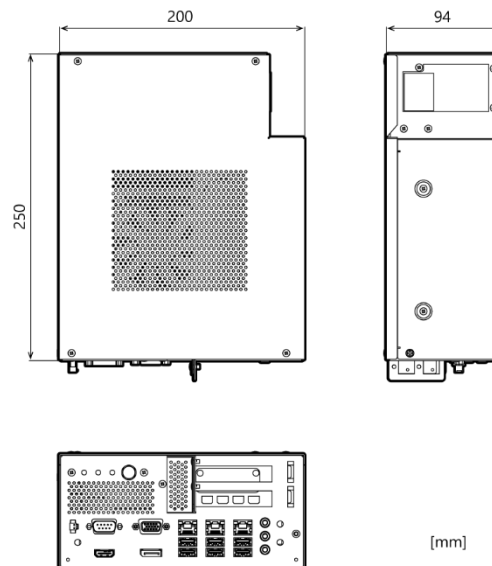
\*2 Included with GPU card-equipped type. RTX A2000 12GB=1pc, T1000 8GB=4pcs.

**Supported OS**

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

MIRACLE LINUX 9.0 (Japanese version only)

**External Dimensions**



[mm]

## Specifications

### Function specification

Item	Description
CPU [Selection]	Intel® 10th Gen. Comet Lake-S Xeon® W / Core™ Processors (LGA1200) Heat dissipation method: Heat sink +FAN For the CPU selecting, see "CPU Selection Guide"
Chipset [Selection]	Intel® W480E Express Chipset
BIOS	BIOS (mfrd. by AMI)
Memory [Selection]	Max 64GB, 260pin DDR4 SO-DIMM Socket x 2 DDR4-2933 (with Xeon® W-1290E/ Xeon® W-1270E/ Core™ i9/ Core™ i7 CPU) DDR4-2666 (with Xeon® W-1250E/ Core™ i5/ Core™ i3 CPU) Support for ECC will depend on the selected CPU. For the CPU selecting, see "CPU Selection Guide"
Graphic	Intel® UHD 610 & 630 (Built in CPU) VGA: 1920 x 1080 @ 60Hz DisplayPort: 4096 x 2160 @ 60Hz HDMI: 4096 x 2160 @ 60Hz
Storage *1 [Selection]	SATAIII 2.5" SSD 128GB - 1TB (TLC) or SATA II 2.5"HDD 1TB or M.2 2280 128GB - 1TB(TLC) or None *5
Audio	HD Audio compliant, LINE OUT x 1, LINE IN x 1, MIC IN x 1
LAN	1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector x 3 LAN-A: Intel I219 Controller LAN-B, C: Intel I210 Controller
USB	USB3.2 Gen2 (USB3.1) x 6
Serial	RS-232C/RS-422A/RS-485 (Switchable in BIOS settings) 9pin D-SUB x 1 Baud rate: 50 - 115,200bps (Programmable)
General I/O	POWER switch signal
Expansion Card Slot [Selection]	PCI-Express(x16) slot x 1 or PCI-Express(x8) slot x 2 Usable card dimension: Max. 167mm (L) x 68mm (H) Models equipped with a GPU card will come with an NVIDIA GPU card *2 in the expansion slot.
Hardware Monitoring	Monitoring CPU temperature, fan speed, power voltage
Watch Dog Timer	Software programmable, 255 level (1sec - 255 sec), Causes a reset upon time-out.
RTC/CMOS	The real-time clock is accurate within ±3 minutes (at 25°C) per month, Lithium backup battery life: 10 years or more *3
Power Management	Power management setup via BIOS, Power On by Ring / Wake On LAN
Security (TPM)	TCG TPM2.0
Interface	
External Display	VGA x 1, DisplayPort 1.4 x 1, HDMI 1.4bx x 1
Audio	Line input/output φ3.5 Stereo mini jack (LINE OUT, LINE IN, MIC IN)
Serial ATA	1-slot, removable, 2.5-inch SATA storage, serial ATA3.0 standard port Built-in
LAN	3 ports (RJ-45 connector)
USB	USB3.2 Gen2: 6 port (A-TYPE connector x 6)
RS-232C	RS-232C/RS-422A/RS-485 (Switchable in BIOS settings): 1 port (9pin D-SUB connector (male))
GPIO	POWER switch signal
Power Supply	
Range of Input Voltage	100 - 240VAC (50/60Hz)
Power Consumption	At maximum load: 100 - 240VAC 2.4 - 1.2A At OS startup: 100 - 240VAC 0.5 - 0.4A
External device power supply capacity	USB3.2 I/F: +5V 5.4A (1 port = 900 mA x 6)
Capacity for power supply to the expansion card	+12V: 5.5A +3.3V: 3A
Physical Dimensions (mm)	200(W) x 94(D) x 250(H) (Not including the attachment fitting or protrusions)
Weight *4	Without expansion card 3.3kg approx. With GPU card 3.6kg approx.

\*1 The storage device capacities are values calculated with 1 GB representing 1 billion bytes.  
Note that a portion of the storage space is used for internal storage to improve reliability, resulting in the actual capacity recognized by the OS being less.

\*2 Refer to the NVIDIA website for detailed specifications.

\*3 This is the backup time when no power is supplied for 16 hours per day.

\*4 The weight (which does not include accessories) may vary depending on the product configuration.

\*5 When using a combination of 1 x 2.5" SSD + 1 x M.2, the M.2 has priority for OS installation.

### Installation Environment Requirements

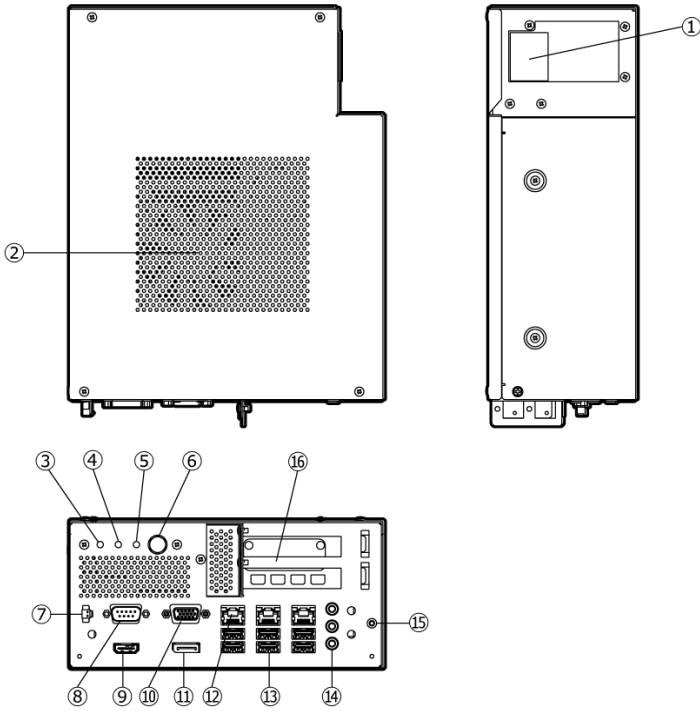
Item	Description	
Operating Temperature	0 - 40°C	
Storage Temperature	-10 - +50°C	
Humidity	20 - 80%RH (No condensation)	
Floating Dust Particles	Not to be excessive	
Corrosive Gases	None	
Line-noise Resistance	Line Noise	AC Line /±2kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3) Signal Line /±1kV (IEC61000-4-4 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	10 - 57Hz/semi-amplitude 0.15mm, 57 - 150Hz/2.0G 40minutes each in x, y, and z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
	Shock Resistance	10G, half-sine shock for 11 ms in x, y, and z directions (JIS C60068-2-27-compliant, IEC60068-2-27-compliant)
Grounding	Class D grounding, SG-FG / Separate	
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA *6	

\*6 Models equipped with a GPU card are not subject to CE/UKCA standards.

### CPU Selection Guide

CPU	TDP	Core	Speed	ECC
Core i3-10100TE	35W	4	2.30 GHz	Supported
Core i5-10500TE		6	2.30 GHz	Non-Supported
Core i7-10700TE		8	2.00 GHz	Non-Supported
Core i9-10900TE		10	1.80 GHz	Non-Supported
Xeon W-1250TE		6	2.40 GHz	Supported
Xeon W-1270TE		8	2.00 GHz	Supported
Xeon W-1290TE	10	1.80 GHz	Supported	
Pentium Gold	58W	2	3.8GHz	Non-Supported
Core i3-10100E	65W	4	3.20 GHz	Supported
Core i5-10500E		6	3.10 GHz	Non-Supported
Core i7-10700E		8	2.90 GHz	Non-Supported
Core i9-10900E		10	2.80 GHz	Non-Supported
Xeon W-1250E	80W	6	3.50 GHz	Supported
Xeon W-1270E		8	3.40 GHz	Supported

**Component Name**



No.	Name	No.	Name
1	AC inlet	9	HDMI
2	Cooling fan	10	VGA
3	Reset switch : RESET SW	11	DisplayPort
4	Disk access indicator LED : ACCESS LED	12	Ethernet A, B, C 1000BASE-T/100BASE-TX/10BASE-T RJ-45 connector
5	Power on indicator LED : POWER LED	13	USB3.2 Gen2 connector
6	Power switch : POWER SW	14	Upper LINE IN (3.5φ PHONE JACK) : LINE IN Middle LINE OUT (3.5φ PHONE JACK) : LINE OUT Down MIC IN (3.5φ PHONE JACK) : MIC
7	Power signal connector : POWER CN	15	FG
8	Serial port (9-pin D-SUB connector, male)	16	PCI-Express(x16) 1slot * or PCI-Express(x8) 2 slots or GPU card I/F * Expansion slot available only with lower slot.

**Product Lineup**

Base model: EPC-C500  
 Type : -J X X X X  
 CPU PCIe Memory Storage OS Expansion Slot

**The list of BTO model configuration**

Base Model			Type			
CPU	PCIe		Memory *1	Storage 2.5inch, M.2 *3	OS	Expansion Slot
0 Core i3-10100TE	A PCIe(x16) 1 slot		2 8GB (8GB x 1)	0 None	0 None	0 None (PCIe(x16) x 1)
1 Core i5-10500TE	B PCIe(x8) 2 slots *4		3 16GB (16GB x 1)	1 2.5" SSD 128GB (TLC)	2 Win10 IoT 2021 *2	1 NVIDIA RTX A2000 12GB
2 Core i7-10700TE			4 32GB (32GB x 1)	2 2.5" SSD 256GB (TLC)	C MIRACLELINUX 9.0 (Japanese version only)	2 NVIDIA T1000 8GB
3 Core i9-10900TE			5 16GB (8GB x 2)	3 2.5" SSD 512GB (TLC)		
4 Xeon W-1250TE			6 32GB (16GB x 2)	4 2.5" SSD 1TB (TLC)		
5 Xeon W-1270TE		+	7 64GB (32GB x 2)	5 2.5" HDD 1TB		
6 Xeon W-1290TE				A M.2 128GB SSD SATA (TLC)		
A Core i3-10100E				B M.2 256GB SSD SATA (TLC)		
B Core i5-10500E				C M.2 512GB SSD SATA (TLC)		
C Core i7-10700E				D M.2 1TB SSD SATA (TLC)		
D Core i9-10900E						
E Xeon W-1250E						
F Xeon W-1270E						

\*1 Support for ECC will depend on the selected CPU. See "CPU Selection Guide" for more information.

\*2 Win10 IoT 2021 : Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)

\*3 Combination of 1 x 2.5" SSD + 1 x M.2 is also available. For details, contact your retailer.

\*4 PCIe(x8) 2-slot models cannot accommodate a GPU card.