Business Computer
LPC-400 Series

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

This product is a fanless computer with an Intel® Celeron J6412 processor for embedded applications.

The product includes varied interfaces such as HDMI, two 1000BASE-T ports, USB 3.2 Gen 2 (USB3.1), two USB 3.2 Gen 1 (USB3.0), two USB2.0 and USB Type-C.

Embedded-type CPU has been adopted. The use of readily available parts ensures the product to be applied easily.
In addition, CONTEC-customized BIOS allows support to be provided at the BIOS level.

It features a compact, low-profile chassis design and can be installed on the back of a display by using the optional VESA mounting bracket.

* 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, 2024.

Features

Uses Intel® Celeron® J6412 processor
The LPC-400 series is equipped with a Tremont microarchitecture CPU that provides advanced computing and graphical performance even with minimal power requirements. Reliable supply is ensured by the adoption of embedded CPUs.

"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.

High-security design contributes to a highly reliable system
The latest security functions such as TPM2.0 and Secure Boot, as well as CONTEC's original functions including the USB Boot Protect are provided. This product is designed with the high security required for industrial applications in mind.

CONTEC-customized BIOS provides useful utility
Useful utility of BIOS *1 customized by CONTEC is provided. The "CONTEC Fast Boot" achieves Windows startup in 10 seconds.*2

The "Disk Copy" function provides secure disk backup at the BIOS level, and also supports backup in file format or compressed file format. We also offer the CONTEC tools "BIOS update tool" for updating BIOS.*3

Fan-less design reduces maintenance work
The product is fan-less to ensure a totally spindle-less design that simplifies maintenance, relieving the concern about dust or foreign matter to get into the product. Moreover, along with minimized use of degrading parts greatly reduce maintenance work.

Rich variety of interfaces to expand your peripherals freely
Interfaces including HDMI, 1000BASE-T x 2, USB3.2 Gen2 (USB3.1) x 1, USB3.2 Gen1 (USB3.0) x 2, USB2.0 x 2 and USB Type-C x 1 are provided.

Thin, compact design enables mounting to the rear of a monitor
The optional mounting bracket can be used to mount the product to the back of a monitor with VESA standard support.

*1   For details, see each setting in the [BIOS Setup] section.
*2   It is the actual measured value when Windows 10 and HORM function are enabled at the factory.
        Time may vary depending on configuration. Note that TXE, TPM, Network Stack, and SMART Self Test are not supported when the CONTEC Fast Boot is enabled.
*3   Contact your retailer for more information.

Specifications

Function specification

Item		Description
CPU		Intel® Celeron® J6412 Processor (2.0GHz)
BIOS		BIOS (mfd. by AMI)
Memory [Selection]		Max. 32GB (1slot) 8GB : 8GB DDR4-3200MHz SO-DIMM(2666MHz) x 1 Non-ECC 16GB : 16GB DDR4-3200MHz SO-DIMM(2666MHz) x 1 Non-ECC 32GB : 32GB DDR4-3200MHz SO-DIMM(2666MHz) x 1 Non-ECC
Storage [Selection]		M.2 Type：2242(SATA, B-Key) x 1 128GB：2242 SSD(SATA) 128GB 256GB：2242 SSD(SATA) 256GB 512GB：2242 SSD(SATA) 512GB 1TB ：2242 SSD(SATA) 1TB
Graphic Controller		Intel® UHD Graphics 16 EUs (Elkhart Lake) (CPU integrated)
System resolution	HDMI	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 1,280 x 800, 1,280 x 960, 1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,200, 1,680 x 1,050, 1,792 x 1,344, 1,856 x 1,392, 1,920 x 1,080, 1,920 x 1,200, 1,920 x 1,440, 1,920 x 2,160, 2,048 x 1,152, 2,048 x 1,280, 2,048v1,536, 2,560 x 1,440, 2,560 x 1,600, 2,560 x 1,920, 2,560 x 2,048, 3,840 x 2,160 (16,770,000 colors)
	USB Type-C	800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 1,280 x 800, 1,280 x 960, 1,280 x 1,024, 1,360 x 768, 1,366 x 768, 1,400 x 1,050, 1,440 x 900, 1,600 x 900, 1,600 x 1,200, 1,680 x 1,050, 1,792 x 1,344, 1,856 x 1,392, 1,920 x 1,080, 1,920 x 1,200, 1,920 x 1,440, 1,920 x 2,160, 2,048 x 1,152, 2,048 x 1,280, 2,048 x 1,536, 2,560 x 1,440, 2,560 x 1,600, 2,560 x 1,920, 2,560 x 2,048, 3,840 x 2,160 (16,770,000 colors)
Audio		HD Audio compliant, LINE OUT x 1
Security (TPM)		TCG TPM2.0
Hardware Monitoring		Monitoring CPU temperature, card temperature, power voltage
Watchdog Timer (WDT)		Software programmable, 255 level (1sec - 255sec), Time up allows reset.
Real Time Clock		Lithium backup battery life: 10 years or more *2 The real-time clock is accurate within ±3 minutes (at 25°C) per month (CPU integrated RTC).
Power Management		Power management setup via BIOS Power On by Ring/Wake On LAN Supports ACPI Power management
Support OS [Selection]		None Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)
Interface		
	Display	HDMI2.0 x 1, USB Type-C (DP Alt mode) x 1
	Audio	LINE OUT : 3.5φ stereo mini jack x 1
	LAN	Realtek RTL8111H Controller 2ports (RJ-45 connector)
	USB	USB3.2 Gen1 (USB3.0) compliant 2ports (Type-A connector) Front: 1port, Rear: 2ports USB3.2 Gen2 (USB3.1) compliant 1port (Type-A connector) Rear: 1port USB2.0 compliant 2ports (Type-A connector) Front: 2ports USB3.2 Gen2 (USB3.1) compliant 1port (Type-C connector) Rear: 1port
	M.2	Type 2242 M-key x 1 Type 2230 M-key x 1
	WLAN(Wi-Fi)	M.2 (Type : 2230, E-Key) x 1 [Selection]

Item	Description
Power supply	
Rated Voltage Range	12VDC±10% *3
Power consumption (Max.)	12V 2.4A (Max.)
External Device Power Supply Capacity *4	USB3.2 Gen2/1 (USB3.1/USB3.0) I/F : +5V 2.7A (900mA x 3 per port) USB2.0 I/F : +5V 1.0A (500mA x 2 per port) USB Type-C : +5V 3.0A (USB PD)
Physical dimensions (mm)	150(W) x 150(D) x 33(H) (Not including the protrusions)
Weight	0.65kg (approx.) (Not including the attachment fitting)

*1   The capacity of disk in the OS pre-installed type is a value when 1GB is calculated by 1 billion bytes. The capacity that can be recognized from OS might be displayed fewer than an actual value.

*2   It is when the power is disconnected for 16 hours a day.

*3   Use a power cable of 3 meters or shorter.

*4   When the included AC adapter is selected, the total power supply capacity for external devices is 2.6A.

Environment Requirements

Item		Description
Operating temperature		0 - 40℃ (airflow 0.2m)
Storage Temperature		-20 - +60℃
Humidity		10 - 90%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) *5, 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 40 min. each in x, y, and z directions (JIS C60068-2-6 compliant, IEC60068-2-6 compliant)
Impact resistance		10G, half-sine shock for 11ms in x, y, and z directions (JIS C60068-2-27 compliant, IEC60068-2-27 compliant)
Grounding		Class D grounding, SG-FG / continuity
Standard		VCCI Class B, FCC Class B, CE Marking (EMC Directive Class B, RoHS Directive) *6, UKCA *6

*5   It is when the product is used with AC adapter DSS65-1205000.

*6   The wireless lan type is excluded from CE / UKCA Standard.

Included Items

Product [LPC-400 Series] ...1
Vertical Stand ... 1
Fixing Screw for vertical stand (M3 x 6) ... 2
Cable Ties for cable fastening ... 1
AC Adaptor (12VDC, 5A) *1 ... 1
AC Power Cable (125VAC, 2P + Ground) *1 ... 1
Product Guide ... 1
Setup Sheet ... 1

*1   The number of covers differs depending on the model.

Supported OS

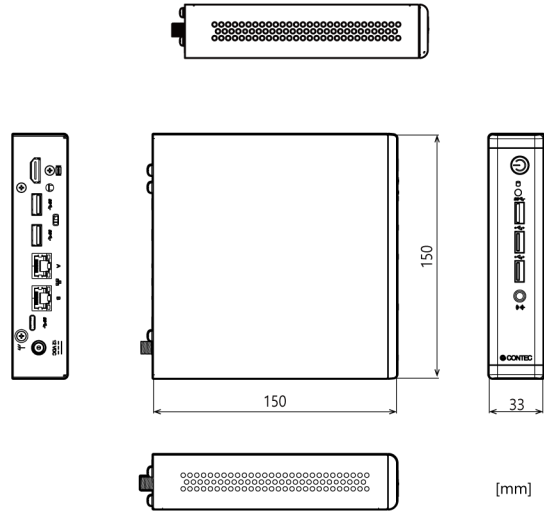Windows 10 IoT Enterprise 2021 LTSC 64bit (Japanese / English / Chinese / Korean)

Optional Products

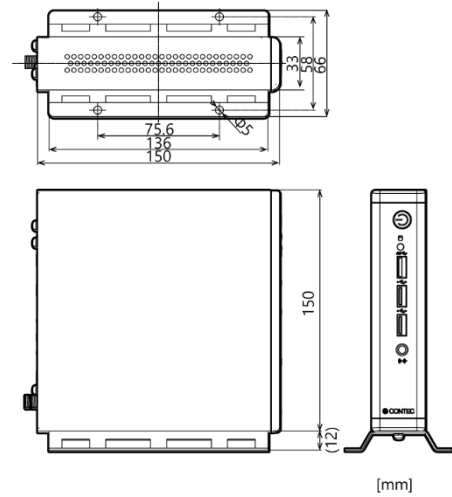| Item	Model	Description
AC adapter	PWA-60AWD1	Switching AC adapter 12VDC 5.0A
VESA mounting bracket	LPC-400 VESA-SND-BKT	Fittings to be installed on a VESA-compatible display stand

*   Information about the option products, see the Contec's website.
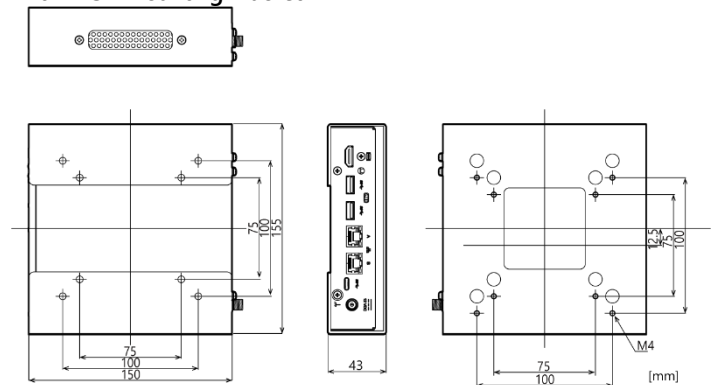
Physical Dimensions

With the Horizontal Installation
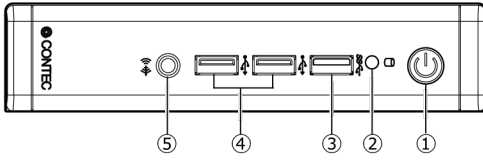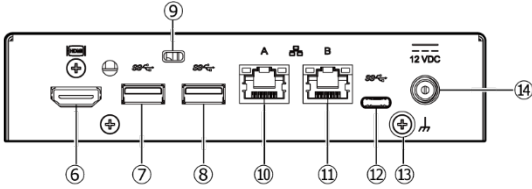

[mm]

With the Vertical Stand

[mm]

With VESA Mounting Bracket

[mm]

Component Name

Front View

Rear View

No.	Name	Function
1	POWER SW	PC power switch
2	DRIVE ACCESS LED	Drive access indicator LED
3	USB 3.2 Gen1	USB 3.2 Gen1 (USB3.0) port Type-A connector
4	USB 2.0	USB 2.0 port connector x 2
5	LINE OUT	Line output (3.5Φ PHONE JACK)
6	HDMI	Display (19pin, female)
7	USB 3.2 Gen1	USB 3.2 Gen1 (USB3.0) port Type-A connector
8	USB 3.2 Gen2	USB 3.2 Gen2 (USB3.1) port Type-A connector
9	Security Slot	Nano Saver 6 x 2.5
10	LAN A	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 Connector
11	LAN B	Ethernet 1000BASE-T/100BASE-TX/10BASE-T RJ-45 Connector
12	USB 3.2 Gen2	USB 3.2 Gen2 (USB3.1) port Type-C connector
13	FG	Frame ground
14	DC-IN	12VDC Power Socket

Model Name Description

LPC-400 type name rule (BTO model)

Model name   LPC-400 (AC power supply specifications)
Type name   J 1 2 2 1 1 0 0 0
No.   1 2 3 4 5 6 7 8 9

No.	Item	No.	Contents
1	Region	J	fixing
2	CPU	1	Intel® Celeron® Processor J6412
3	Memory	2	8GB : 8GB DDR4-3200MHz SO-DIMM(2666MHz) x 1, Non-ECC
		3	16GB : 16GB DDR4-3200MHz SO-DIMM(2666MHz) x 1, Non-ECC
		4	32GB : 32GB DDR4-3200MHz SO-DIMM(2666MHz) x 1, Non-ECC
4	Storage	0	None
		1	M.2 64GB SSD(TLC)
		2	M.2 128GB SSD(TLC)
		3	M.2 256GB SSD(TLC)
		4	M.2 512GB SSD(TLC)
		5	M.2 1TB SSD(TLC)
5	OS	0	None
		1	Windows 10 IoT Enterprise 2021 LTSC 64bit (JP/EN/CHN/KOR)
6	Power	0	None
		1	AC adapter included
7	Wireless	0	None
		1	Wireless LAN (IEEE 802.11ac)
8	Reserved	0	Reserved
9	Reserved	0	Reserved