A

BOX Computers

BOX-PC®

Their compact design makes Contec's Box-PCs optimal for embedded applications. Box PC CPUs and chip sets are tailored for embedded computing, while components are selected for their high reliability and stable supply.

*BOX-PC is a registered trademark of CONTEC CO., LTD.

B

Panel Computers

PANEL-PC

Industrial computers equipped with touchscreen LCDs, these systems are highly suited for use in operating and control panels. As with the BOX-PCs, components are selected for their high reliability and stable supply.

Product Lineup

You can choose from a wide variety of models based on application requirements including CPU speed, installation style and expandability.

BOX PCs

IPC-BX 360 series A-03

CPU: ULV Celeron 400MHz | Fan-less | Main Memory: 512MB DDR SDRAM

Card Bus

IPC-BX/M360(PCI)C

IPC-BX 620 series A-05

CPU: ULV Celeron 400MHz | Fan-less | Main Memory: 256MB SDRAM

Card Bus

IPC-BX/M620(PCW)CI

Card Bus | PCI/ISA × 1

PC-BX/M620(PCW)CP

IPC-BX 630 series A-05

CPU: LV Pentium III 800MHz | Fan-less | Main Memory: 256MB SDRAM

Card Bus

IPC-BX/M630(PCI)C

Card Bus | PCI × 1

IPC-BX/M630(PCI)CP

Card Bus | PCI × 4

IPC-BX/M630(PCI)C4P

Micro Controller Unit CPU-SB20 Series A-09

CPU: Geode SC2200 266MHz | Fan-less | Main Memory: 256MB SDRAM 128MB SDRAM

PC CPU Unit (Compliant with Mitsubishi Electric general-purpose sequencer MELSEC-Q Series) A-11

CPU: Mobile Celeron 400MHz | Fan-less | Main Memory: 128MB SDRAM

Panel PCs

IPC-PT 620 series

B-01

CPU: ULV Celeron 400MHz | Fan-less | Main Memory: 256MB SDRAM

15inch TFT | XGA | Card Bus

IPC-PT/H620X(PCW)C

15inch TFT | XGA | Card Bus | PCI/ISA × 2

IPC-PT/H620X(PCW)CP

12.1inch TFT | SVGA | Card Bus

IPC-PT/L620S(PCW)C

12.1inch TFT | SVGA | Card Bus | PCI/ISA × 2

IPC-PT/L620S(PCW)CP

IPC-PT 630 series

B-01

CPU: LV Pentium III 800MHz | Fan-less | Main Memory: 256MB SDRAM

15inch TFT | XGA | Card Bus

IPC-PT/H630X(PCI)C

15inch TFT | XGA | Card Bus | PCI × 2

IPC-PT/H630X(PCI)CP

12.1inch TFT | SVGA | Card Bus

IPC-PT/L630S(PCI)C

12.1inch TFT | SVGA | Card Bus | PCI × 2

IPC-PT/L630S(PCI)CP

Contec recommends using its touch-screen Flat-Panel Displays with their BOX-PCs.

Flat-Panel Displays C-01

Pictograms

CPU

CPU XXXXXXX — Onboard CPU - type and speed

Fan-less — Fan-less operation - cooled by heat sink.

Easier maintenance and quieter operation is achieved with fan-less systems.

Chipset

Chip Set XXXXXXX — Type of onboard chipset

Main memory

Main Memory XXXX DDR SDRAM / Main Memory XXXX SDRAM — Type of main memory and maximum allowable that can be installed

Video output

DVI (Includes VGA adapter) | Analog RGB — Video signal output interface

Expansion slot

PCI ×□ | PCI/ISA ×□ — Number of user-available slots

Onboard Devices / Interfaces

LAN — Indicates LAN port

Dual LAN — Indicates 2 LAN ports

USB 2.0 — Indicates USB 2.0 port. Number of ports will vary depending on the product.

USB 1.1 — Indicates USB1.1 port. Number of ports will vary depending on the product.

Audio — Indicates AC97-compliant audio output function. Line / mike input supported on some models.

CF (option) — Indicates CF(Compact Flash) slot, enabling HDD-less system configuration.

Screen Size

15inch TFT | 12.1inch TFT — Type and size of LCD panel

Resolution

XGA | SVGA — Screen resolution

XGA : 1,024×768

SVGA : 800×600

Touchscreen

Touch Panel — Indicates touch panel function

Dust-proof / Water-proof

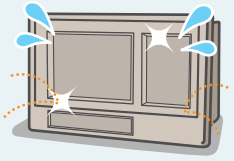
IP65 — Dust / water-proof performance of the front side

IP65-Compliance

Indicates the level of dust and water resistance of the PC front side when properly mounted.

IP 6 5

- 5: Denotes protection from water sprayed at low pressure from every angle.
- 6: Denotes complete protection against dust
- IP: Stands for "International Protection"

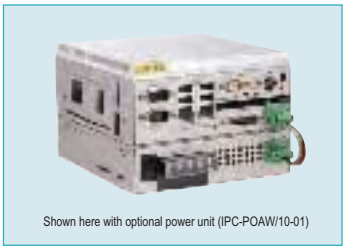


Sophisticated Ultra-Compact Design, Easy Installation and Maintenance

Dual LAN

IPC-BX 360 Series

NEW



Shown here with optional power unit (IPC-POAW/10-01)

Fanless, Ultra Low Voltage Celeron 400MHz Box-PC 360 Series

Ultra Low Voltage Celeron 400MHz | Chip Set: CLE266 | Main Memory: 512MB DDR SDRAM | Fan-less | CE | PCMCIA (CardBus) | DVI (Includes VGA adapter) | LAN | Audio

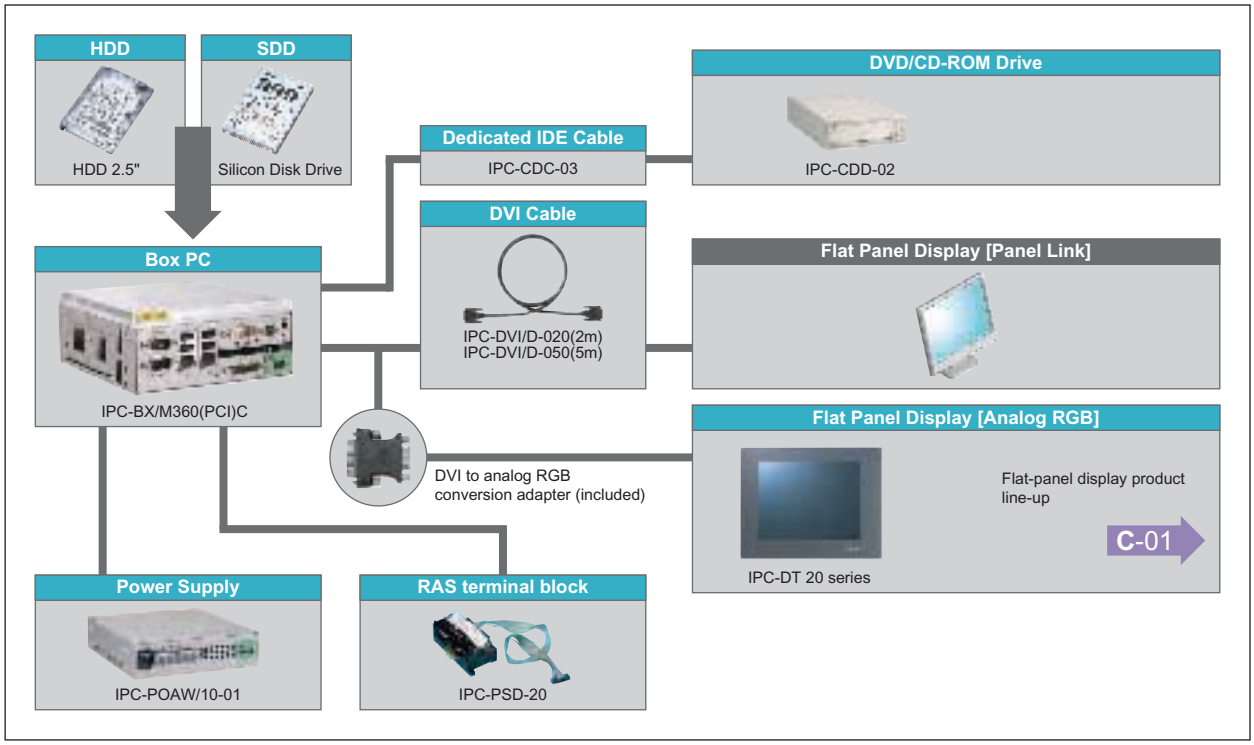
For Dimensions see Page A-08

IPC-BX/M360(PCI)C

* Contec cannot guarantee that a 2.5" HDD will operate normally when used on a 24-hour basis. This type of use will drastically reduce the service life of the drive. Contec recommends the use of a silicon disk drive (SDD) when operating on a 24-hour basis.

User's manual shipped on CD. Optional CD-ROM / DVD-ROM drives are available.
Manuals can be downloaded from our website. (http://www.contec.com/download/)

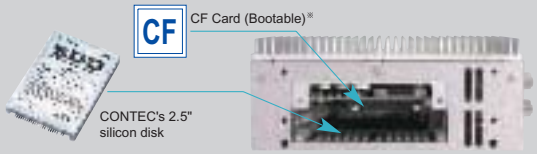
■System Configuration



Features of IPC-BX 360 Series

System configuration with no mechanical moving parts (disk or fans)

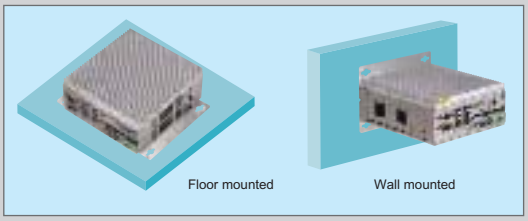
The highest reliability and a virtually noise & dust free system is achieved when using one of Contec's Silicon Disk Drives (PC-SDDV Series) or a compact flash card.



※ Compact Flash needs to be configured by the end user.
There are no restrictions on the capacity of the CF card.

Various installations

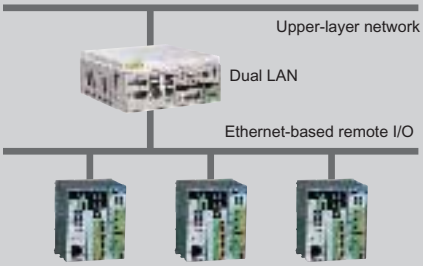
The bracket provided allows for wall as well as floor installation.



I/O expansion using Ethernet-based remote I/O (F&eIT)

Ethernet-based remote I/O (F&eIT Series) allows expansion I/O for central monitoring, measurement and control.

Ethernet-based remote I/O L-03



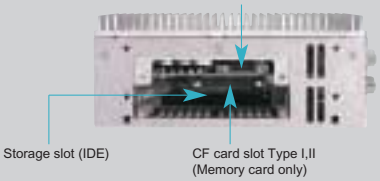
Powerful & Power-saving

This series is equipped with ultra-low voltage version Intel® Celeron 400MHz processor, both a power-saving and high-performance CPU, as well as 512MB DDR SDRAM.

Slot-in type drive bay for easy maintenance

A slot-in type bay is used for installing a 2.5" storage device (HDD, SDD). The DVD/CD-ROM connector and CF card slot are located in the storage bay for easier maintenance.

DVD/CD-ROM drive connector
(The HDD and IDE cable are sold separately.)



Mulitple interface options for ease of connecting with peripheral equipment

A wide array of interface options is provided to support varying peripherals.

Shutdown Not Required

(When using Windows XP Embedded + silicon disk, EWF function enabled)

Enabling the EWF function (from command prompt) allows you to turn off the power without shutting down the unit.

(EWF: A function exclusively provided by Windows XP Embedded. It emulates the writing of storage onto main memory thereby eliminating the need for actual writing.)

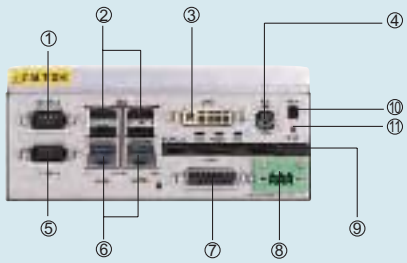
High-definition DVI video output (Analog RGB conversion adapter provided)

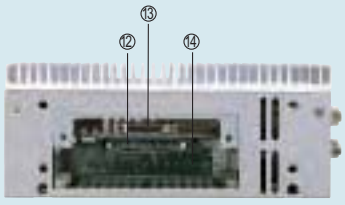
DVI interface is employed for video output to minimize degradation. The Display is connected to the unit with a single DVI cable carrying both the video and touch-screen signals.

Stable supply

Components are carefully selected to ensure a long-term stable supply, which include CPU and chipset that were tailored for embedded computing.

■Interfaces





Left side

Comments of Interfaces

① COM 1
② USB2.0 4ch
③ DVI
④ Keyboard *1
⑤ COM 2
⑥ 100BASE-TX / 10BASE-T 2 ports
⑦ RAS
⑧ DC-IN
⑨ PC Card slots (CardBus association)
⑩ Line listing
⑪ Reset
⑫ Compact Flash slots
⑬ Secondary-IDE
⑭ HDD slots

*1: PS/2 mouse can be connected using the keyboard/mouse cable that is provided.

■Options

Name	Description
RAS terminal block	
IPC-PSD-20	Terminal block [equipped with connecting cable] for general-purpose I/O
Power Supply	
IPC-POAW/10-01	AC - DC Power supply Input: 100-240VAC Output: 10VDC
DVD/CD-ROM drive	
IPC-CDD-02	DVD / CD-ROM

Name	Description
Cable	
IPC-CDC-03	Connecting cable for DVD/CD-ROM drive
Manual	
IPC-BX/360(PCI)-HME	User's manual
Others	
IPC-SLIB-01	Driver & Utility software (CD-ROM)

※ 1: Requires use of IPC-CDC-03 cable. [sold separately]

Multiple Functions - Compact Body
Shoebox-size Embedded PC

IPC-BX 620 Series

Fanless Ultra Low Voltage Celeron 400MHz Box-PC 620 series

For Dimensions see Page A-08

Ultra Low Voltage Celeron 400MHz | Chip Set 815E | Main Memory Max. 512MB SDRAM | Fanless | PCMCIA (CardBus) | DVI (Includes VGA adapter) | LAN | Audio

CE Schedule

■ PC Card slot ×1

IPC-BX/M620(PCW)C

CE Schedule

■ PC Card slot ×1, PCI/ISA Bus slot ×2

IPC-BX/M620(PCW)CP

* Contec cannot guarantee that a 2.5" HDD will operate normally when used on a 24-hour basis. This type of use will drastically reduce the service life of the drive. Contec recommends the use of a silicon disk drive (SDD) when operating on a 24-hour basis.

User's manual shipped on CD. Optional CD-ROM / DVD-ROM drives are available.
Manuals can be downloaded from our website. (http://www.contec.com/download/)

IPC-BX 630 Series

Fanless Ultra Low Voltage Pentium III 800MHz Box-PC 630 series

For Dimensions see Page A-08

Low Voltage Pentium III 800MHz | Chip Set 815E | Main Memory Max. 512MB SDRAM | Fanless | PCMCIA (CardBus) | DVI (Includes VGA adapter) | LAN | Audio

CE

■ PC Card slot ×1

IPC-BX/M630(PCI)C

CE

■ PC Card slot ×1, PCI Bus slot ×2

IPC-BX/M630(PCI)CP

CE

■ PC Card slot ×1, PCI Bus slot ×4

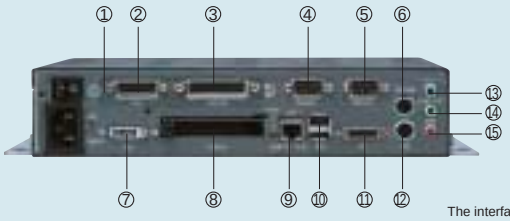
IPC-BX/M630(PCI)C4P

* Contec cannot guarantee that a 2.5" HDD will operate normally when used on a 24-hour basis. This type of use will drastically reduce the service life of the drive. Contec recommends the use of a silicon disk drive (SDD) when operating on a 24-hour basis.

User's manual shipped on CD.
Manuals can be downloaded from our website. (http://www.contec.com/download/)

Features of IPC-BX620, 630 series

- Low Voltage Intel® Celeron® Processor 400MHz (FSB 100MHz) CPU and 256MB memory (IPC-BX620 series)
- Low Voltage Intel® Pentium III Processor 800MHz (FSB 133MHz) CPU and 256MB memory (IPC-BX630 series)
- Natural air-cooled Fan-less system
- Reliable, virtually noiseless operation when used with CONTEC's PC-SDD V Series silicon disk drives (Silicon disks are ideal for use in harsh environments such as those experiencing extremes in temperature, humidity or vibration)
- Embedded CPUs and chipsets contribute to long-life availability
- CONTEC customized BIOS [Phoenix Technologies, Ltd.] provides BIOS level support
- Interfaces include PCMCIA (CardBus compliant), Audio (AC97 compliant), 100BASE-TX and RAS
- External secondary-IDE connector for optional CD-ROM
- DVI video output (VGA conversion adapter included)
- CMOS data can be stored on EEPROM, providing system boot-up even if the battery is drained.

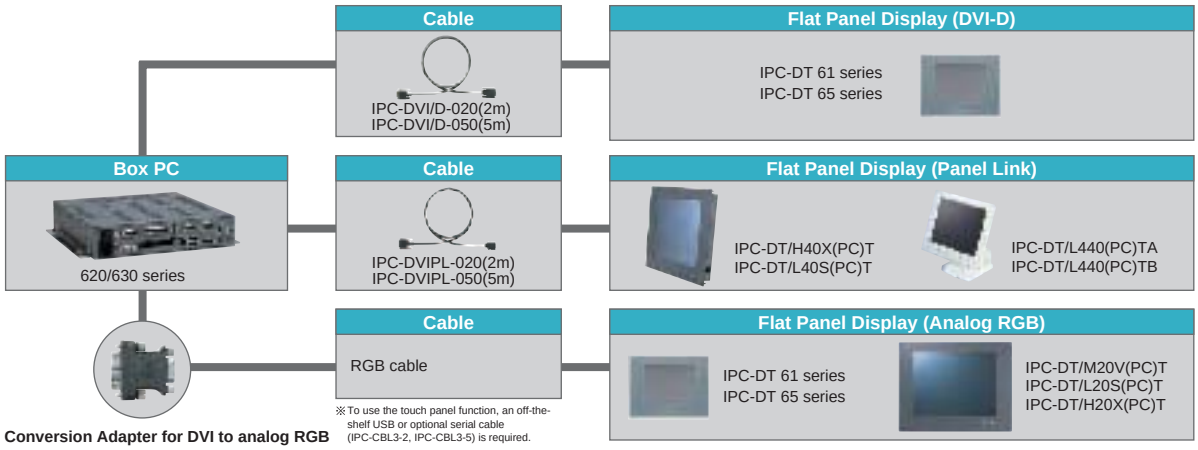


The interface configuration is the same on all models.

Comments of Interface

① Serial Port 3, 4 (RS-232C, RS-422/485) are converted by replacing the bracket.
② RAS
③ Printer
④ Serial Port 1
⑤ Serial Port 2
⑥ Mouse
⑦ DVI
⑧ PC Card slot
⑨ 10BASE-T/100BASE-TX
⑩ USB 2ch
⑪ FD
⑫ Keyboard
⑬ Line input
⑭ Line output
⑮ Mic
⑯ 620 series: PCI/ISA expansion slot
630 series: PCI expansion slot

■Connections



※To use the touch panel function, an off-the-shelf USB or optional serial cable (IPC-CBL3-2, IPC-CBL3-5) is required.

Conversion Adapter for DVI to analog RGB
Concurrent use of Panel Link and Analog RGB display is not supported.

■Options

Name	Description
Memory (144-pin SO-DIMM)	
PC-MSD256-144V	256MB SD Memory
Floppy Disk Drive	
PC-FDD25BH	3.5-inch FDD drive (an attached cable)
CD-ROM / DVD-ROM drive	
IPC-CDD-02	CD-ROM / DVD-ROM drive (an attached cable)
Terminal for RAS connector	
IPC-PSD-20	Terminal with an attached cable for general-purpose I/O
Others	
IPC-SLIB-01	Driver & Utility software (CD-ROM)

■IPC-BX620 series

Name	Description
Memory (144-pin SO-DIMM)	
PC-MSD128-144V	128MB SD Memory
Others	
IPC-BX/M620(PCW)-HME	English manual of IPC-BX/M620(PCW)

■IPC-BX630 series

Name	Description
Others	
IPC-BX/M630(PCI)-HME	English manual of IPC-BX/M630(PCI)

■ Specifications

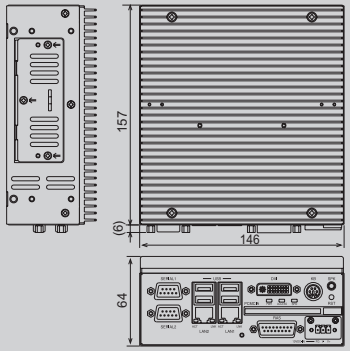
Model	IPC-BX/M360(PCI)C	IPC-BX/M620(PCW)C IPC-BX/M620(PCW)CP	IPC-BX/M630(PCI)C IPC-BX/M630(PCI)CP IPC-BX/M630(PCI)C4P
CPU	Ultra Low Voltage Interl® Cerelon® Processor 400MHz (FSB100MHz)	Ultra Low Voltage Interl® Cerelon® Processor 400MHz (FSB100MHz)	Low Voltage Interl® Pentium® III Processor 800MHz (FSB133MHz)
Chipset	VIA CLE266 (VT8623+VT8235)	Interl® 815E	
Main Memory	512MB *1 (1 × 3.3V 200-pin DDR SO-DIMM PC2100 Socket)	256 MB standard *2 / Max. 512MB (2 × 3.3V 144-pin SO-DIMM PC100 Socket)	256 MB standard *2 / Max. 512MB (2 × 3.3V 144-pin SO-DIMM PC133 Socket)
PC Card slot	1 × PCMCIA Type I or II (boot from ATA card is not supported), CardBus correspondent	2 × PCMCIA Type I, II or 1 × Type III (boot from ATA card is not supported), CardBus correspondent	
CF Card slot	1 × CF Card Type I, II [for Memory Card] [Secondary-IDE]*3	-	
Ethernet	2 × 100BASE-TX/10BASE-T [Realtek RT8139DL]	1 × 100BASE-TX / 10BASE-T [Intel ICH2]	
Expansion Bus slot	-	IPC-BX/M620(PCW)C: None IPC-BX/M620(PCW)CP: 2 × PCI/ISA slot *4, Installable board length: 240mm (Max.)	IPC-BX/M630(PCI)C: None IPC-BX/M630(PCI)CP:2 × PCI slot, Installable board length: 240mm (Max.) IPC-BX/M630(PCI)C4P: 4 × PCI slot, Installable board length: 240mm (Max.)
System Resolution	640×480(116,770,000 colors), 800×600(16,770,000 colors), 1,024×768(16,770,000 colors), 1,280×1,024 (16,770,000 colors)	640 × 480(116,770,000 colors), 800 × 600(16,770,000 colors), 1,024 × 768(16,770,000 colors), 1,152 × 864(16,770,000 colors), 1,280 × 960(16,770,000 colors), 1,280 × 1,024(16,770,000 colors)	
CRT I/F	DVI-I 29-pin *6*15	DVI-I 29-pin *6*16	
LCD I/F	-		
Keyboard I/F	Single PS/2 port supports both when using supplied keyboard/mouse 'Y' cable	PS/2 mouse-compatible (6-pin MINI DIN connector)	
Mouse I/F	-	PS/2 mouse-compatible (6-pin MINI DIN connector)	
FDD I/F	-	Dedicated 26pin, half pitch connector - 2 modes (optional FDD - PC-FDD25BH)	
IDE I/F	Primary: Ultra DMA/100, 2.5-inch IDE HDD or silicon disk drive Secondary: dedicated, external, 36-pin half pitch connector (for connection of optional CD-ROM) (Side in the left) *3	Ultra DMA/100, 2.5-inch IDE HDD or silicon disk drive (One more unit can be added. Either of the two must be a silicon disk drive.)	
Serial I/F	RS-232C (general-purpose): 2ch (SERIAL PORT1,2) 9-pin D-SUB connector, RS-232C (Touch Panel): 1ch (SERIAL PORT2) [inside the DVI connector] *8*10 RS-422/485 (general-purpose): 1ch (SERIAL PORT1) [inside the RAS connector] *7	Primary:RS-232C (general-purpose): 2ch (SERIAL PORT1,2) 9-pin D-SUB connector, RS-232C (Touch Panel): 1ch (SERIAL PORT2) [inside the DVI connector] *8*10 RS-422/485 (general-purpose): 1ch (SERIAL PORT1) [inside the RAS connector] *7 Secondary:36-pin half pitch connector (equiped with optional CD-ROM) (Side in the right)	
Parallel I/F	-	Bi-directional, Centronics-compliant, 25-pin D-SUB connector *6	
USB I/F	4 × USB 2.0-compliant	2 × USB 1.1-compliant	
General-purpose I/O	3 × opto-isolated input and output (Limitations: 1 × output also serves as an external WDT output and 1 × input also serves as remote reset)		
Audio	AC97 compliant, Line Out: φ3.5 Stereo mini jack, Full-scale output level 1.0Vrms(typ)	AC97 compliant, Line In, Line Out, MIC: mini jack	
RAS function	WDT: 1sec to 255sec (RESET or external output is according to Time Expiration), Remote reset: External input signal		
RTC/CMOS	Lithium backup battery life: 10 years or more		
Supported OS	Windows 2000 Professional, Windows XP Professional, Windows XP Embedded	Windows 2000 Professional, Windows NT Workstation 4.0, Windows XP Embedded, Windows NT Embedded 4.0	
Power Supply / Instantaneous Blackout	+10~12VDC (< ±5%)	85~132 VAC and 170~265 VAC (47~63 Hz) auto-sensing / Less than 20ms	
Current Consumption (Max.)	12V 2.5A at shutdown 12V 0.27A (Max.)	IPC-BX/M620(PCW)C: 50VA IPC-BX/M620(PCW)CP: 90VA	IPC-BX/M630(PCI)C: 50VA IPC-BX/M630(PCI)CP: 90VA IPC-BX/M630(PCI)C4P: 115VA
Power Outage	-	2.0kVAC 20mA/1min	
Dielectric Strength	-	50MΩ (500VDC)	
Operating Temp. / Storage Temp. / Humidity	0~50ºC<SDD in use>, 5~45ºC<HDD in use> / -10~60ºC / 10~90%RH (no condensation)	0~50ºC<SDD in use>, 5~45ºC<HDD in use>, 5~45ºC<FDD in use> / -10~60ºC / 10~90%RH (no condensation)	
Floating Dust Particles / Corrosive Gases	Not excessive / None		
Jamming Resistance			
Static Resistance	Contact discharge / 4kV (IEC1000-4-2Level2, EN61000-4-2Level2), Atmospheric Discharge / 8kV (IEC1000-4-2Level3, EN61000-4-2Level3)		
Line Noise	-	AC Line / 2kV, Singel Line / 1kV (IEC1000-4-4Level3, EN61000-4-4Level3)	
Vibration Resistance			
Sweep Resistance	HDD in use: 10~50Hz / 0.5G, 25min each in x, y, z directions (JIS C0040, IEC68-2-6 compliant) *13 HDD not in use: 10~57Hz / semi-amplitude: 0.15mm, 57~150Hz / 2.0G, 40min each in x, y, z directions (JIS C0040, IEC68-2-6 compliant) *13	10~57Hz / semi-amplitude: 0.15mm, 57~150Hz / 2.0G, 80min each in x, y, z directions (JIS C0040, IEC68-2-6 compliant) *14	
Impact Resistance *12*13*14	10G, half-sine shock for 11ms in x, y, z directions (JIS C0041, IEC68-2-27 compliant)		
Grounding	Class D grounding		
Dimensions (mm)	146(W) × 157(D) × 64(H)	IPC-BX/M620(PCW)C: 262(W) × 262(D) × 55(H) IPC-BX/M620(PCW)CP: 262(W) × 262(D) × 115(H)	IPC-BX/M630(PCI)C: 262(W) × 262(D) × 55(H) IPC-BX/M630(PCI)CP: 262(W) × 262(D) × 115(H) IPC-BX/M630(PCI)C4P: 262(W) × 262(D) × 180(H)
Weight	Approx. 1.5kg (without Memory Storage)	IPC-BX/M620(PCW)C: Approx. 3.3kg IPC-BX/M620(PCW)CP: Approx. 4.2kg	IPC-BX/M630(PCI)C: Approx. 3.3kg IPC-BX/M630(PCI)CP: Approx. 4.2kg IPC-BX/M630(PCI)C4P: Approx. 5.0kg

Note

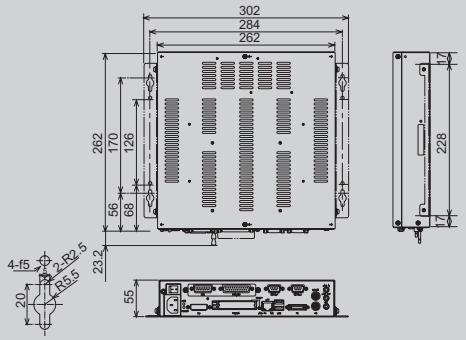
*1: 512 memory is preinstalled in 1 socket. Additional memory is not supported.
*2: 256 memory is preinstalled in 1 socket.
*3: Simultaneous use of Optional CD-ROM and CF card is not supported.
*4: ISA expansion slot does not support -5V, IOCHK, REFRESH and MSTER signals. (PCI bus slot: 32 bit spec.)
*5: Not supported under Windows NT Workstation 4.0 or Windows NT Embedded 4.0
*6: The unit be connected to CONTEC panel link input type display (using an optional cable) or to a normal analog RGB input display (using the attached DVI-analogue RGB conversion adapter).
*7: COM 1 cannot be set to both RS-232C and RS-422/485 simultaneously. (factory setting is RS-232C)
*8: The interface can be used with a CONTEC panel link specification compliant touchscreen displays.
*9: Serial ports 3 and 4 can be used as general-purpose RS-232C ports by replacing the bracket (Bundled). In that case, the Touch Panel, RAS functions (WDT time-out output and remote reset input), RS-422/485, general-purpose input, and parallel interfaces are disabled.
*10: The RS-232C port and touch panel functions on COM 2 cannot be used simultaneously. (factory setting is touch panel function)
*11: When in ATX mode
*12: When FDD is not used. (Exclusive of IPC-BX/M630(PCI)C)
*13: Compatibility has been checked under applicable test conditions. However, we do not warrant normal operation under all conditions. Nor do we warrant resistance to resonance due to the proximity of frequency. (IPC-BX/M360(PCI)C only)
*14: When not using HDD or FDD
*15: No longer supports CONTEC IPC-DT61 or IPC-DT65 flat panel series (as of March, 2005).
*16: No longer supports CONTEC IPC-DT20 flat panel series (as of March, 2005).

Dimensions

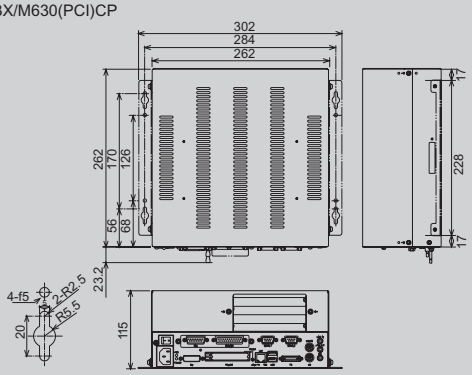
IPC-BX/M360(PCI)C



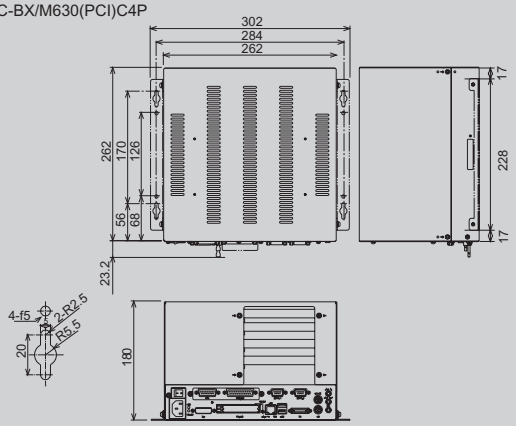
IPC-BX/M620(PCW)C
IPC-BX/M630(PCI)C



IPC-BX/M620(PCW)CP
IPC-BX/M630(PCI)CP



IPC-BX/M630(PCI)C4P



Unit: (mm)

Fan-less Compact PC, x86 Compatible Low-power CPU

Micro Controller Unit

CONTEC's micro controller supports a variety of applications and can use Microsoft Windows®, IBM PC-DOS 2000® or Linux as a platform. I/O interfaces can be extended by connecting additional device modules.

■ CPU-SB22/256(FIT)
Windows XP Embedded, 1GB CF, 256MB memory

NEW

■ CPU-SB21/256(FIT)GY
Windows XP Embedded, 512MB CF, 256MB memory

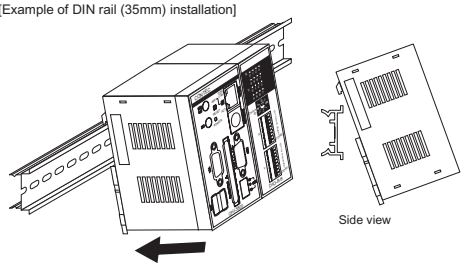
■ CPU-SB20/256(FIT)GY
Windows/PC-DOS/Linux, 256MB memory

■ CPU-SB20/128(FIT)GY
Windows/PC-DOS/Linux, 128MB memory

■ CPU-SB10/128(FIT)GY
Windows/PC-DOS/Linux, 128MB memory

CPU-SB22/256(FIT)

[Example of DIN rail (35mm) installation]



Side view

You can build a Windows XP or Windows XP 2000 SP3/SP4 environment on the CPU-SB20/xx(FIT)GY by installing the OS using a retail USB-based CD-ROM drive or FDD without using the development kit. You can also install another OS such as DOS when using a USB CD-ROM drive supported by a startup disk for the OS.

Features

● Compact and Space-saving
All the functions and extendability of a full size PC but small enough to fit into a 94mm (H) by 64.7mm (D) space. Easily configurable, CONTEC's micro-controller unit uses commercial operating systems.

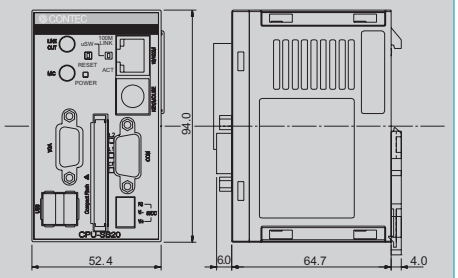
● Easily accessible Ideal for industrial environments
Operating with no hdd (uses Compact Flash) or fan, this unit is designed to fit on standard 35mm DIN rails, requiring little installation space. It is equipped with a watchdog timer, an essential component in any industrial system. All interfaces (excluding F&eIT bus) are located at the front side of the unit to ensure easy accessiblilty.

● Expandable
Designed to recognize the compact flash (or micro drive) as the 'C' drive this unit can run on commercial operating systmes. The I/O interfaces can be extended by connecting device modules through the interconnections on the sides of the unit, These side-connectors are the system 'bus' so no additional backplane is needed.

■ Interfaces

CPU-SB22/256(FIT)
CPU-SB21/256(FIT)GY
CPU-SB20/128(FIT)GY

CPU-SB20/256(FIT)GY
CPU-SB10/128(FIT)GY



* Figure CPU-SB20(FIT)GY
Interface configuration of the CPU-SB10(FIT)GY is different from shown above.

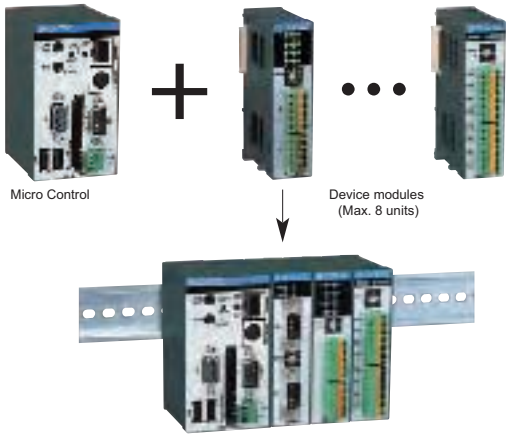
■ Specifications

Model	CPU-SB22/256(FIT) CPU-SB21/256(FIT)GY	CPU-SB20/256(FIT)GY CPU-SB20/128(FIT)GY
CPU	Geode SC2200 266MHz	
Memory		
L2 CACHE	-	
Main	256Mbyte	CPU-SB20/256(FIT)GY: 256Mbyte CPU-SB20/128(FIT)GY: 128Mbyte
Video		
Controller	Included in CPU chip	
VRAM	4Mbyte Equivalency	
CRT I/F	15-pin HD-SUB Connector 640 × 480 / 800 × 600 (65,536 colors) 1024 × 768 (65,536 colors), 1280 × 1024 (256 colors)	
Interfaces	RS-232C, 100BASE-TX/10BASE-T, Audio (Line output, Mic input), USB × 2, Keyboard, Mouse, F&eIT Bus	
WATCHDOG Timer Function	16,666sec (Max.) Programmable (RESET or output to NMI in accordance with the time of Time-up)	
Compact Flash Slot	TYPE I or TYPE II × 1	
RTC/CMOS	Lithium backup Battery life: 25 years or more (25ºC), Precision of Real Time Clock: within 3 minutes/per month	
OS	Windows XP Embedded preinstalled (CONTEC original specification)	Checked OS *1 IBM PC-DOS 2000 Ver.7.0J, Microsoft Windows 98 SE, Microsoft Windows Me, Microsoft Windows 2000, Microsoft Windows XP Embedded, Linux 2.4 Kennel
Power Consumption	5VDC ± 5%, 1.5A (Max.)	
Dimensions (mm)	52.4(W) × 64.7(D) × 94.0(H)	
Weight	300g	
Operating Temp. / Storage Temp. / Humidity	0~50ºC / -10~60ºC / 10~90%RH (no condensation)	
Floating Dust Particles / Corrosive Gases / Grounding	Not excessive / None / Class D grounding	
Static Resistance Line-noise	AC Line / 2kV, Singel Line / 1kV (IEC1000-4-4Level3, EN61000-4-4Level3)	

*1: Basic OS functions and the operation of VGA/LAN driver are already checked. However, we do not warrant the operation of all the functions.
*2: When POW-AD22GY is used.

■ Expanding the Micro controller

System configurations to fit most any application can by made by connecting the micro controller with one or more of Contec's expansion modules to provids needed I/O functions.



For configuration specifics, please refer to the controller / device module compatibility chart on Page [redacted]

■ Bundled software

API-SBP(W32)

Windows® Driver Library for Device Module Access

API-SBP(W32) driver software provides commands in Windows® standard Win32API(DLL) format to device modules which are stack-connected to a micro controller.
A diagnostics monitor allows you to confirm operation without the aid of any additional programming.
You can also develop programs using programming languages that support Win32API(DLL) including Visual Basic and Visual C++.

- Supports digital / analog I/O, counters, GPIB / serial communication and temperature sensor input device modules.
- Highly compatible with API-PAC(W32) the driver library for CONTEC interface boards / cards.
- Supports English and Japanese versions of Windows® XP / XP Embeded / 2000 / Nt4.0 / Me / 98 / 98 Second Edition / 95 OSR2/95.
- Includes Visual Basic and Visual C++ sample programs

■ Options

Compact Flash for FIX DISK

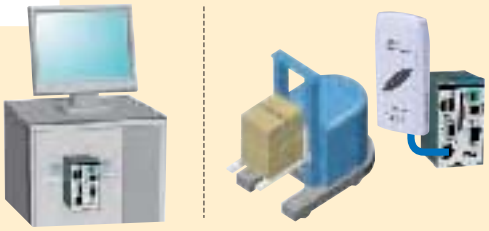
CF-1GB
Compact Flash memory 1GB


CF-1GB

CF-512MB
Compact Flash memory 512MB

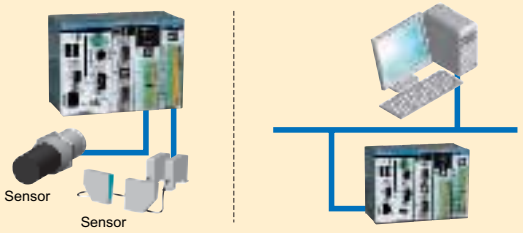

CF-512MB

Application Example 1



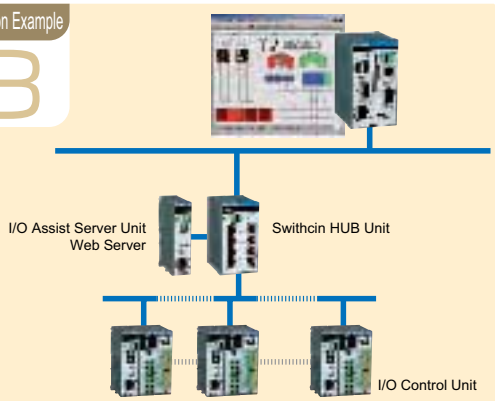
This unit can fit into spaces too small for standard PCs. In addition, using wireless LAN Micro Access Points allows you to embed this unit in mobile hardware or areas where wiring would be difficult. Since the micro controller runs on 5VDC it is ideal for areas with limited power.

Application Example 2



Through the use of the Device Module, these can be used as compast controllers supporting a variety of I/O or as a programmable ethernet-based remote I/O system.

Application Example 3



CONTEC's micro controller can serve as a compact web monitoring terminal (client PC) when interconnected with device modules.

Micro Controller Unit Development Kit

■ DTK-SB20(FIT)GY

for the CPU-SB20(FIT)GY series

FDD, HDD and CD-ROM are standard features with the development kit, useful in the customization of operating systems that are not supported on the CPU-SB20(FIT)GY as a standalone unit.

For further details, please visit our website:
http://www.contec.com/fit/

An additional catalogue "Distributed Supervision and Control Network" is available.
You can order it at on our Web site.

Compact CPU Unit embedded in MELSEC-Q Series

PC CPU Unit for MELSEC-Q Series of MITSUBISHI PLC

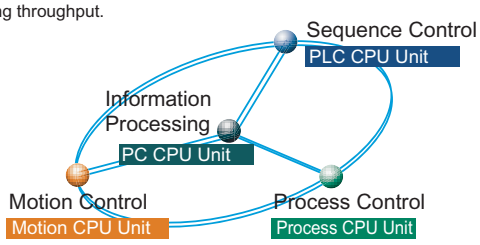
The PPC-SET-2xx ultra-compact PC was designed to be embedded in the MELSEC-Q Series from Mitsubishi Electric, Ltd. It can calculate large volumes of data. This unit helps to create an environment where better programming can be implemented in industries that need to deal with an abundance of data. Also for use in process control environments.

Model	Specifications	Product Specifications			
		PC CPU Unit	Storage Unit	Installed OS & Recovery CD	Bus Interface drive
PPC-SET-200	System Memory: 128MB Memory: None OS: Not installed	CPU: Celeron 400MHz System Memory: 128MB <PPC-CPU686(MS)-128>	-	-	Windows® Version <PPC-DRV-01>
			-	-	
PPC-SET-211	System Memory: 128MB Memory: HDD OS: Windows®NT 4.0		Hard Disk	Windows® NT Workstation 4.0	
			<PPC-HDD(MS)>	-	
PPC-SET-212	System Memory: 128MB Memory: HDD OS: Windows® 2000		Hard Disk	Windows® 2000 Professional	
			<PPC-HDD(MS)>	-	
PPC-SET-223	System Memory: 128MB Memory: 320MB HDD OS: WindowsNT® e 4.0		320MB Silicon Disk	Windows® NT Embedded 4.0	
			<PPC-HDD(MS)-320>	-	

* Product is available through Mitsubishi sales channels

Integration of Instrumentation, Control, Data and Information Processing

With a CPU configuration that combines the Sequencer CPU and the Motion CPU, this unit is capable of integrating sequence and motion control. In addition to the distribution of these functions this configuration allows for seamless data processing. It has various advantages over the use of serial communications including the elimination of over-load during communication processing, providing secure independent operation and significantly increasing throughput.



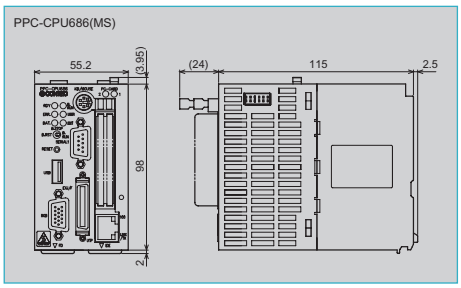
Compact Size and Industrial Ruggedness

CONTEC's experience in manufacturing well-respected industrial PCs provided the blueprint for the creation of this ultra-compact unit that retains high level industrial ruggedness. This unit is:

- Small enough to fit into just two slots of the MELSEC-Q Series
- Rugged enough to exhibit automation level resistance to environment and noise

* Size of PPC-SET-2xx
55.2(W)×98.0(D)×115.0(H) mm
(2.17"×3.86"×4.53")

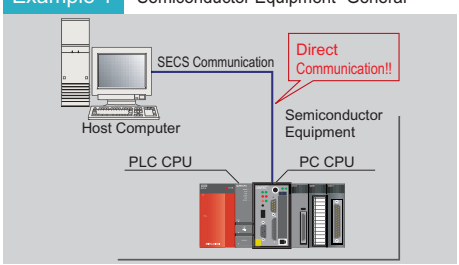
Dimensions



Expansion Capabilities

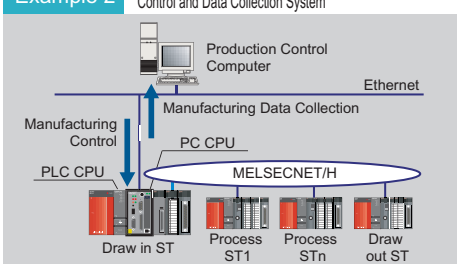
- CPU: Celeron 400MHz
  OS: Windows 2000 / NT 4.0 / NT EMBEDDED 4.0
- Standard interfaces include LAN, USB and PC Card slot

Example 1 Semiconductor Equipment "General"



The PC CPU equipped with a sequencer base establishes SECS communication without the need for additional PCs, thus allowing for simpler system configurations.

Example 2 Automotive Parts Assembly Line Processing / Manufacturing Control and Data Collection System



The FA PC functions are incorporated into a sequencer base, requiring less space and wiring.

PC CPU Unit

Common Specifications

Operating temperature	0~55ºC
Storage temperature	-25~75ºC
Operating humidity	5~95% RH (no condensation)
Storage humidity	5~95% RH (no condensation)
Vibration Resistance	JIS B 3502, IEC61131-2
Impact Resistance	JIS B 3502, IEC61131-2
Corrosive gases	Not present
Operating Altitude	Below 2000m
Place	In the Control Panel
Overvoltage Category	Below 2
Level of pollution	Below 2

Specifications

Model		PPC-CPU686(MS)-128
MPU		Mobile Celeron Processor -LP 400MHz [Intel] FSB:100MHz
Chip Set		440BX [Intel]
Memory	System Memory	128MB
	Cache Memory	L1:16KB L2:128KB (MPU Internal)
video	Control	B69000 [C&T]
	Support Resolution (Max.)	XGA (1024 × 768) 65,536 colors
	Memory	2MB
	I/F	Analog RGB H-Dsub 15Pin connector
I/F	USB	Ver1.1, 2ch (1ch is in the Expansion Connector), Transfer Rate: 1.5M/12Mbps
	LAN	Controller: 82559 [Intel] 10BASE-T / 100BASE-TX RJ-45connector × 1
	Serial	RS-232C, 2ch (D-SUB 9Pin, in each Expansion Connector), Transfer Rate: 50~115200bps
	Parallel	1ch(in the Expansion Connector), Corresponding Mode: Normal, SPP, EPP 1.7/1.9, ECP
	PS/2 Mouse, Keyboard	Mini DIN 6P Mouse/keyboard shared Connector Conversion Cable (KB-PSY02K3[SANWA SUPPLY]) provides simultaneous use
	FDD	26Pin half connector (for CONTEC's 3.5 inch FDD PC-FDD25BH)
	IDE	Primary: 40Pin half connector (can connect to 2 devices in Max.), Secondary: Not supported
	PC Card	Card Type: PCMCIA, CARD-BUS *1 Card Slot: Type I, II × 2 or TypeIII × 1
WDT		2ch, Time-out: about 10mSec~10Sec
Dimensions (mm)		55.2 (W) × 98.0 (H) × 115.0 (D) (Exclusive of any protrusions)
Power Consumption (Max.)		+5VDC 3.0A (Max.) *2
Weight (g)		470g

Hard Disk Unit

PPC-HDD (MS)

Bus Interface	IDE
Internal Drive	2.5 inch Hard Disk drive
Transmission Speed (Max.)	66.6MB/sec (Ultra DMA Mode 4), 16.6MB/sec (PIO Mode 4)
Reliability	1 × 10^{13} bits is read
Connect to PC CPU Unit	40-pin cable (included)
Expansion	Used for slave IDE device only, 40-pin half-pitch connector, can expand to on master/slave switchable IDE device.
Access signal *1	Front LED (red)
High Temperature Check	When the surrounding temperature is over 47 ± 3ºC Notice Method: High Temperature Check function of Bus Interface drive Software
Operating Temperature	5~50ºC (when the rate of temperature change is less than 20ºC/h)
Dimensions (mm)	27.4 (W) × 130.0 (D) × 98.0 (H) (Exclusive of any protrusion)
Power Consumption (Max.)	+5VDC 0.88A (Max.)
Weight	300g (450g when Optional Unit fixing fitting installed)
Average Longevity	5 years or over 20,000 electrizing time

*1: When using 2 disk units (hard disk unit or silicon disk unit) in a master/slave connection, the access is indicated in the same way. Access lights will be lit simultaneously when either the master or the slave unit is accessed.

Sillion Disk Unit

PPC-SDD (MS) Series

Model	PPC-SDD (MS)					
	-64	-128	-196	-320	-500	-1000
Memory Capacity	64MB *1	128MB *1	192MB *1	320MB *1	512MB *1	1GB *1
Bus Interface	IDE					
Internal drive	2.5 inch Silicon Disk drive using Flash Memory					
Transmission Speed						
ATA Interface Speed	8.0 MB/sec (when read/write)					
Memory Speed (reading)	5.0MB/sec					
Memory Speed (writing)	1.5MB/sec	3.0MB/sec				
Access Speed (reading) *2	2.0MB/sec					
Access Speed (writing) *2	1.0MB/sec	1.5MB/sec				
Reliability	1 × 10^{14} bits is read					
ECC	64 bits/Sector					
Delete/Write cycle	300,000 cycles					
Connect to PC CPU Unit	40-pin cable (included)					
Expansion	Used for slave IDE device only, 40-pin half-pitch connector, can expand to on master/slave switchable IDE device *3					
Operating Temperature	0~55ºC					
Access signal *4	Front LED (red)					
Power consumption	+5VDC 0.09A (Max.)					
Dimensions (mm)	27.4 (W) × 130.0 (D) × 98.0 (H) (Exclusive of any protrusion)					
Weight	Approx. 250g					

*1: 1MB=1,000,000bytes, 1GB=1,000,000,000bytes
*2: The access speed listed above is for your reference only. It may vary depending on the conditions under which the unit is used.
*3: When SDD is set as the master, you cannot use a hard disk drive or CD-ROM drive as a slave.
*4: When using 2 disk units (hard disk unit or silicon disk unit) in a master/slave connection, the access is indicated in the same way. Access lights will be lit simultaneously when either the master or the slave unit is accessed.

Optional Items

Product	Product	Model Name	Note
Hard Disk Unit	5GB Hard Disk Unit	PPC-HDD(MS)	
Silicon Disk Unit	64MB Silicon Disk	PPC-SDD(MS)-64	
	128MB Silicon Disk	PPC-SDD(MS)-128	
	192MB Silicon Disk	PPC-SDD(MS)-196	
	320MB Silicon Disk	PPC-SDD(MS)-320	
	512MB Silicon Disk	PPC-SDD(MS)-500	
	1024MB Silicon Disk	PPC-SDD(MS)-1000	
CD-ROM	CD-ROM Drive (included Cable)	PPC-CDD-02	Unit can not be placed on side with CD-ROM in use
Floppy	3.5-inch FDD (included Cable: 60cm)	PC-FDD25BH	
Connector Terminal	Connector Terminal (included Cable)	PPC-COT-01	
	Connector Terminal (Cable and DIN rail adapter included)	PPC-DINAD-01	
Serial Conversion Cable	Serial Conversion Cable	PPC-SCC-01	Serial Cable
Anti-vibration Fixing Bracket	Anti-vibration Fixing Bracket for HDD	PPC-HBR-01	
Manual Set	Manual Set in Japanese	PPC-CPU686(MS)-MJ	
	Manual Set in English	PPC-CPU686(MS)-MU	