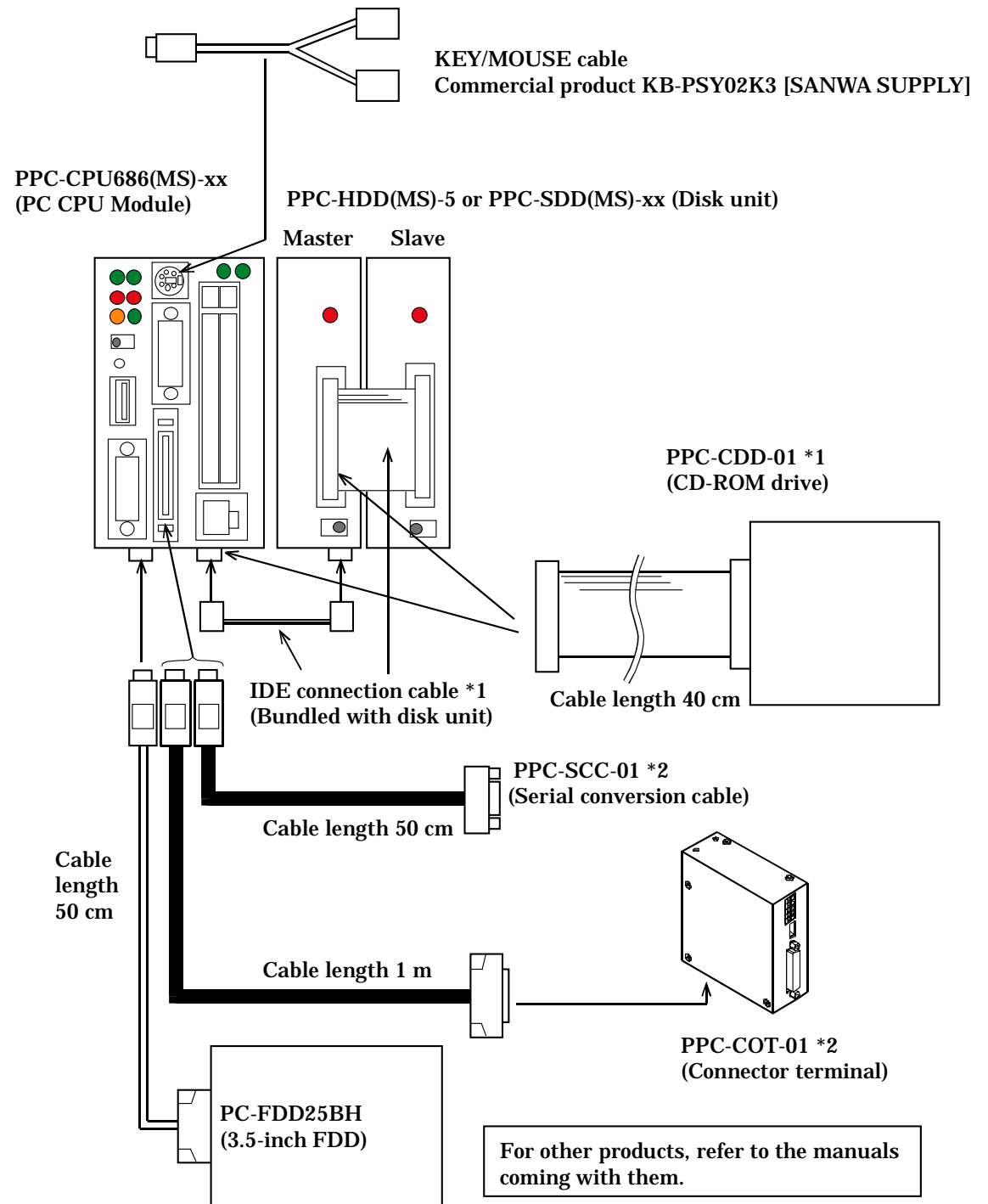


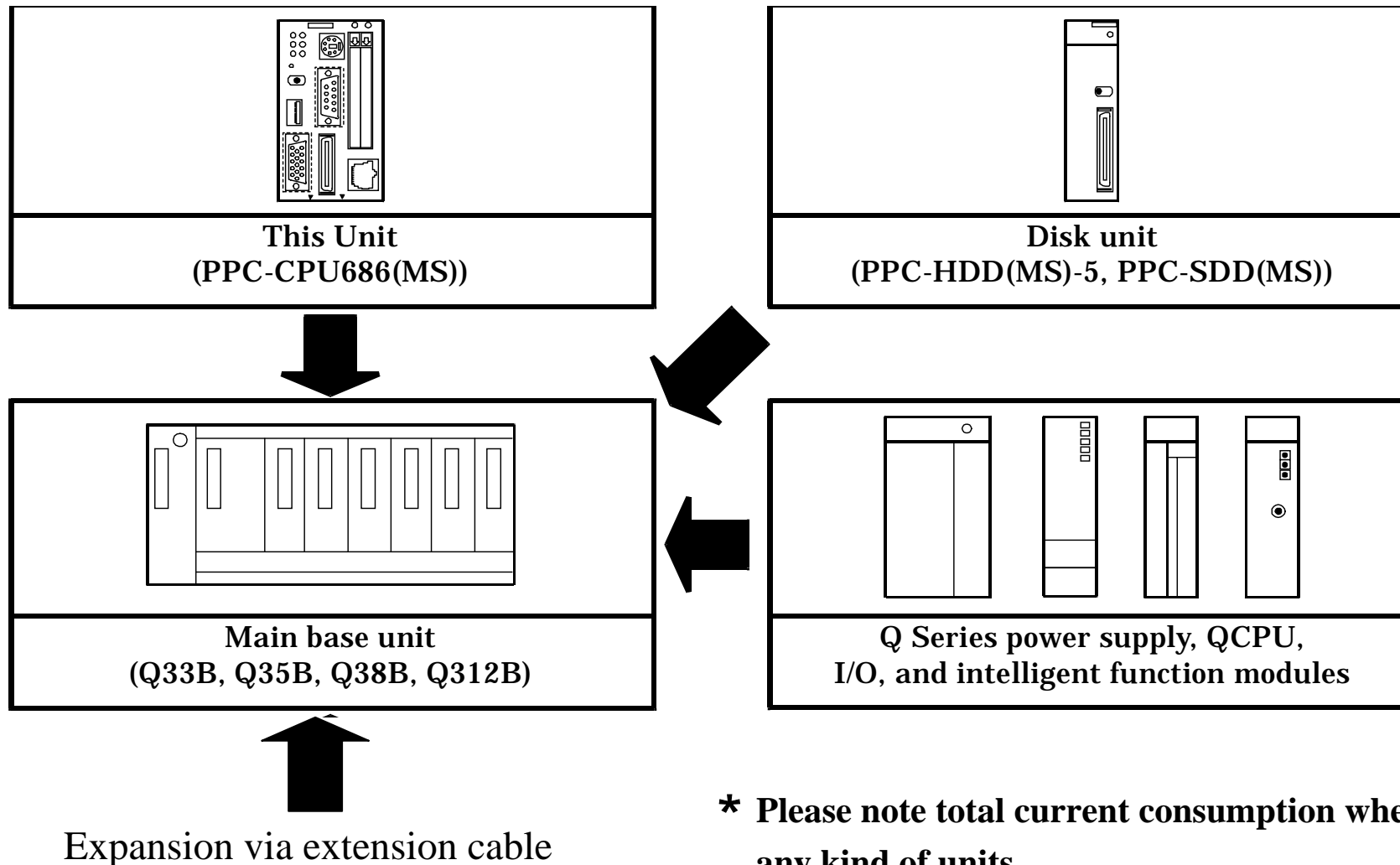
**Introduction of**  
**PC CPU Unit**  
**for MELSEC-Q Series**

# System Configuration



Notes: For \*1 and \*2, either of their respective cables is connected.

# Combination with the MELSEC-Q Series [ System Configuration ]

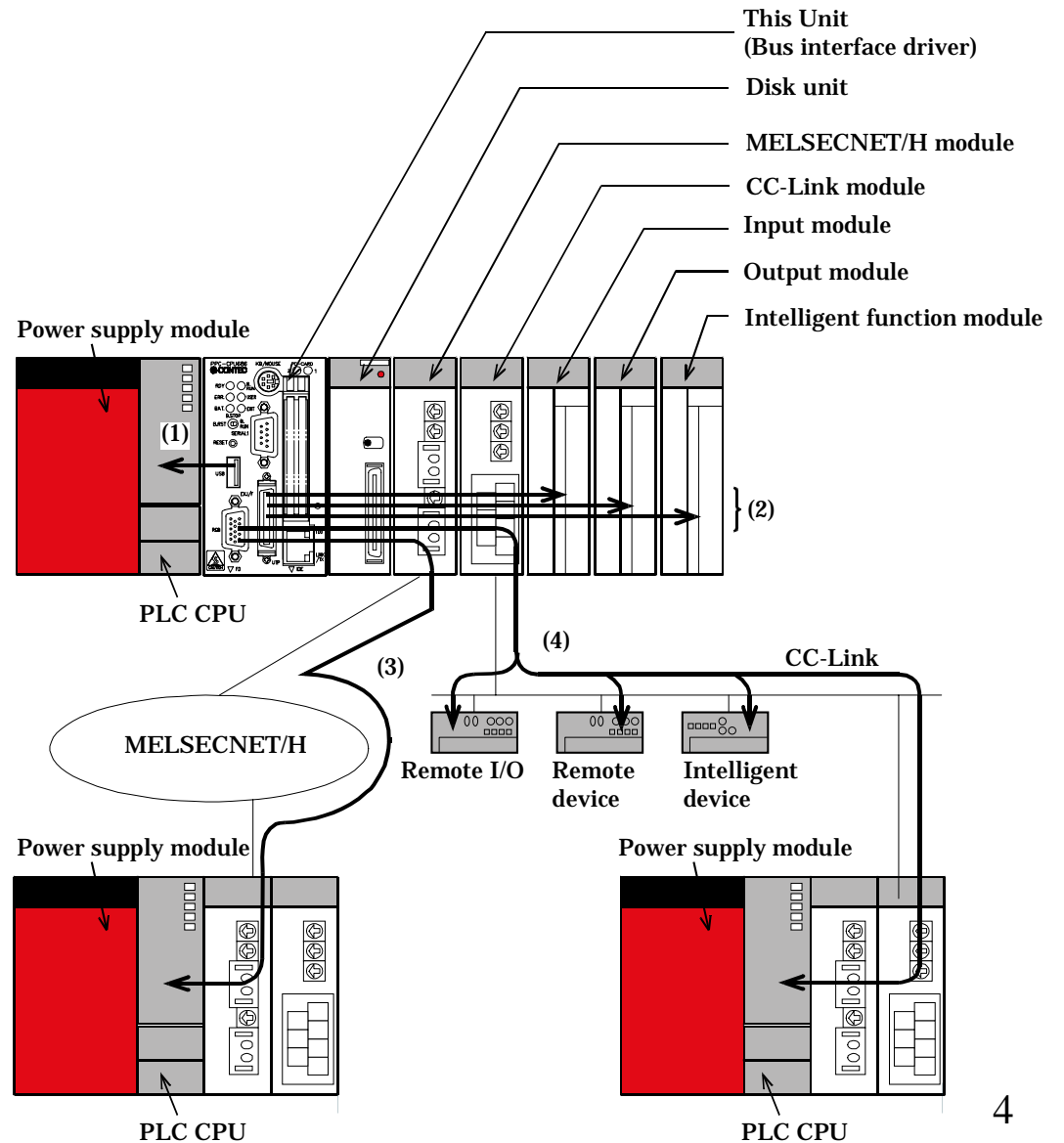


\* Please note total current consumption when installing any kind of units

# Combination with the MELSEC-Q Series

## [ Access Form ]

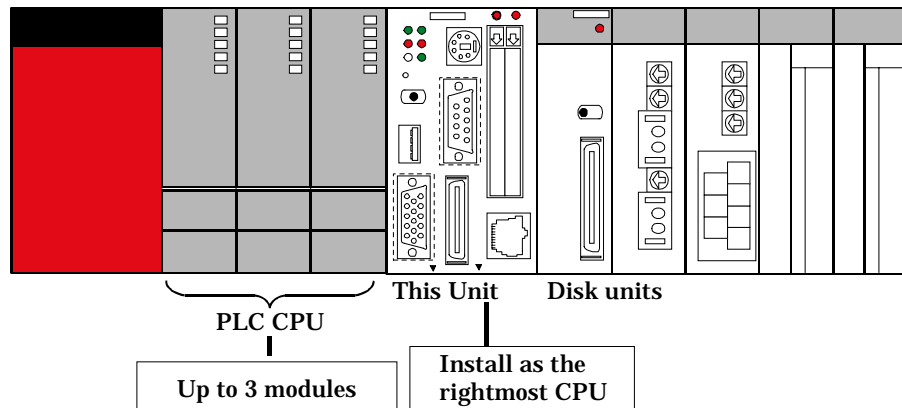
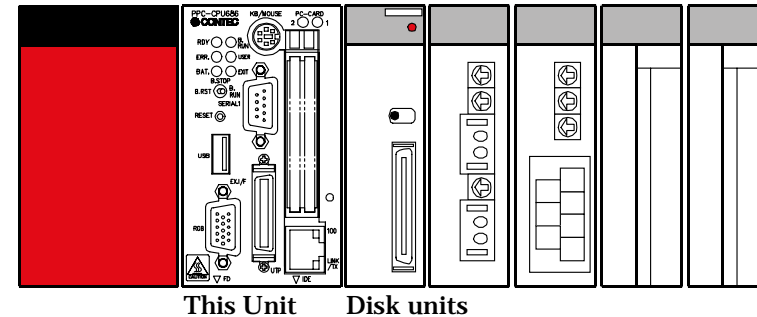
- (1) Access another PLC CPU in the local system.
- (2) Access the I/O module or intelligent function module in the local system.
- (3) Access a PLC CPU via the MELSECNET/H module.
- (4) Access a remote I/O, remote device, intelligent device, or PLC CPU via the CC-Link module.



# Combination with the MELSEC-Q Series

## [ Multiple CPU Configuration ]

Single CPU Configuration with Q-PC CPU unit only



Multiple CPU configuration with PC CPU and PLC CPUs

Maximum configuration with PC CPU and three PLC CPUs  
Units No.1 to 3 : PLC CPUs

Unit No. 4 : PC CPU

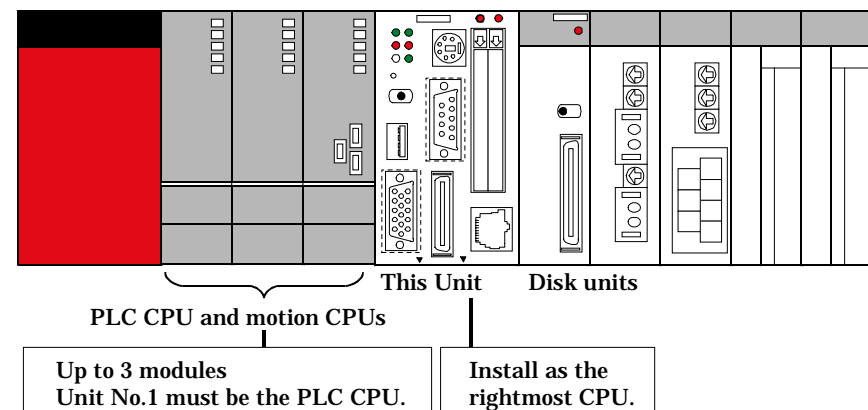


- Multiple CPU configuration with PC CPU, PLC CPU and Motion CPUs

Unit No.1 : PLC CPU

Units No.2 and 3 : Motion CPUs

Unit No.4 : PC CPU



\* On multiple CPU configuration, be sure to use appropriate version of CPUs which support PC CPU module

# PPC Series Outline

## [ Features ]

- **Downsizing · High performance**
  - Integrating Personal Computer function in a compact unit fit in 2 slot in the MELSEC-Q series base unit.
  - Intel Mobile Celeron Processor 400MHz
- **Seamless processing of Information data and Control data**
  - Direct combination with MELSEC-Q series PLC CPU and PC-CPU
  - Built-in 100BASE-TX /10BASE-T LAN
- **Anti-Environment · High Reliability · Maintenance Free**
  - Fan-free structure, silicon disk realize no movable mechanism.

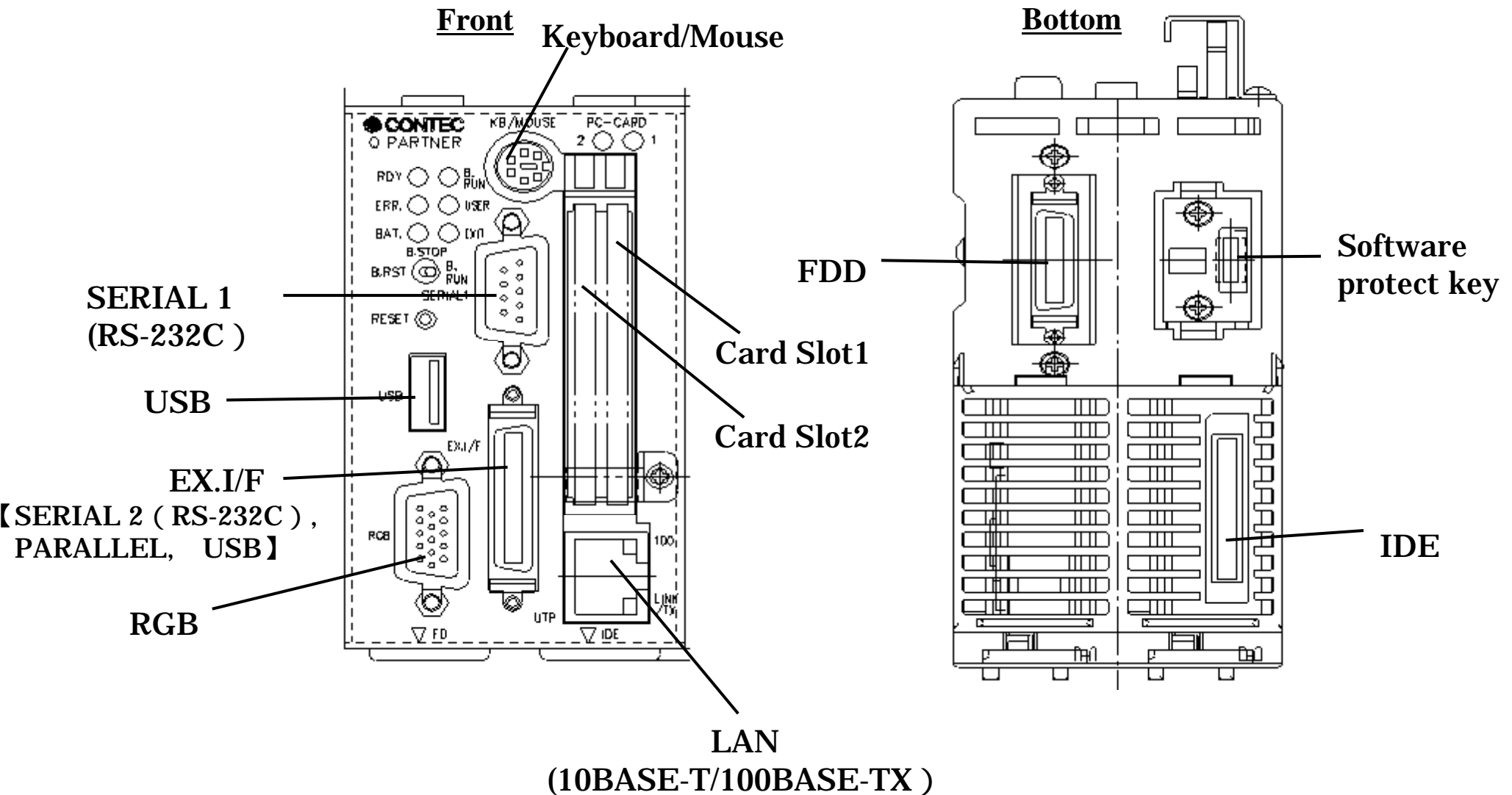
# PPC Series Outline

## [ Specification ]

- Intel Mobile Celeron 400MHz
- Equiped PC standard interface (connector terminal is required partly)
- Main memory 64MB and 128MB, two models
- Equiped 100BASE-TX /10BASE-T LAN
- 2 PC card slots (Type II x 2) installed
- 2 channels USB (1 channel as connector terminal)
- Silicon disk or Hard disk unit are prepared
- OS : WindowsNT4.0/NTe4.0/2000

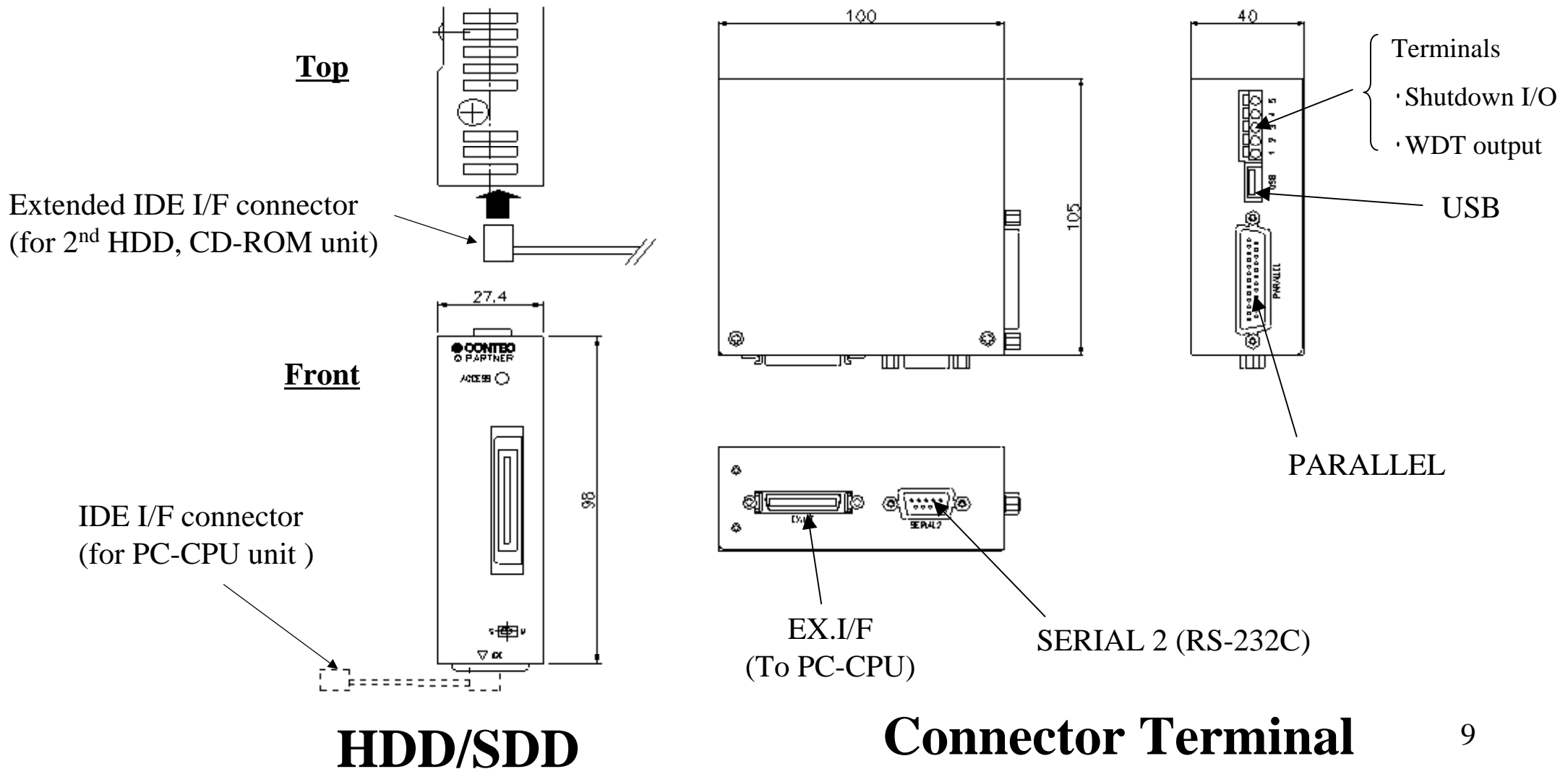
# PPC Series Outline

## [ Interface ]



# PPC Series Outline

## [I/F of HDD/SDD & Connector Terminal]



# Bus Interface Driver

## [ Features ]

- Control the I/O and intelligent functional modules from C, Basic Languages
  - Intelligent functional modules are controlled from Visual C++, Visual Basic made by user application with using the QBF function.
  - About the MELSEC data link function, MELSECNET/H and CC-Link units are accessed from MD function which is supported by MELSEC S/W packages as usual.
- High Speed Access to Sequencer CPU, Intelligent or I/O units
  - High speed access is capable between PC CPU and Q-CPU with Q-bus interface.
- Combination with application S/W such as GX Developer, GT SoftGOT
  - Unify control and information processing, and excellent HMI System is capable.
  - These software must be used with compatible version for PC CPU.

# Bus Interface Driver

## [ Operating Environment ]

Item	Description
OS	WindowsNT Workstation 4.0(Japanes、 English) *1 Windows NT Embedded 4.0(Japanes、 English) Windows2000 Professional(Japanese、 English)
Programming Language *2	Visual C++ Ver.6.0(Japanese and English Edition) Visual Basic Ver.6.0(Japanese and English Edition)
Display	Resolution : SVGA or higher (ecommended : 1024 × 768dots)
Requred memory	64MB or higher
Free hard disk space	20MB or higher
MaximumNo. Of I/Ochannels	I/O 4096 channels(0 ~ 0xFFFF)、 8192channels (0 ~ 0x1FFF) if included REMOTE
MaximumNo. Of Stages added	7stages
MaximumNo. Of I/O units installed	64units

\* 1 : Required Service Pack5 or higher

\* 2 : User program created in Japabes environment is not excutable in Englishu environment.

User program created in Englishu environment is not excutable in Japanese environment.

# Bus Interface Driver

## [ Outline of function ]

Item	Function	Description
Driver	Unit setting	I/O assignment by parameter, MELSECNET/H setting, CC-Link setting etc.
	Switch setting monitor	Monitor the PC CPU DIP SW, execute the process according to the SW conditions.
	Diagnosis	Watch the errors as unit error and WDT error and stop the I/O unit output if detect these errors, log the event in the event viewer.
Communication I/F	Connection with Sequencer CPU and PC CPU	<ul style="list-style-type: none"> <li>Access to the device of sequencer CPU which is in the other multi CPU unit from PC CPU application</li> <li>Execute the event from Sequencer CPU to PC CPU.</li> </ul>
	Buffer memory access to I/O unit or interigent unit	<ul style="list-style-type: none"> <li>I/O access from application of PC CPU to I/O unit</li> <li>Buffer Memory access from application of PC CPU to interigent unit.</li> </ul>
	MELSECNET/H Unit access	Compare MELSECNET/H unit to MNETH board, the access from application on PC CPU is capable.
	CC-Link unit acces	Compare C-Link unit to C-Link board, the access from application on PC CPU is capable
Utility	Settings PC CPU	Monitor the settings of PC CPU conditions (SW, error LED) Execute the diag test for unit I/O mappings or communication controlled from PC CPU
	MELSECNET/H Utility	Execute the parametr setting or network monitor to MELSECNET/H unit.
	CC-Link utility	Execute the parametr setting or network monitor to CC-Link unit
	Device monitor utility	Monitor the devise data for Sequencer CPU

# Bus Interface Driver

## [Combination with Sequencer CPU & PC CPU]

Functions	Summary
Data exchange from MELSEC data link library(MD function I/F)	By using the MELSEC data link library(MD function I/F), The access to device data of sequencer CPU is capable from VB, VC++ application with PC CPU.
Ivent communication (ladder VB, VC++)	An Ivent is issued from Ladder program of sequencer CPU to the application of PC CPU.
Data exchange by shared memory	Data exchanges between PC CPU and Sequencer CPU by shared memory
Remote Control	Excute the control of sequencer CPU condition (Remote RUN/STOP) from the VB, VCC++ application of PC CPU.
Ladder program control	Excute the control of sequencer CPU excution condition (wait/scan/Cyclic excution/Low speed excution)

# Function of PPC Series

## [ Function of PC-CPU Unit - No.1 ]

- **CardBus card**

- Windows 2000 ... available (OS supports)
- Windows NT Workstation 4.0 ... not available (OS not support)
- Windows NT Embedded 4.0 ... not available (same as above)

- **USB**

- Windows 2000 ... available (OS supports)
- Windows NT Workstation 4.0 ... not available (OS not support)
- Windows NT Embedded 4.0 ... not available (same as above)

- **ATA card boot**

- Windows 2000 ... can not boot (OS makes void the BIOS setting)
- Windows NT Workstation 4.0 ... boot available from Slot 1
- Windows NT Embedded 4.0 ... boot available from Slot 1

# Function of PPC Series

## [ Function of PC-CPU - No.2 ]

- **Behavior of BAT.LED (CPU unit • PC card)**
  - Only the PC Cards which can detect their internal battery error are normally SRAM cards.
  - When using a PC card other than memory cards or CARD BUS card, use the bus interface driver utility to disable the detection of memory card battery error.
- **Shutdown I/O function (with Connector terminal) and EXIT LED**
  - The shutdown I/O function and EXIT LED are effective only to use Windows2000 Pro. When WindowsNT Workstation (Embedded) 4.0 is used, the shutdown must be done by keyboard or mouse after ending the application or from application s/w. Also, EXIT LED does not turn on.
  - When using Win2000, OS shutdown can be done by the input from shutdown input (Opto-isolated) of connector terminal unit and turn on the EXIT LED, output the shutdown output. ( Input units are required as DC power supply or sw. )
  - If shutdown input “ON” is continued over 5 seconds, it is not executed OS shutdown, but hardware reset will be executed.
  - When using Win2000, reset SW can not be used after shutdown is done. It must be set the power off and power on again.

# Function of PPC Series

## 【Environment/Installation/Service Life of HDD】

- **Environment**

- Operating Temperature:5 ~ 50      Storage Temperature:-25 ~ 65
- Humidity:8 ~ 90%RH
- Vibration resistance (Operating)  
45minutes 10 times each in X, Y and Z directions (JIS C0040 Compliant)  
10 ~ 55Hz: 0.035mm (It is equal to Q series when using optional HDD anti-vibration bracket)
- Shock resistance (Operating) 49m/s<sup>2</sup>, 11ms 3 times each in X,Y and Z directions (JIS C0041 Compliant)

- **Installation**

Be sure to use attached fixing screws to fasten the HDD to the base unit. Furthermore, it can be fixed tightly to use optional HDD anti-vibration brackets.

- **Service Life**

- 5 years or 20,000 power on hours, whichever comes earlier under the following assumptions.
  - Less than 333 power on hour per month
  - Seeking/Writing/Reading operation is less than 20% of power on hours.
  - \* If these limitation is not suitable for the application, SDD unit is recommended.  
The maximum capacity of the SDD unit is 1GByte.

# Function of PPC Series 【 Others 】

- **Environmental spec., of optional products & peripheral devices**
  - When optional products (such as FDD, CD-ROM drive) or commercial peripherals (such as PC card, USB, keyboard) are connected, the environment spec., is adapted to lower one.
- **Correspondence to CE, UL**
  - CE marking is already adapted. UL marking will be coming soon.
- **Connection of CD-ROM drive**
  - When power on, turn on CD-ROM drive before turning on PC-CPU unit.
  - If reverse the order, the PC-CPU may not work correctly.
  - When the CD-ROM is not in use, unplug the IDE cable from the PC-CPU.
- **Maximum number of modules installed & I/O channels**
  - Maximum number of stages added ... 7 stages
  - Maximum number of I/O units installed ... 64 units
  - Maximum number of I/O channels ... 4,096 channels
  - Maximum number of MELSECNET/H units installed ... 4 units
  - Maximum number of CC-Link units installed ... 4 units
  - Maximum number of interrupt units installed ... 1 unit

# Peripheral Devices

## verified by CONTEC

Products	Contents	Type	Maker
Keyboard/ Mouse	PS/2 109 Japanes keyboard	FKB-8724-501	Fujitu
	PS/2 104English keyboard	FKB-8725-401	Fujitu
	PS/2 mouse	MA-401PS	Sanwa
	Keyboard/Mouse spliter	PS/2 spliter KB-PSY02K3	Sanwa
USB	RS-232C Comunication terminal	COM-4(USB)	CONTEC
PC card	SCSI card	APA-1460D	ADAPTEC
	Flashu ATA card	PCFCA series	I · O data
	CF micro drive	1GB micro drive *1	IBM
	Non-Isoraled digital I/O	PIO-24W(PM)	CONTEC
	Analog I/O	AD12-8(PM)	CONTEC
	RS-232C 1ch	COM-1(PM)	CONTEC
	RS-232C 2ch	COM-2(PM)	CONTEC
	Isolated RS-485 1ch	COM-1D(PM)	CONTEC
	GPIB	GP-IB(PM)	CONTEC
LCD Display	10.4inchVGA Touch Panel	IPC-DT/M20(PC)TAH	CONTEC

- \*1 • PC card adapter included
- Not used for LBA mode. Set BIOS setting to 「LBA Disabled」