

BUS EXPANSION SYSTEM

E



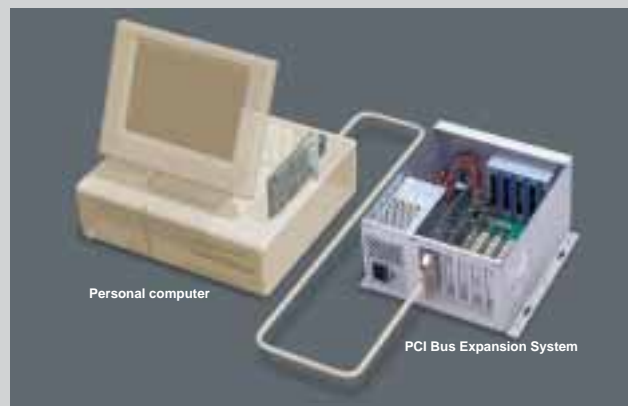
- E-02** Bus Expansion System

- E-03** Card Bus to PCI Bus Expansion System

- E-05** Bus Extend Adaptor Kit

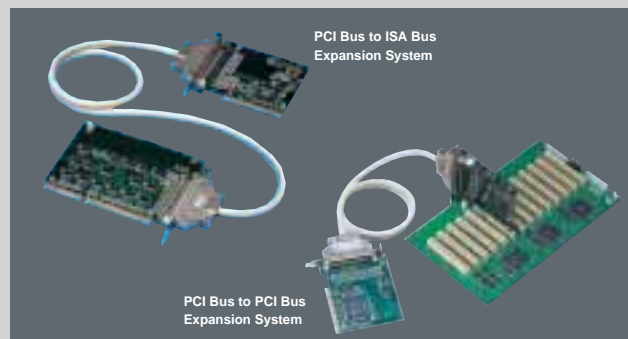
Bus Expansion Unit

It is a case for extending the expansion slot of a commercial personal computer or Industrial PC (IPC series). If in the expansion slot is insufficient of a PC, or when there is too much consumption current of an add-in board and it exceeds the power supply capacity of a PC, it is used. An extended unit and a PC are connected using a bus extension adapter or a bus conversion adapter. There is also a type of extended units which can be used as a CPU unit.



Bus Extend Adaptor Kit

It is a connection kit for connecting an extended unit with a personal computer. The extended unit of the same bus specification as the expansion slot of the main part of a PC can be connected, and the number of slots can be extended. A board is mounted in a PC and an extended unit, respectively, and it is used by the exclusive cable connecting between boards.



Bus Expansion System

Bus Expansion System

PCI Bus Expansion System (4 Slot Short- size Chassis) FA-PAC(PCI)H4

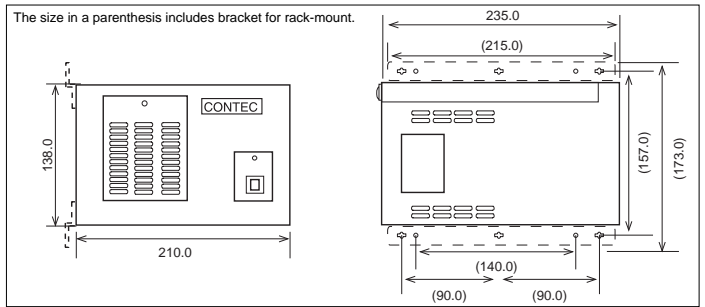
- FEATURES**
- PCI Bus to PCI Bus Expansion System with 4 Slot Short-size Chassis
 - Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
 - Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev 2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (from PC)	+5VDC 700mA(Max.) / DC+5V 400mA(Typ.)
Number of available slots	4 Slot (Short-size)
Max dimensions of PCI board	176.5(L) x 107(H)
Power supply capacity	+5V 11.3A, +3.3V 6A, +12V 5A, -12V 0.1A
AC Input voltage	AC115/230V (switch selectable)
Input current	5A(AC 115V) / 2.5A(AC 230V)
Fan	Cooling fan built-in
Operating Temp. / Humidity	0-50°C, 30-90%RH(non-condensing)
External dimensions (mm)	210(W) x 138(H) x 235(D)
Weight	3.5kg(Cable and BUS-PC (PCI) aren't contained)
Attached connection cable	1m



Dimensions

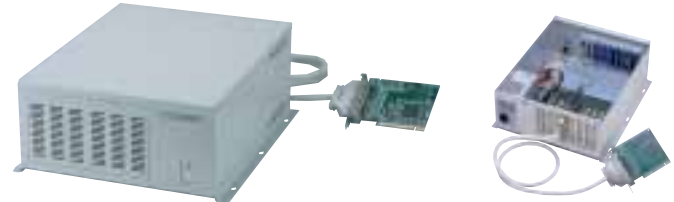


PCI Bus Expansion System (7 Slot Full-size Chassis) FA-PAC(PCI)F7

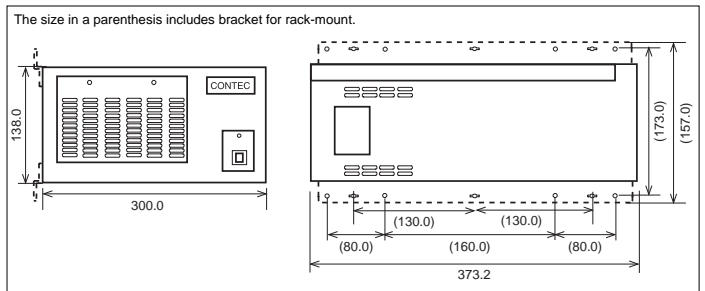
- FEATURES**
- PCI Bus to PCI Bus Expansion System with 7 Slot Full-size Chassis
 - Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
 - Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev 2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (from PC)	+5VDC 700mA(Max.) / DC+5V 400mA(Typ.)
Number of available slots	7 Slot (Full-size Chassis)
Max dimensions of PCI board	313.8(L) x 107(H)
Power supply capacity	+5V 11.3A, +3.3V 6A, +12V 5A, -12V 0.1A
AC Input voltage	AC115/230V (switch selectable)
Input current	5A(AC 115V) / 2.5A(AC 230V)
Fan	Cooling fan built-in
Operating Temp. / Humidity	0-50°C, 30-90%RH(non-condensing)
Drive bay	-
External dimensions (mm)	300(W) x 138(H) x 373.2(D)
Weight	5.0kg(Cable and BUS-PC (PCI) aren't contained)
Attached connection cable	1m



Dimensions



PCI Bus Expansion System (13 Slot Full-size Chassis) FA-PAC(PCI)F13

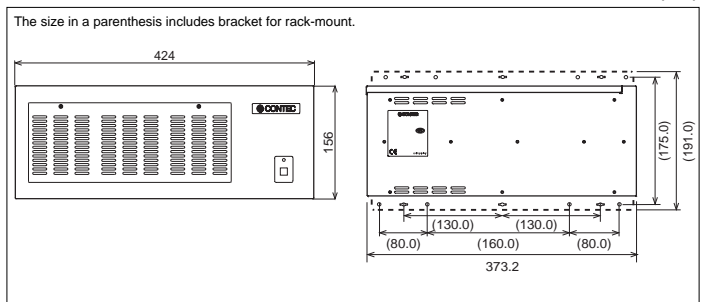
- FEATURES**
- PCI Bus to PCI Bus Expansion System with 13 Slot Full-size Chassis
 - Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
 - Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev 2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt	INTA-INTD
Bus operating clock	33MHz (Max.)
Power consumption (from PC)	+5VDC 700mA(Max.) / +5VDC 300mA(Typ.)
Number of available slots	13 Slot (Full-size Chassis)
Max dimensions of PCI board	313.8(L) x 107(H)
Power supply capacity	+5V 18A, +3.3V 15A, +12V 9A, -12V 1A
AC Input voltage	AC115/230V (switch selectable)
Input current	6A (AC115V) / 4A (AC230V)
Fan	Cooling fan built-in
Operating Temp. / Humidity	0-50°C, 20-80%RH(non-condensing)
External dimensions (mm)	424(W) x 156(H) x 373.2(D)
Weight	9.5kg(Cable and BUS-PC (PCI) aren't contained)
Attached connection cable	1m



Dimensions



Card Bus to PCI Bus Expansion System

NOTE-PAC(PCI)H2

NEW 2 Slots Short Size

FEATURES

- Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
- Card Bus to PCI Bus Expansion System with 2 Slot Short-size Chassis
- Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable
- The cooling fan who cools the mounted board is built in
- Since the case is small, it is convenient to carry



Supported OS



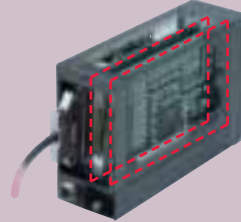
SPECIFICATIONS

Card slot	PC Card Standard CardBus (TYPE II)
BUS Type	PCI Local Bus Specification Rev2.2 (+5V)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt level	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	DC 3.3V 200mA
Number of available slots	2 Slot (Short-size)
Max dimensions of PCI board	176.5(L) x 107(H)
Power supply capacity	DC+5V:7A (Max.), DC+3.3V:3A (Max.), DC+12V:1.5A (Max.), DC-12V:0.3A (Max.)
Rated Input voltage	AC100-240V*1
Input current	2A(AC90V)
Operating Temp. / Humidity	0-50°C, 20-90%RH(non-condensing)
External dimensions (mm)	71(W) x 144(H) x 222(L)
Weight (w/o AC adapter)	1.2 kg
Weight of AC adapter	0.9 kg
Connection cable	CB-CB68/96 (1m)

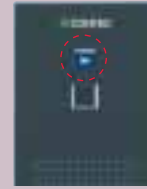
*1 : Input voltage range : AC90 - 264V

P O I N T

● Two PCI bus boards (short-size) can be mounted in a small case.



● The power supply of a personal computer is interlocked with and it is automatic power supply ON/OFF. ON/OFF status of a power supply can be checked by front blue LED.



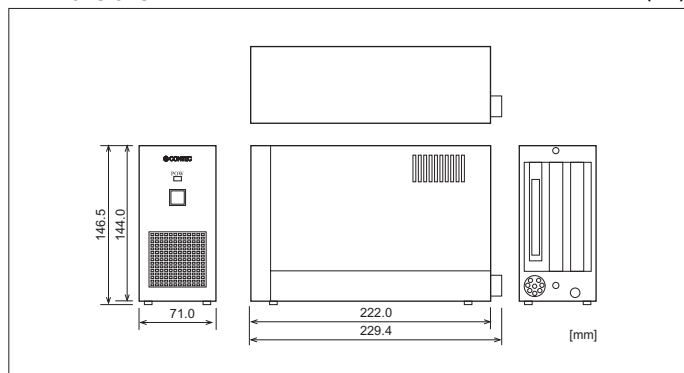
● The cooling fan who cools the mounted board is built in.



● A screw lock mechanism is adopted as connection with attached AC adapter. The omission of a cable is prevented.

Dimensions

(mm)



Card Bus to PCI Bus Expansion System

NOTE-PAC(PCI)H4

NEW 4 Slots Short Size Power on board

Supported OS



SPECIFICATIONS

Card slot	PC Card Standard CardBus (TYPE II)
BUS Type	PCI Local Bus Specification Rev2.2 (+5V)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt level	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	DC 3.3V 200mA
Number of available slots	4 Slot (Short-size)
Max dimensions of PCI board	176.5(L) x 107(H)
Power supply capacity	DC+5V:11.3A (Max.), DC+3.3V:6A (Max.), DC+12V:5A (Max.), DC-12V:0.1A (Max.)
Rated Input voltage*1	AC115/230V (switch selectable)
Input current	5A(AC115V) / 2.5A(AC230V)
Operating Temp./Humidity	0-50°C / 20-90%RH(non-condensing)
External dimensions (mm)	210.0(W) x 138.0(H) x 235.0(L)
Weight	3.5 kg

*1: Input voltage range: AC90-132V/AC180-250V

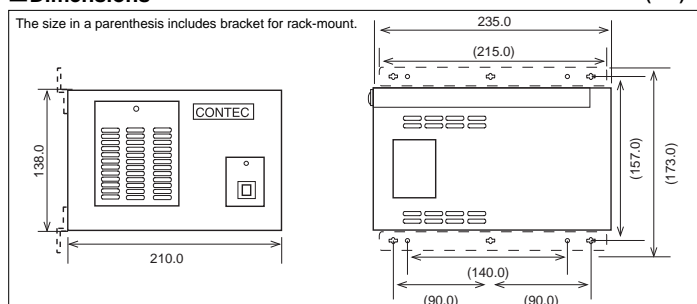
FEATURES

- Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
- Card Bus to PCI Bus Expansion System with 4 Slot Short-size Chassis
- Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable
- The cooling fan who cools the mounted board is built in



Dimensions

(mm)



Card Bus to PCI Bus Expansion System NOTE-PAC(PCI)F7

NEW 7 Slots Long Size Short Size Power on board

FEATURES

- Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
- Card Bus to PCI bus expansion system with 7 slot long-size chassis
- Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable
- The cooling fan who cools the mounted board is built in

Supported OS



SPECIFICATIONS

Card slot	PC Card Standard CardBus (TYPE II)
BUS Type	PCI Local Bus Specification Rev2.2 (+5V)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt level	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	DC 3.3V 200mA
Number of available slots	7 Slot (Full-size Chassis)
Max dimensions of PCI board	313.8(L) x 107(H)
Power supply capacity	DC+5V:11.3A (Max.), DC+3.3V:6A (Max.), DC-12V:0.1A (Max.)
Rated Input voltage*1	AC115/230V (switch selectable)
Input current	5A(AC115V) / 2.5A(AC230V)
Operating Temp./Humidity	0-50°C / 20-90%RH(non-condensing)
External dimensions (mm)	300.0(W) x 138.0(H) x 373.2(L)
Weight	5.0 kg

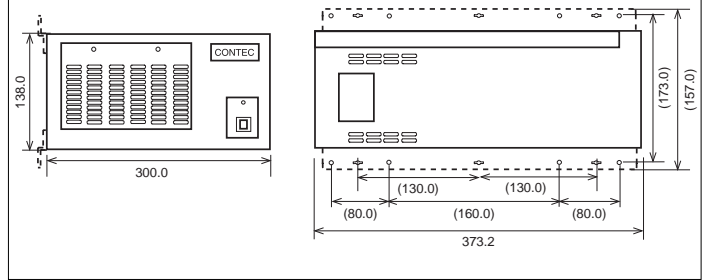
*1: Input voltage range:AC90-132V/AC180-250V



Dimensions

(mm)

*The size in a parenthesis includes bracket for rack-mount.



Card Bus to PCI Bus Expansion System NOTE-PAC(PCI)F13

NEW 13 Slots Long Size Short Size Power on board

FEATURES

- Compatible with 32-bit PCI bus Rev. 2.1 (+5V specifications)
- Card Bus to PCI bus expansion system with 13 slot long-size chassis
- Power supply ON/OFF of a personal computer is interlocked with, and the power supply of an extended unit is also controllable
- The cooling fan who cools the mounted board is built in

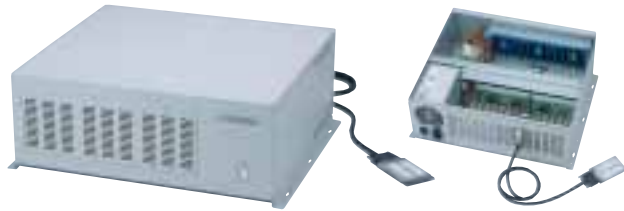
Supported OS



SPECIFICATIONS

Card slot	PC Card Standard CardBus (TYPE II)
BUS Type	PCI Local Bus Specification Rev2.2 (+5V)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Interrupt level	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	DC 3.3V 200mA
Number of available slots	13 Slot (Full-size Chassis)
Max dimensions of PCI board	313.8(L) x 107(H)
Power supply capacity	DC+5V:18A (Max.), DC+3.3V:15A (Max.), DC-12V:1A (Max.)
Rated Input voltage*1	AC115/230V (switch selectable)
Input current	6A(AC115V) / 4A(AC230V)
Operating Temp./Humidity	0-50°C / 20-90%RH(non-condensing)
External dimensions (mm)	424.0(W) x 156.0(H) x 372.0(L)
Weight	9.5 kg

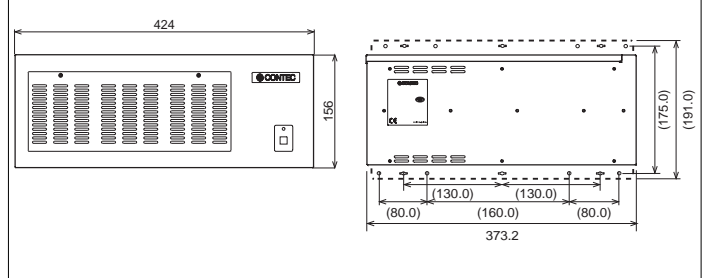
*1: Input voltage range:AC90-132V/AC180-250V



Dimensions

(mm)

*The size in a parenthesis includes bracket for rack-mount.



Bus Expansion System

E-05

BUS EXPANSION SYSTEM

PCI Bus to PCI Bus Expansion System (4 Slot) BUF(PCI)4

FEATURES

- Expansion slots on an external backplane can be used as regular PCI slots
- 32-bit (5V) PCI Bus supported
- Bus operation clock can support up to 33MHz

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Number of available slots	4 Slot
Interrupt	INTA-INTD
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	PC side: (BUS-PC(PCI))DC+5V 700mA(Max.)/ DC+5V 300mA(Typ.) Extension unit side: (BUS-PAC(PCI))DC+5V 700mA(Max.)/ DC+5V 500mA(Typ.)

Operating Temp./Humidity	0-50°C, 30-90%RH(non-condensing)
External dimensions (mm)	PC side: (BUS-PC(PCI)) 122.0(L) x 107.0(H) x 18.5(D) Extension unit side: (BUS-PC(PCI)) 122.0(L) x 107.0(H) x 18.5(D) Back plane: (PC-MB5(PCI)) 165.0(L) x 124.0(H) x 20.0(D)
Connection cable	96-pin shield cable, 1m



PCI Bus to PCI Bus Expansion System (7 Slot) BUF(PCI)



FEATURES

- Expansion slots on an external backplane can be used as regular PCI slots
- 32-bit (5V) PCI Bus supported
- Bus operation clock can support up to 33MHz

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Number of available slots	7 slot
Interrupt	INT A-INT D
Bus operating clock	33MHz(Max.)
Power consumption (Max.)	PC side: (BUS-PC(PCI))DC+5V 700mA(Max.)/DC+5V 300mA(Typ.) Extension unit side: (BUS-PAC(PCI))DC+5V 700mA(Max.)/ DC+5V 500mA(Typ.)

Operating Temp./Humidity	0-50°C, 30-90%RH(non-condensing)
External dimensions (mm)	PC side: (BUS-PC(PCI))122.0(L) x 107.0(H) x 18.5(D), Extension unit side: (BUS-PAC(PCI))122.0(L) x 107.0(H) x 18.5(D), Back plane: (PC-MB8(PCI))220.0(L) x 185.0(H) x 20.0(D)
Connection cable	96-pin shield cable, 1m



Bus Expansion System

PCI Bus to PCI Bus Expansion System (13 Slot) BUF(PCI)13

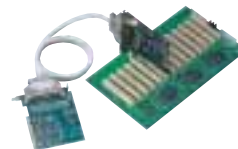
FEATURES

- Expansion slots on an external backplane can be used as regular PCI slots
- 32-bit (5V) PCI Bus supported
- Bus operation clock can support up to 33MHz

SPECIFICATIONS

BUS Type	32-bit PCI bus Rev2.1 (+5V type)
Address Space	I/O: 32-bit addressing, Memory: 32-bit addressing
Number of available slots	13 Slot
Interrupt	INTA-INTD
Bus operating clock	33MHz (Max.)
Power consumption (Max.)	PC side: (BUS-PC(PCI)) DC+5V 700mA(Max.)/DC+5V 300mA(Typ.), Extension unit side: (BUS-PAC(PCI))+5VDC 1500mA(Max.)/ +5VDC 900mA(Typ.)

Operating Temp. / Humidity	0-50°C, 30-90%RH(non-condensing)
External dimensions (mm)	PC side: (BUS-PC(PCI)) 122.0(L) x 107.0(H) x 18.5(D), Extension unit side: (BUS-PAC(PCI)) 122.0(L) x 107.0(H) x 18.5(D), Back plane: (PC-MB14(PCI)) 311.15(L) x 185.0(H) x 20.0(D)
Connection cable	96-pin shield cable, 1m



PCI Bus to ISA Bus Expansion System BUF-PCI(PC)



FEATURES

- Provide regular ISA slots from PCI slot of PC
- Driver software for Windows XP/2000/NT/Me/98/95 included
- The I/O access wait and the refresh signal for the I/O expansion unit

SPECIFICATIONS

BUS Type	PCI Bus to ISA Bus Expansion
Interrupt	one interrupt signal within expansion chassis
DMA	Not supported
Accessible address space	Max.248 port (PC BIOS assigns I/O space to BUF-PC(PCI))
Memory	Not supported

Power consumption (Max.)	PC side: (BUS-PCI(PCI)) DC+5V 300mA Extension unit side: (BUS-PCI(PC)) DC+5V 300mA
Operating Temp./Humidity	0-50°C, 20-90%RH(non-condensing)
External dimensions (mm)	PC side: (BUS-PCI(PCI))120.0(L) x 107.0(H) x 18.5(D) Extension unit side: (BUS-PCI(PC))134.2(L) x 107.0(H) x 18.5(D)
Connection cable	96-pin shield cable, 1m



PCMCIA to ISA Bus Expansion System BUF-CARD(PC)P

FEATURES

- PCMCIA design allows use with any PC/AT compatible notebook regardless of the shape and size of its extension bus connector
- Ideal for use of notebook PC in most factory and laboratory applications



SPECIFICATIONS

BUS Type	PCMCIA to ISA Bus expansion
Card slot	JEIDA Ver.4.1 / PCMCIA Rel.2.0 (TYPE II)
DMA	Not supported
Data bus width	8-bit (16-bit not available)
Accessible address space	I/O: 32 consecutive ports can be selected as following: 220-23F,240-25F,260-27F,280-29F,2A0-2BF, 2C0-2DF,2E0-2FF,300-31F,320-33F,340-35F, 360-37F,380-39F,3A0-3BF,3C0-3DF,3E0-3FF
Memory	Not supported
Interrupt	1 point: IRQ3-7, 9-12, 14 and 15 (jumper selectable)

Power consumption (Max.)	PC side: (BUS-CARD(PM)P)DC+5V 100mA, Extension unit side: (BUS-CARD(PC))DC+5V 500mA
Operating Temp./Humidity	0-50°C,20-90%RH(non-condensing)
Dimensions (mm)	PC side: (BUS-CARD(PM)P)54.0(L)x85.6(H)x5.0(D) Extension unit side: (BUS-CARD(PC))160.0(L)x122.0(H)x18.5(D)
Compatible models	AT-compatible PC equipped with a card slot compatible with a JEIDA 4.1/PCMCIA 2.0 or later type II card (should also be compatible with Card Service Release 2.0 or later)
Connection cable	Type: 32-pin shielded cable, Length: 500mm

ISA Bus Expansion System BUF(PC)E



FEATURES

- Provide regular ISA slots from PCI slot of PC



SPECIFICATIONS

BUS Type	ISA Bus to ISA Bus Expansion
DMA	Not supported
Bus operating clock	8MHz
Accessible address space	0000H - FFFFH 080000H - 09FFFFH (set DIP switch) 0C0000H - 0DFFFFH (set DIP switch) 000000H - FEFFFFH (set DIP switch)
Memory	080000H - 09FFFFH (set DIP switch) 0C0000H - 0DFFFFH (set DIP switch) 000000H - FEFFFFH (set DIP switch)
Interrupt	IRQ 3-7, 9-12, 14, 15

Power consumption (Max.)	PC side (BUS-PC(PC)E): DC+5V 300mA Extension unit side (BUS-PAC(PC)E):DC+5V 500mA
Operating Temp./Humidity	0-50°C,30-90%RH (non-condensing)
Dimensions (mm)	PC side & Extension unit side:160.0(L)x122.0(H)x22.0(D)
Connection cable	96-pin shield cable (1m)

ISA Bus to PCMCIA Expansion Board PC-CARD(PC)H

FEATURES

- It corresponds to the PC card of Type I, Type II, and Type III based on the standard of PCMCIA2.1/JEIDA 4.2 or later



SPECIFICATIONS

Card slot	JEIDA 4.2/PCMCIA 2.0 or later type I, II, III card (Power consumption 1.2A Max.)
I/O address	2 port (X3E0h, X3E1)

Power consumption (Max.)	+5VDC 150mA
Operating Temp. / Humidity	Operating temperature: 0-50°C, Humidity: 0-90%RH (non-condensing)
Bus / Dimension (mm)	ISA Bus / 160(L) x 107(H)