**Product Lineup**

A wide variety of variations according to expansion systems are available.

### PCI Express Cable Type Expansion Bus Adapter & Chassis

**PCI Express Cable Type:**
- PCI Express External Cabling 1.0 compliant, providing a high-speed data transfer (2.5 Gbps).
- PCI bus slots or PCI Express bus slots can be added to PCs having PCI Express bus or ExpressCard slots. It allows you to construct a system without changing existing PCI add-on boards or PCI Express bus board and software. In addition, the expansion chassis power supply can be turned on & off with the host PC power supply.

### Bus Extension Type Expansion Adapter & Chassis

**Bus Extension Type:**
- This bus extension externally expands PCI bus and transmit signals directly between the expansion chassis and host PC. It is best suited for use in an environment where the measurement control is conducted in close proximity * to the host PC.
- * The expansion adapters to be inserted into the PC and expansion chassis are connected with a 1 m-long connecting cable, and the distance between the expansion chassis and measurement targets depends on the specification of board to be inserted.

### StarFabric-compliant Type Expansion Adapter & Chassis

**StarFabric-compliant Type**
- With this style extension, you can conduct StarFabric-compliant high-speed serial transfer (2.5 Gbps).
- The expansion adapters to be inserted into the PC and expansion chassis are connected using Category 5e cable creating easy wiring and installation. The included cable can be extended up to 12m, making it an optimal choice where measure / control is conducted at a distance from the host PC. PCI bus compliant, it allows you to construct a system without changing existing boards or software. In addition, the expansion chassis power supply can be turned on & off with the host PC power supply.
A wide variety of variations according to expansion systems are available.

Product Lineup

- **chassis power supply can be turned on & off with the host PC power supply.**

- **PCI bus compliant, it allows you to construct a system without changing existing boards or software.**

- **Category 5e cable creating easy wiring and installation.**

- **The included cable can be extended up to 10 m.**

- **With this style extension, you can conduct StarFabric-compliant high-speed serial transfer (2.5 Gbps).**

- **Connecting cable, and the distance between the expansion chassis and measurement targets depends on the distance between the expansion chassis and the measurement targets.**

- **PCI Express External Cabling 1.0 compliant, providing a high-speed data transfer.**

- **PCI Express Bus Expansion Chassis**

- **ISA Bus Expansion Unit (Backplane included)**

- **Bus Converter Adapter**

### Expansion Chassis

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECH-PCE-H2B</td>
<td>PCI Express</td>
</tr>
<tr>
<td>ECH-PCE-H4B</td>
<td>PCI Express</td>
</tr>
<tr>
<td>ECH-PCE-H7A</td>
<td>PCI bus</td>
</tr>
<tr>
<td>ECH-PCE-F2B</td>
<td>PCI bus</td>
</tr>
<tr>
<td>ECH-PCE-F4B</td>
<td>PCI bus</td>
</tr>
<tr>
<td>ECH-PCE-F7A</td>
<td>PCI bus</td>
</tr>
<tr>
<td>ECH-PCE-F13A</td>
<td>PCI bus</td>
</tr>
</tbody>
</table>

### ISA Bus Expansion Unit (Backplane included)

<table>
<thead>
<tr>
<th>Model</th>
<th>Installation Type</th>
<th>Expansion Adapter</th>
<th>Drive Bay</th>
<th>Slots</th>
<th>Installable Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-PAC/PCIMID</td>
<td>Desktop/Rack mount/Wall mount</td>
<td>Option</td>
<td>None</td>
<td>4**</td>
<td>x</td>
</tr>
</tbody>
</table>

**Caution:** Please note that the following expansion boards cannot be used inside an expansion chassis:

- Video boards
- Additional PCI bus expansion boards
- Boards with the disclaimer "Cannot be used with PCI-to-PCI Bridge"
- Please note that even when a board is compatible with PCI bus specifications, it may not operate due to specification limitations.

### Bus Converter Adapter

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUF-CARD/PC/MID</td>
<td>PC card to ISA</td>
</tr>
<tr>
<td>PCARD/PC/MID</td>
<td>ISA to PC Card</td>
</tr>
</tbody>
</table>

### Expansion Adapter

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAD-CE-LPE</td>
<td>PCI Express</td>
</tr>
<tr>
<td>EAD-CE-EC</td>
<td>ExpressCard</td>
</tr>
<tr>
<td>EAD-CE-LPE</td>
<td>PCI Express</td>
</tr>
<tr>
<td>EAD(LPCI)BE</td>
<td>PCI</td>
</tr>
<tr>
<td>EAD(PC)BE</td>
<td>(for Standard PCI slots)</td>
</tr>
<tr>
<td>EAD(CB)BE-N</td>
<td>Card Bus</td>
</tr>
</tbody>
</table>

### Bus Extension Type Expansion Adapter & Chassis

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAD-SF-LPE</td>
<td>PCI Express</td>
</tr>
<tr>
<td>EADLPCISF</td>
<td>PCI</td>
</tr>
<tr>
<td>EAD(PC)SF</td>
<td>Card Bus</td>
</tr>
</tbody>
</table>

### StarFabric-compliant Type Expansion Adapter & Chassis

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAD-SF-LPE</td>
<td>PCI Express</td>
</tr>
<tr>
<td>EADLPCISF</td>
<td>PCI</td>
</tr>
<tr>
<td>EAD(PC)SF</td>
<td>Card Bus</td>
</tr>
</tbody>
</table>

### Bus Expansion Adapter

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUF(PCI)</td>
<td>PCI to PCI Bus (7 slots)</td>
</tr>
<tr>
<td>BUF(PCI)13</td>
<td>PCI to PCI Bus (13 slots)</td>
</tr>
</tbody>
</table>

### Pictograms

- **Expansion Adapter**
  - Product is PCI Express standard compliant and can be used in the computer equipped with PCI Express bus expansion slot.
  - Product supports CardBus that is a 32-bit PC card standard bus and can be used in the notebook computer equipped with a CardBus-compliant PCI card slot.

- **PCI Express**
  - Maximum number of boards that can be installed
  - Maximum board size that can be installed
  - Expansion chassis is equipped with built-in power supply.

- **PCI Bus Expansion Chassis**
  - Built-in Power
  - AC adapter includes AC adapter.
  - The expansion chassis has no built-in power source.
## Expansion Unit / Bus Adapter

### PCI Express Cable Type

Selecting Optimal Expansion Adaptor and Expansion Chassis

PCI Express External Cabling 1.0 compliant, providing a high-speed data transfer (2.5 Gbps). PCI bus slots or PCI Express bus slots can be added to PCs having PCI Express bus or ExpressCard slots. It allows you to construct a system without changing existing PCI add-on boards or PCI Express bus board and software. In addition, the expansion chassis power supply can be turned on & off with the host PC power supply.

CONTEC offers 18 different configurations based on the type of host PC, needed number and size of PCI slots.

#### Expansion Adapter

- **Expansion adapter for PCI Express cable type (PC side)**
  - **EAD-CE-EC**
  - PCs equipped with ExpressCard slots
  - A dedicated connection cable (1 m) is included.
  - 3 m extension is possible by using the following cable. A dedicated connection cable (3 m) CB-CE-3

- **Expansion adapter for PCI Express cable type (PC side)**
  - **EAD-CE-LPE**
  - PCs equipped with standard-size, low-profile PCI Express bus slot
  - A dedicated connection cable (1 m) is included.
  - Standard PCI bus bracket are included.
  - 3 m extension is possible by using the following cable. A dedicated connection cable (3 m) CB-CE-3

#### Expansion Chassis

- **Stylish compact black chassis**
  - **EAD-PE-CE-H2B**
  - 2 slots Long Size Includes AC adapter
  - **EAD-PE-CE-F2B**
  - 2 slots Short Size Includes AC adapter

- **Solid steel industrial chassis**
  - **EAD-PC-CE-H2B**
  - 2 slots Long Size Includes AC adapter
  - **EAD-PC-CE-H4B**
  - 4 slots Long Size Includes AC adapter

### Expansion Unit / Bus Adapter

<table>
<thead>
<tr>
<th>Model</th>
<th>EAD-CE-LPE</th>
<th>EAD-CE-EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Express Base Specification Rev. 1.1a x1</td>
<td>ExpressCard Standard Release 1.1</td>
</tr>
<tr>
<td>Card Slot</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>121.69 (L) x 67.90 (H)</td>
<td>100 (L) x 34 (H)</td>
</tr>
<tr>
<td>Bus Clock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>3.3 VDC 50 mA (Max.)</td>
<td>3.3 VDC 50 mA (Max.)</td>
</tr>
<tr>
<td>Attached Cable</td>
<td>CB-CE-1 (cable length: 1 m)</td>
<td></td>
</tr>
</tbody>
</table>

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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**Supported OS**

- Windows 7
- Vista
- Windows XP
- Windows 2003
- Windows XP Server
- Windows 2000
- Windows Server 2003

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**Operating Conditions**

- 0 - 50°C, 10 - 90 % RH (no condensation)

**Power Consumption**

- 3.3 VDC 50 mA (Max.)

**Attached Cable**

- CB-CE-1 (cable length: 1 m)

---

**Global Site:** www.contec.com
PCI Express

- PCI bus (5 V/32 bit 33 MHz) or PCI Express (x1) bus slot can be added using PCI Express board on the host PC.
- Expansion chassis can be selected for each application.
- The power supply can be turned on & off with the host PC power supply.
- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)

PCI Express Cable type
Expansion adapter for PCI Express bus slot (Host PC)
**EAD-CE-LPE**

Express Card

- PCI bus (5 V/32 bit 33 MHz) or PCI Express (x1) bus slot can be added using ExpressCard slot on the notebook computer.
- Expansion chassis can be selected for each application.
- The power supply can be turned on & off with the host PC power supply.

PCI Express Cable type
Expansion adapter for PCI Express bus slot (Host PC)
**EAD-CE-EC**

---

### Model Comparison

<table>
<thead>
<tr>
<th>Model</th>
<th>EAD-CE-LPE</th>
<th>EAD-CE-EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Express Base Specification Rev. 1.0a x1</td>
<td>ExpressCard Standard Release 1.1</td>
</tr>
<tr>
<td>Card Slot</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>121.69 (L) x 67.90 (H)</td>
<td>100 (L) x 34 (H)</td>
</tr>
<tr>
<td>Bus Clock</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>3.3 VDC 50 mA (Max.)</td>
<td>3.3 VDC 50 mA (Max.)</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 10 - 90 % RH (no condensation)</td>
<td></td>
</tr>
<tr>
<td>Attached Cable</td>
<td>CB-CE-1 (cable length: 1 m)</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

As shown on the side of product’s images, RoHS compliant [RoHS] is a CONTEC original marking for RoHS-compliant products.
Expansion Unit / Bus Adapter

**PCI Express Cable type**
**PCI Express Expansion Chassis**
(x2 Short size slots, AC Adapter)
ECH-PE-CE-H2B

- 2 short-size PCI Express boards can be installed.
- 1x PCI Express bus slot can be added to the PC.
- The power supply can be turned on & off with the host PC power supply.
- The compact chassis design with a built-in cooling fan combines space-saving system configuration.

**Dimensions**

<table>
<thead>
<tr>
<th>ECH-PE-CE-H2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Slots Short Size</td>
</tr>
</tbody>
</table>

**PCI Express Cable type**
**PCI Express Expansion Chassis**
(x2 Long size slots, AC Adapter)
ECH-PE-CE-F2B

- 2 long-size PCI Express bus boards can be installed.
- 1x PCI Express bus slot can be added to the PC.
- The power supply can be turned on & off with the host PC power supply.
- The compact chassis design with a built-in cooling fan combines space-saving system configuration.

**Dimensions**

<table>
<thead>
<tr>
<th>ECH-PE-CE-F2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Slots Long Size Short Size</td>
</tr>
</tbody>
</table>

---

**Model** | **ECH-PE-CE-H2B** | **ECH-PE-CE-F2B** |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Express Base Specification Rev.1.0a x1</td>
<td></td>
</tr>
<tr>
<td>Address Space</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interrupt Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Clock</td>
<td></td>
<td></td>
</tr>
<tr>
<td>User Slots</td>
<td>2 (Short-size)</td>
<td>2 (Long-size)</td>
</tr>
<tr>
<td>Installable Board (mm)</td>
<td>176.5 (L) x 111.15 (H)</td>
<td>313.8 (L) x 111.15 (H)</td>
</tr>
<tr>
<td>Power Supply Capacity (Max.)</td>
<td>The output current shall not exceed the following values: +5 VDC: 7 A (Max.), +12 VDC: 1.5 A (Max.), -12 VDC: 0.3 A (Max.)</td>
<td>The output current shall not exceed the following values: +5 VDC: 7 A (Max.), +12 VDC: 1.5 A (Max.), -12 VDC: 0.3 A (Max.)</td>
</tr>
<tr>
<td>AC Input Voltage *</td>
<td>100 - 240 VAC</td>
<td></td>
</tr>
<tr>
<td>Overall Power Supply Capacity</td>
<td>60 W</td>
<td></td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 20 - 80 % RH (no condensation)</td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>71.0 (W) x 144.0 (H) x 222.0 (L) (no rubber foot)</td>
<td>71.0 (W) x 144.0 (H) x 360.0 (L) (no rubber foot)</td>
</tr>
<tr>
<td>Weight of Chassis</td>
<td>1.2 kg</td>
<td>1.8 kg</td>
</tr>
<tr>
<td>Weight of AC Adapter</td>
<td>0.9 kg</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. AC input voltage: 90 - 264 VAC.
2. *x* boards can also be installed. However, it must have the same functions as x1 board.
3. The sum of +5 VDC +3.3 VDC must not exceed 35 W. (if you use 3.3 VDC, it must not exceed 3 A for each slot.)
Expansion Unit / Bus Adapter

<table>
<thead>
<tr>
<th>PCI Express Cable type</th>
<th>PCI bus expansion chassis</th>
<th>Slots</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x2 Short size slots, AC Adapter)</td>
<td>ECH-PCI-CE-H2B</td>
<td>2</td>
<td>Short, Size</td>
</tr>
<tr>
<td>2 short-size PCI bus boards can be installed.</td>
<td>A PCI bus (5 V/32 bit 33 MHz) is added to the PC.</td>
<td>The power supply can be turned on &amp; off with the host PC power supply.</td>
<td>The compact chassis design with a built-in cooling fan combines space-saving system configuration.</td>
</tr>
<tr>
<td>(x4 Short size slots, AC Adapter)</td>
<td>ECH-PCI-CE-H4B</td>
<td>4</td>
<td>Short, Size</td>
</tr>
<tr>
<td>4 short-size PCI bus boards can be installed.</td>
<td>A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.</td>
<td>The power supply can be turned on &amp; off with the host PC power supply.</td>
<td>The compact chassis design with a built-in cooling fan combines space-saving system configuration.</td>
</tr>
<tr>
<td>(x2 Long size slots, AC Adapter)</td>
<td>ECH-PCI-CE-F2B</td>
<td>2</td>
<td>Long, Size</td>
</tr>
<tr>
<td>2 long-size PCI bus boards can be installed.</td>
<td>A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.</td>
<td>The power supply can be turned on &amp; off with the host PC power supply.</td>
<td>The compact chassis design with a built-in cooling fan combines space-saving system configuration.</td>
</tr>
<tr>
<td>(x4 Long size slots, AC Adapter)</td>
<td>ECH-PCI-CE-F4B</td>
<td>4</td>
<td>Long, Size</td>
</tr>
<tr>
<td>4 long-size PCI bus boards can be installed.</td>
<td>A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.</td>
<td>The power supply can be turned on &amp; off with the host PC power supply.</td>
<td>The compact chassis design with a built-in cooling fan combines space-saving system configuration.</td>
</tr>
</tbody>
</table>

---

**Model**: ECH-PCI-CE-H2B  
**Bus Type**: PCI Local Bus Specification Rev.2.3 (5 VDC)  
**Address Space**: Memory: 32-bit addressing, I/O: 32-bit addressing  
**Interrupt Level**: INTA - INTD  
**Bus Clock**: 33 MHz (Max.)  
**Installable Board (mm)**: 2 (Short-size), 2 (Long-size), 4 (Short-size), 4 (Long-size)  
**Power Supply Capacity**: 100 - 240 VAC  
**Operating Conditions**: 0 - 50°C, 0% - 80% RH (no condensation)  
**Dimensions (mm)**: 71.0 (W) x 144.0 (H) x 222.0 (L) (no rubber foot)  
**Weight of Chassis**: 1.2 kg  
**Weight of AC Adapter**: 0.9 kg

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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### Dimensions (Unit: mm)

**ECH-PCI-CE-H2B**

- Width: 220 mm  
- Depth: 144 mm  
- Height: 71 mm

**ECH-PCI-CE-H4B**

- Width: 220 mm  
- Depth: 144 mm  
- Height: 360 mm

**ECH-PCI-CE-F2B**

- Width: 220 mm  
- Depth: 144 mm  
- Height: 71 mm

**ECH-PCI-CE-F4B**

- Width: 220 mm  
- Depth: 144 mm  
- Height: 360 mm
Expansion Unit / Bus Adapter

PCI Express Cable type
PCI bus expansion chassis
(x4 Short size slots, On board Power)
ECH-PCI-CE-H4A

• 4 short-size PCI bus boards can be installed.
• A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.
• The power supply can be turned on & off with the host PC power supply.
• Steel chassis equipped with a built-in cooling fan.

PCI Express Cable type
PCI bus expansion chassis
(x7 Short size slots, On board Power)
ECH-PCI-CE-H7A

• 7 short-size PCI bus boards can be installed.
• A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.
• The power supply can be turned on & off with the host PC power supply.
• Steel chassis equipped with a built-in cooling fan is employed.

PCI Express Cable type
PCI bus expansion chassis
(x13 Short size slots, On board Power)
ECH-PCI-CE-H13A

• 13 short-size PCI bus boards can be installed.
• A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.
• The power supply can be turned on & off with the host PC power supply.
• Steel chassis equipped with a built-in cooling fan is employed.

PCI Express Cable type
PCI bus expansion chassis
(x2 Short size slots, AC Adapter)
ECH-PCI-CE-H2C

• 2 short-size PCI bus boards can be installed.
• A PCI bus (5 V/32 bit 33 MHz) slot can be added to the PC.
• Cable connection with the Multi-Function Resource-Saving PC BX100n series can be adopted to allow integrated or separate use.

---

**Model** | ECH-PCI-CE-H4A | ECH-PCI-CE-H7A | ECH-PCI-CE-H13A | ECH-PCI-CE-H2C *
---|---|---|---|---
**Bus Type** | PCI Local Bus Specification Rev2.3 (+5 VDC) | PCI Local Bus Specification Rev2.3 (+5 VDC) | PCI Local Bus Specification Rev2.3 (+5 VDC) | PCI Local Bus Specification Rev2.3 (+5 VDC) 
**Interrupt Level** | INTA - INTD | INTA - INTD | INTA - INTD | INTA - INTD 
**Bus Clock** | 33 MHz (Max.) | 33 MHz (Max.) | 33 MHz (Max.) | 33 MHz (Max.) 
**User Slots** | 4 (Short-size) | 7 (Short-size) | 13 (Short-size) | 2 (Short-size) 
**Installable Board (mm)** | 176.5 (L) x 167 (H) | 176.5 (L) x 167 (H) | 176.5 (L) x 167 (H) | 176.5 (L) x 167 (H) 
**Power Supply Capacity (Max.)** | The output current shall not exceed the following values:
+5 VDC: 11.3 A (Max.), +3.3 VDC: 6 A (Max.),
+12 VDC: 3 A (Max.), -12 VDC: 0.7 A (Max.) | The output current shall not exceed the following values:
+5 VDC: 18 A (Max.), +3.3 VDC: 15 A (Max.),
+12 VDC: 9 A (Max.), -12 VDC: 3 A (Max.) | The output current shall not exceed the following values:
+5 VDC: 18 A (Max.), +3.3 VDC: 15 A (Max.),
+12 VDC: 9 A (Max.), -12 VDC: 3 A (Max.) | The output current shall not exceed the following values:
+5 VDC: 5 A (Max.), +3.3 VDC: 2 A (Max.),
+12 VDC: 1 A (Max.), -12 VDC: 0.3 A (Max.)
**AC Input Voltage** | 115/200 VAC (switch selectable)** | 115/200 VAC (switch selectable)** | 115/200 VAC (switch selectable)** | 120 - 240 V (AC) **
**Maximum Power Supply Capacity** | 130 W** | 0 - 30°C: 230 W, 30 - 40°C: 205 W, 40 - 50°C: 175 W** | 248 W | 270.0 W x 182.0 (H) x 50.0 (L) (no rubber foot) 
**Operating Conditions** | 0 - 50°C, 20 - 80 % RH (no condensation) | 0 - 50°C, 20 - 80 % RH (no condensation) | 0 - 50°C, 20 - 80 % RH (no condensation) | 0 - 50°C, 20 - 80 % RH (no condensation) 
**Dimensions (mm)** | 210.0 (W) x 138.0 (H) x 235.0 (L) (no fittings) | 210.0 (W) x 138.0 (H) x 235.0 (L) (no fittings) | 424.0 (W) x 156.0 (H) x 255.0 (L) (no fittings) | 270.0 (W) x 182.0 (H) x 50.0 (L) (no rubber foot) 
**Weight of Chassis** | 3.5 kg | 5.0 kg | 7.5 kg | 3.5 kg 

---

**Note:**

*1: AC input line voltage range: 90 - 132 VAC and 180 - 250 VAC. **2: The sum of +5 VDC and +3.3 VDC must not exceed 90 W. **3: Condition with CE marking 130 W at 40°C. **4: Condition with CE marking 115 W at 50°C. **5: The sum of +5 VDC+/+3.3 VDC must not exceed 35 W. **6: DC input line voltage range: 10.8 - 31.2 VDC. **7: For power supply of ECH-PCI-CE-H2C, use IPC-ACAP12-04. For details, please see D-02.

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**Dimensions (Unit: mm)**

ECH-PCI-CE-H4A

ECH-PCI-CE-H7A

ECH-PCI-CE-H13A

ECH-PCI-CE-H2C

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Global Site: www.contec.com
Bus Extension Type
Selecting Optimal Expansion Adapter and Expansion Chassis

Bus extension type is best suited for use in an environment where the control is conducted in close proximity to the PC unit. If the expansion unit needs to be further away (up to 12 m), select from the StarFabric-compliant type. CONTEC offers 32 different configurations based on the type of host PC, needed number and lengths of PCI slots.

### Expansion Adapter

- **PC equipped with CardBus-compliant card slot**

- **Expansion adapter for CardBus slot (Host PC)**
  - EAD(CB)BE-N
    - Includes AC adapter
    - Short size

- **Expansion adapter for PCI Express-compliant Low Profile PCI bus slot (Host PC)**
  - EAD(LPC)BE
    - Includes AC adapter
    - Short size

- **Expansion adapter for PCI bus slot (Host PC)**
  - EAD(PCI)BE
    - Includes AC adapter
    - Short size

A dedicated connection cable (1 m) is included.

### Expansion Chassis

- **Stylish compact black chassis**
  - PCI bus expansion chassis (Includes AC adapter)
  - ECH(PCI)BE-H2B
    - 2 Short Size
  - ECH(PCI)BE-H4B
    - 4 Short Size
  - ECH(PCI)BE-F2B
    - 2 Long Size
  - ECH(PCI)BE-F4B
    - 4 Long Size
  - ECH(PCI)BE-H4A
    - 4 Short Size
  - ECH(PCI)BE-H7A
    - 7 Short Size
  - ECH(PCI)BE-H13A
    - 13 Short Size
  - ECH(PCI)BE-F7A
    - 7 Long Size
  - ECH(PCI)BE-F13A
    - 13 Long Size

- **Solid steel industrial chassis**
  - PCI bus expansion chassis (Built-in power supply)
  - ECH(PCI)BE-H2B
    - 2 Short Size
  - ECH(PCI)BE-H4B
    - 4 Short Size
  - ECH(PCI)BE-F2B
    - 2 Long Size
  - ECH(PCI)BE-F4B
    - 4 Long Size
  - ECH(PCI)BE-H4A
    - 4 Short Size
  - ECH(PCI)BE-H7A
    - 7 Short Size
  - ECH(PCI)BE-H13A
    - 13 Short Size
  - ECH(PCI)BE-F7A
    - 7 Long Size
  - ECH(PCI)BE-F13A
    - 13 Long Size

- **Built-in Power**
  - ECH(PCI)BE-H13A
    - Short size

- **Long size**
  - ECH(PCI)BE-F13A
    - Short size

- **Built-in Power**
  - ECH(PCI)BE-H13A
    - Long size

A dedicated connection cable (1 m) is included.

### Notes

- For customers using the previous model expansion unit [FA-PAC(PCI) series, NOTE-PAC(PCI) series]
  - When replacing conventional expansion unit with expansion chassis and adapters, please refer to the following list to purchase the appropriate combination. It allows system configuration using the same specifications as the previous models.

<table>
<thead>
<tr>
<th>Expansion Unit / Bus Adapter Type</th>
<th>Expansion Adapter</th>
<th>Expansion Chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCI bus expansion system</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-H4A</td>
</tr>
<tr>
<td>PCI Express Cable Type</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-H4A</td>
</tr>
<tr>
<td>EXPANSION BUS</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-F13A</td>
</tr>
<tr>
<td>EXPANSION BUS</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-F13A</td>
</tr>
<tr>
<td>EXPANSION BUS</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-F13A</td>
</tr>
<tr>
<td>EXPANSION BUS</td>
<td>EAD(PCI)BE</td>
<td>ECH(PCI)BE-F13A</td>
</tr>
</tbody>
</table>

Short size: A short-size PCI board can be installed.
Long size: A long-size PCI board bus can be installed.

Global Site: www.contec.com
## Expansion Unit / Bus Adapter

### Bus Extender

**PCI Express bus slot Expansion Adapter (Host PC)**

- PCI bus (5 V/32 bit 33 MHz) can be added using one PCI Express slot of the host PC.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.
- Both Low Profile and Standard PCI slots are supported by using the included bracket.

**Bus Extender**

**PCI bus slot Expansion Adapter (Host PC)**

- PCI bus (5 V/32 bit 33 MHz) can be added using one Low Profile or Standard PCI slot of the host PC.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.
- Both Low Profile and Standard PCI slots are supported by using the included bracket.

**Bus Extender**

**CardBus slot expansion adapter (Host PC)**

- PCI bus (5 V/32 bit 33 MHz) can be added using one CardBus slot of the host PC.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.

### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>EAD-BE-LPE</th>
<th>EAD(LPCI)BE</th>
<th>EAD(PCI)BE</th>
<th>EAD(CB)BE-N *2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Express</td>
<td>PCI Local Bus</td>
<td>PCI Local Bus</td>
<td>PCI Local Bus</td>
</tr>
<tr>
<td>Card Slot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>121.69 (L) x 67.90 (H)</td>
<td>121.69 (L) x 63.41 (H)</td>
<td>121.69 (L) x 105.68 (H)</td>
<td></td>
</tr>
<tr>
<td>Bus Clock</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>3.3 VDC 300 mA (Max.)</td>
<td>3.3 VDC 200 mA (Max.)</td>
<td>3.3 VDC 200 mA (Max.)</td>
<td>3.3 VDC 200 mA (Max.)</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 10 - 90 % RH (no condensation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attached Cable</td>
<td>CB-CB68/96 (cable length: 1 m)</td>
<td>CB-BF96 (cable length: 1 m)</td>
<td>CB-BF96 (cable length: 1 m)</td>
<td>CB-CB68/96 (cable length: 1 m)</td>
</tr>
</tbody>
</table>

*1: Only the attached cable can be used.
*2: This product is not compatible with the expansion chassis [ECH(PCI)BE-F7A, F13A, H7A, H13A].

### Notes

- A dedicated device driver needs to be installed under Windows XP and Windows 2000. The device driver of the latest version is available in our website.
- Windows NT4.0 and Windows 95 are not supported.

- PCI bus (5 V/32 bit 33 MHz) can be added using one PCI Express slot of the host PC.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.

- As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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**Global Site:** www.contec.com
Expansion Unit / Bus Adapter

Bus Extender
PCI bus expansion chassis
(x2 Short size slots, AC Adapter)
ECH(PCI)BE-H2B

2 Slots
Short Size

- 2x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.
- Equipped with a built-in cooling fan
- The compact chassis design combines space-saving system configuration with portability.
- Including AC adapter

Bus Extender
PCI bus expansion chassis
(x2 Long size slots, AC Adapter)
ECH(PCI)BE-F2B

2 Slots
Long Size
Short Size

- 2x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.
- Equipped with a built-in cooling fan
- The compact chassis design combines space-saving system configuration.
- Including AC adapter

Bus Extender
PCI bus expansion chassis
(x4 Short size slots, AC Adapter)
ECH(PCI)BE-H4B

4 Slots
Short Size

- 4x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.
- Equipped with a built-in cooling fan
- The compact chassis design combines space-saving system configuration with portability.
- Including AC adapter

Bus Extender
PCI bus expansion chassis
(x4 Long size slots, AC Adapter)
ECH(PCI)BE-F4B

4 Slots
Long Size
Short Size

- 4x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.
- Equipped with a built-in cooling fan
- The compact chassis design combines space-saving system configuration.
- Including AC adapter

---

Model | ECH (PCI) BE-H2B | ECH (PCI) BE-H4B | ECH (PCI) BE-F2B | ECH (PCI) BE-F4B
---|---|---|---|---
Bus Type | PCI Local Bus Specification Rev.3 (5 VDC) | Memory: 32-bit addressing, I/O: 32-bit addressing | 2 (Long-size) | 4 (Long-size)
Address Space | INTA - INTD | (Max.) | 176.5 (L) x 107 (H) | 313.8 (L) x 107 (H)
Interrupt Level | 33 MHz (Max.) | | | |
Bus Clock | | | 60 W | |
User Slots | 2 (Short-size) | 4 (Short-size) | 2 (Long-size) | 4 (Long-size)
Installable Board (mm) | (Max.) | | | |
Power Supply Voltage | 100 - 240 VAC | | | |
AC Input Voltage | | | | |
Operating Conditions | 0 - 50°C, 20 - 80 % RH (no condensation) | | | |
Dimensions (mm) | 71.0 (W) x 222.0 (D) x 144.0 (H) (no rubber foot) | 112.0 (W) x 222.0 (D) x 144.0 (H) (no rubber foot) | 71.0 (W) x 360.0 (D) x 144.0 (H) (no rubber foot) | 112.0 (W) x 360.0 (D) x 144.0 (H) (no rubber foot)
Weight of Chassis | 1.2 kg | 1.5 kg | 1.6 kg | 2.0 kg
Weight of AC Adapter | 0.9 kg | | | |

Note:
As shown on the side of product’s images, RoHS compliant (RoHS compliant) is a CONTEC original marking for RoHS-compliant products.

---

Dimensions
(Unit: mm)

ECH(PCI)BE-H2B

ECH(PCI)BE-F2B

ECH(PCI)BE-H4B

ECH(PCI)BE-F4B

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Global Site: www.contec.com
**Expansion Unit / Bus Adapter**

### Bus Extender
- **Model:** PCI bus expansion chassis (x4 Short size slots, On board Power)
- **Model:** ECH(PCI)BE-H4A
- **Expansion Slots:** 4
- **Slot Size:** Short
- **Built-in Power:**
  - 4x PCI expansion slots
  - Length accommodates short-size PCI add-on boards (5 V/32 bit)
  - The chassis power supply can be turned on & off with the host PC power supply.

### Bus Extender
- **Model:** PCI bus expansion chassis (x7 Short size slots, On board Power)
- **Model:** ECH(PCI)BE-H7A
- **Expansion Slots:** 7
- **Slot Size:** Short
- **Built-in Power:**
  - 7x PCI expansion slots
  - Length accommodates short-size PCI add-on boards (5 V/32 bit)
  - The chassis power supply can be turned on & off with the host PC power supply.

### Bus Extender
- **Model:** PCI bus expansion chassis (x13 Short size slots, On board Power)
- **Model:** ECH(PCI)BE-H13A
- **Expansion Slots:** 13
- **Slot Size:** Short
- **Built-in Power:**
  - 13x PCI expansion slots
  - Length accommodates short-size PCI add-on boards (5 V/32 bit)
  - The chassis power supply can be turned on & off with the host PC power supply.

### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>ECH(PCI)BE-H4A</th>
<th>ECH(PCI)BE-H7A *2</th>
<th>ECH(PCI)BE-H7A *2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Local Bus Specification Rev.3.1 + 6 VDC</td>
<td>PCI Local Bus Specification Rev.3.1 + 6 VDC</td>
<td>PCI Local Bus Specification Rev.3.1 + 6 VDC</td>
</tr>
<tr>
<td>Interrupt Level</td>
<td>INTA - INTD</td>
<td>INTA - INTD</td>
<td>INTA - INTD</td>
</tr>
<tr>
<td>Bus Clock</td>
<td>33 MHz (Max.)</td>
<td>33 MHz (Max.)</td>
<td>33 MHz (Max.)</td>
</tr>
<tr>
<td>User Slots</td>
<td>4 (Short-size)</td>
<td>7 (Short-size)</td>
<td>13 (Short-size)</td>
</tr>
<tr>
<td>Installable Board (mm)</td>
<td>176.5 (L) x 107 (H)</td>
<td>176.5 (L) x 107 (H)</td>
<td>176.5 (L) x 107 (H)</td>
</tr>
<tr>
<td>Power Supply Capacity (Max.)</td>
<td>+5 VDC: 11.3 A, +3.3 VDC: 6 A, +12 VDC: 3 A, -12 VDC: 0.7 A</td>
<td>+5 VDC: 18 A *, +3.3 VDC: 15 A **, +12 VDC: 9 A, -12 VDC: 0.8 A</td>
<td>+5 VDC: 18 A *, +3.3 VDC: 15 A **, +12 VDC: 9 A, -12 VDC: 0.8 A</td>
</tr>
<tr>
<td>AC Input Voltage</td>
<td>110/220 VAC</td>
<td>110/220 VAC</td>
<td>110/220 VAC</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 20 - 80% RH (no condensation)</td>
<td>0 - 50°C, 20 - 80% RH (no condensation)</td>
<td>0 - 50°C, 20 - 80% RH (no condensation)</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>210.0 (W) x 235.0 (D) x 138.0 (H)</td>
<td>300.0 (W) x 138.0 (H) x 255.0 (L)</td>
<td>300.0 (W) x 138.0 (H) x 255.0 (L)</td>
</tr>
<tr>
<td>Weight</td>
<td>3.5 kg</td>
<td>5.0 kg</td>
<td>7.5 kg</td>
</tr>
</tbody>
</table>

**Note:**
- **1:** AC input line voltage range: 90 - 132 VAC and 180 - 250 VAC.
- **2:** The sum of +5 VDC and +3.3 VDC must not exceed 90 W.
- **3:** Condition with CE marking: 130 W at 40°C.
- **4:** Condition with CE marking: 175 W at 50°C.
- **5:** This product cannot be used with the expansion adapter [EAD (CB) BE].

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
### Expansion Unit / Bus Adapter

**Bus Extender**  
PCI bus expansion chassis  
(x7 Long size slots, On board Power)  
ECH(PCI)BE-F7A

- 7x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

**Bus Extender**  
PCI bus expansion chassis  
(x13 Long size slots, On board Power)  
ECH(PCI)BE-F13A

- 13x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

---

<table>
<thead>
<tr>
<th>Model</th>
<th>ECH(PCI)BE-F7A</th>
<th>ECH(PCI)BE-F13A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCI Local Bus Specification Rev2.3 (+5 VDC)</td>
<td>PCI Local Bus Specification Rev2.3 (+5 VDC)</td>
</tr>
<tr>
<td>Interrupt Level</td>
<td>INTA - INTD</td>
<td>INTA - INTD</td>
</tr>
<tr>
<td>Bus Clock</td>
<td>33 MHz (Max.)</td>
<td>33 MHz (Max.)</td>
</tr>
<tr>
<td>User Slots</td>
<td>7 (Long-size)</td>
<td>13 (Long-size)</td>
</tr>
<tr>
<td>Installable Board (mm)</td>
<td>313.8 (L) x 107 (H)</td>
<td>373.2 (L) x 113.8 (H)</td>
</tr>
<tr>
<td>Power Supply Capacity</td>
<td>+5 VDC: 11.3 A, +3.3 VDC: 6 A, +12 VDC: 3 A, -12 VDC: 0.7 A</td>
<td>+5 VDC: 18 A&quot;,&quot; +3.3 VDC: 15 A&quot;,&quot; +12 VDC: 9 A, -12 VDC: 0.8 A</td>
</tr>
<tr>
<td>Overall Maximum Power Supply Capacity **</td>
<td>130 W **</td>
<td>313 W **</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 20 - 80 % RH (no condensation)</td>
<td>0 - 50°C, 20 - 80 % RH (no condensation)</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>300.0 (W) x 130.0 (H) x 373.2 (L) (no fittings)</td>
<td>424.0 (W) x 156.0 (H) x 373.2 (L) (no fittings)</td>
</tr>
<tr>
<td>Weight</td>
<td>6.0 kg</td>
<td>9.0 kg</td>
</tr>
</tbody>
</table>

**Note:**  
1. AC input line voltage range: 90 - 130 VAC and 180 - 250 VAC.  
2. The sum of +5 VDC and +3.3 VDC must not exceed 90 W.  
3. Condition with CE marking: 130 W at 40°C.  
4. Condition with CE marking: 175 W at 50°C.  
5. This product cannot be used with the expansion adapter [EAD (CB) BE].

---

**Dimensions**  
(Unit: mm)

![ECH(PCI)BE-F7A](image1)  
300 x 130 x 373.2

![ECH(PCI)BE-F13A](image2)  
424 x 156 x 373.2

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Global Site: www.contec.com
**StarFabric-compliant**

Selecting Optimal Expansion Adaptor and Expansion Chassis

StarFabric-compliant method is optimal when measurement control is performed in a place distant from the PC (up to 12 m). When using an expansion chassis in close proximity to the host PC, select from the bus extension types.

CONTEC offers 23 different configurations based on the type of host PC, needed number and lengths of PCI slots.

### Expansion Adapter

PC equipped with CardBus-compliant card slot

- **Expansion adapter for CardBus slot (Host PC)**
  - EAD(CB)SF

  - 2 Category 5e STP cables (12 m) are included*  

PC equipped with PCI / Low Profile PCI slot

- **Expansion adapter for PCI Express-compliant Low Profile PCI bus slot (Host PC)**
  - EAD-SF-LPE

  - 2 Category 5e STP cables (12 m) are included*  

  - Standard PCI bus brackets are included.

### Expansion Chassis

- **Stylish compact black chassis**
  - PCI bus expansion chassis (includes AC adapter)

- **Solid steel industrial chassis**
  - PCI bus expansion chassis (Built-in power supply)

* 2 Category 5e STP cables (12 m) are included*

* Category 5e (for gigabit Ethernet) twist pair cable can be used. In noisy environment, please use shielded type (STP).

* This may not operate properly depending on combinations of expansion adapter/chassis, installation board/PC.
**Expansion Unit / Bus Adapter**

---

### StarFabric-compliant PCI Express bus slot Expansion Adapter (Host PC)

**EAD-SF-LPE**

- PCI bus (5 V/32 bit 33 MHz) can be added using one PCI Express slot of the host PC.
- 12 m PCI bus expansion and high-speed serial transfer (2.5 Gbps) are supported.
- PCI-bus compatibility helps users to use PCI boards in expansion units without changing existing software.
- Uses noise resistant Category 5e STP cable - easy wiring and installation.
- Expansion chassis can be selected to meet the required number of PCI bus slots and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.
- Both Low Profile and Standard PCI slots are supported by using the included bracket.

---

### StarFabric-compliant PCI Express bus slot Expansion Adapter (Host PC)

**EAD(LPCI)SF**

- PCI bus (5 V/32 bit 33 MHz) can be added using one PCI slot of the host PC.
- 12 m PCI bus expansion and high-speed serial transfer (2.5 Gbps) are supported.
- PCI-bus compatibility helps users to use PCI add-on boards in expansion units without changing existing software.
- Uses noise resistant Category 5e STP cable - easy wiring and installation.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.
- Both Low Profile and Standard PCI slots are supported by using the included bracket.

---

### StarFabric-compliant PCI Express bus slot Expansion Adapter (Host PC)

**EAD(CB)SF**

- PCI bus (5 V/32 bit 33 MHz) can be added using CardBus slot of the notebook computer.
- 12 m PCI bus expansion and high-speed serial transfer (2.5 Gbps) are supported.
- PCI-bus compatibility helps users to use PCI add-on boards in expansion units without changing existing software.
- Uses noise resistant Category 5e STP cable - easy wiring and installation.
- Expansion chassis can be selected to meet the required number of PCI bus slot and size of add-on board.
- The expansion chassis power supply can be turned on & off with the host PC power supply.

---

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>EAD-SF-LPE</th>
<th>EAD(LPCI)SF</th>
<th>EAD(CB)SF **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>PCI Express Base Specification Rev. 1.0a / 121.69 (L) x 67.90 (H)</td>
<td>PCI Local Bus Specification Rev.2.2 (+5 V/ +3.3 V) / 121.69 (L) x 63.41 (H)</td>
<td>PC Card Standard-compliant CardBus / TYPE II (119.0 x 54.0 x 19.0)</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>3.3 VDC 700 mA (Max.)</td>
<td>3.3 VDC 450 mA (JP1 1-2 short) 5 VDC 350 mA (JP1 2-3 short)</td>
<td>3.3 VDC 450 mA (Max.)</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 10 - 90% RH (no condensation)</td>
<td>0 - 50°C, 20 - 90% RH (no condensation)</td>
<td></td>
</tr>
<tr>
<td>Attached Cable **</td>
<td>Category 5e STP cable 12 m x2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. Category 5e is the highest Ethernet twisted pair cable can be used. In any environment where there are a lot of noises, please use a shield type (STP).
2. This product is not compatible with the expansion chassis [ECH(PCI)SF-F7A, F13A].

---

*As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.*
Expansion Unit / Bus Adapter

StarFabric-compliant PCI bus expansion chassis (x2 Short size slots, AC Adapter)
ECH (PCI) SF-H2B
- 2x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.
- Equipped with a built-in cooling fan
- The compact chassis design combines space-saving system configuration with portability.
- Including AC adapter

Model: ECH(PCI)SF-H2B
- Bus Type: PCI Local Bus Specification Rev.2.2 (+5 V)
- Address Space: Memory: 32-bit addressing, I/O: 32-bit addressing
- Interrupt Level: INTA - INTD
- Bus Clock: 33 MHz (Max.)
- User Slots: 2 (Short-size), 4 (Long-size)
- Installable Board (mm): 176.5 (L) x 107 (H)
- Power Supply Capacity (Max.): +5 VDC: 7 A, +3.3 VDC: 3 A, +12 VDC: 1.5 A, -12 VDC: 0.3 A
- AC Input Voltage: 100 - 240 VAC
- Overall Height/Pan Supply (mm): 60
- Operating Conditions: 0 - 50°C, 20 - 80 % RH (no condensation)
- Dimensions (mm): 71.0 (W) x 222.0 (D) x 144.0 (H)
- Weight of Chassis: 1.2 kg (no rubber foot), 1.5 kg (no rubber foot), 1.6 kg (rubber foot), 2.0 kg (rubber foot)
- Weight of AC Adapter: 0.9 kg

Note: As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

Model: ECH(PCI)SF-H4B
- Bus Type: PCI Local Bus Specification Rev.2.2 (+5 V)
- Address Space: Memory: 32-bit addressing, I/O: 32-bit addressing
- Interrupt Level: INTA - INTD
- Bus Clock: 33 MHz (Max.)
- User Slots: 2 (Short-size), 4 (Short-size)
- Installable Board (mm): 176.5 (L) x 107 (H)
- Power Supply Capacity (Max.): +5 VDC: 7 A, +3.3 VDC: 3 A, +12 VDC: 1.5 A, -12 VDC: 0.3 A
- AC Input Voltage: 100 - 240 VAC
- Overall Height/Pan Supply (mm): 60
- Operating Conditions: 0 - 50°C, 20 - 80 % RH (no condensation)
- Dimensions (mm): 71.0 (W) x 360.0 (D) x 144.0 (H)
- Weight of Chassis: 1.2 kg (no rubber foot), 1.5 kg (no rubber foot), 1.6 kg (rubber foot), 2.0 kg (rubber foot)
- Weight of AC Adapter: 0.9 kg

Global Site: www.contec.com
## StarFabric-compliant PCI bus Expansion Chassis
(x4 Short size slots, On board Power)
ECH(PCI)SF-H4A

- 4x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

### Dimensions (Unit: mm)

<table>
<thead>
<tr>
<th>ECH(PCI)SF-H4A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>215</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>106</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>95</td>
</tr>
</tbody>
</table>

### Specifications

- **Model**: ECH(PCI)SF-H4A
- **Slots**: 4 (Short-size)
- **Built-in Power**: Yes
- **RoHS Compliance**: Yes
- **Dimensions**: 215.0(W) x 106.0(H) x 95.0(D) (no fittings)
- **Weight**: 3.5 kg

## StarFabric-compliant PCI bus Expansion Chassis
(x7 Short size slots, On board Power)
ECH(PCI)SF-H7A

- 7x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

### Dimensions (Unit: mm)

<table>
<thead>
<tr>
<th>ECH(PCI)SF-H7A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>205</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>138</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>235</td>
</tr>
</tbody>
</table>

### Specifications

- **Model**: ECH(PCI)SF-H7A
- **Slots**: 7 (Short-size)
- **Built-in Power**: Yes
- **RoHS Compliance**: Yes
- **Dimensions**: 176.5(L) x 107(H) (no fittings)
- **Weight**: 5 kg

## StarFabric-compliant PCI bus Expansion Chassis
(x13 Short size slots, On board Power)
ECH(PCI)SF-H13A

- 13x PCI expansion slots
- Length accommodates short-size PCI add-on boards (5V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

### Dimensions (Unit: mm)

<table>
<thead>
<tr>
<th>ECH(PCI)SF-H13A</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height</strong></td>
<td>255</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>424</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>156</td>
</tr>
</tbody>
</table>

### Specifications

- **Model**: ECH(PCI)SF-H13A
- **Slots**: 13 (Short-size)
- **Built-in Power**: Yes
- **RoHS Compliance**: Yes
- **Dimensions**: 424.0(W) x 156.0(H) x 255.0(L) (no fittings)
- **Weight**: 7.5 kg

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
StarFabric-compliant PCI bus Expansion Chassis
(x7 Long size slots, On board Power)
ECH(PCI)SF-F7A

- 7x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

StarFabric-compliant PCI bus Expansion Chassis
(x13 Long size slots, On board Power)
ECH(PCI)SF-F13A

- 13x PCI expansion slots
- Length accommodates long-size PCI add-on boards (5 V/32 bit)
- The chassis power supply can be turned on & off with the host PC power supply.

### Dimensions

**ECH(PCI)SF-F7A**

- **Dimensions (mm)**: 300.0 (W) x 138.0 (H) x 373.2 (L) (no fittings)
- **Weight**: 6.0 kg

**ECH(PCI)SF-F13A**

- **Dimensions (mm)**: 300.0 (W) x 138.0 (H) x 373.2 (L) (no fittings)
- **Weight**: 9.0 kg

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**Model** | **ECH(PCI)SF-F7A** | **ECH(PCI)SF-F13A**
---|---|---
**Bus Type** | PCI Local Bus Specification Rev2.2 (+5 V) | PCI Local Bus Specification Rev2.2 (+5 V)
**Address Space** | Memory: 32-bit addressing, I/O: 32-bit addressing | Memory: 32-bit addressing, I/O: 32-bit addressing
**Interrupt Level** | INTA - INTD | INTA - INTD
**Bus Clock** | 33 MHz (Max.) | 33 MHz (Max.)
**User Slots** | 7 (Long-size) | 13 (Long-size)
**Installable Board (mm)** | 313.8 (L) x 107 (H) | 115/330 VAC (switch selectable)
**Power Supply Capacity (Max.)** | +5 VDC: 11.3 A, +3.3 VDC: 6 A, +12 VDC: 3 A, -12 VDC: 0.7 A | +5 VDC: 18 A**, +3.3 VDC: 15 A**, +12 VDC: 9 A, -12VDC: 0.8 A
**AC Input Voltage** | 110/230 VAC (switch selectable) | 0 - 30°C: 230 W, 30 - 40°C: 205 W, 40 - 50°C: 175 W**
**Overall Maximum Power Supply Capacity** | 130 W** | 0 - 30°C: 230 W, 30 - 40°C: 205 W, 40 - 50°C: 175 W**
**Operating Conditions** | 0 - 50°C, 20 - 80 % RH (no condensation) | 0 - 50°C, 20 - 80 % RH (no condensation)
**Dimensions (mm)** | 300.0 (W) x 138.0 (H) x 373.2 (L) (no fittings) | 424.0 (W) x 156.0 (H) x 373.2 (L) (no fittings)
**Weight** | 6.0 kg | 9.0 kg

---

Note:

1. AC input line voltage range: 90 - 132 VAC and 180 - 250 VAC.
2. The sum of +5 VDC and +3.3 VDC must not exceed 90 W.
3. Condition with CE marking: 130 W at 50°C.
4. Condition with CE marking: 175 W at 50°C.
5. This product cannot be used with the expansion adapter [EAD(CB)SF].

---

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Desktop
ISA Bus Unit
(x4 Middle size slots)
FA-PAC(PC)M4D

- 4-slots ISA bus passive backplane. Including an AC adapter
- This can be used as small size ISA bus expansion unit together with an optional bus adapter.
- This can also be used as small size CPU unit together with an ISA bus CPU board

---

### Desktop ISA Bus Unit (x4 Middle size slots)

**Model**: FA-PAC(PC)M4D

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>User Slots</td>
<td>4 (Middle size)</td>
</tr>
<tr>
<td>Installable Board (mm)</td>
<td>220 (L) x 122 (H) Max.</td>
</tr>
<tr>
<td>Power Supply Capacity</td>
<td>+5 V 8.0 A, -5 V 0.3 A, +12 V 1.5 A, -12 V 1.0 A*</td>
</tr>
<tr>
<td>AC Input Voltage</td>
<td>85 - 250 VAC (50 - 60 Hz)</td>
</tr>
<tr>
<td>Input Current</td>
<td>1.5 A</td>
</tr>
<tr>
<td>Rack Mount</td>
<td>-</td>
</tr>
<tr>
<td>FAN</td>
<td>1 (front)</td>
</tr>
<tr>
<td>Drive Bay</td>
<td>-</td>
</tr>
<tr>
<td>Weight</td>
<td>4.5 kg</td>
</tr>
</tbody>
</table>

Note:
- *1: These products can be used for both CPU unit and I/O expansion unit. To use the products as I/O expansion unit, 1 slot is used for I/O bus adapter. I/O bus adapter are purchased separately. *2: Total maximum output electricity is 50 W.

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### PCI to PCI Bus Expansion Adapter Set (7 Slot)

**Model**: BUF(PCI)

- External backplane expansion slots function as regular PCI slots
- Using ATX power supply, chassis power supply can be turned on & off with the host PC power supply.
- It cannot be used in PC-9800 series.

### PCI to PCI Bus Expansion Adapter Set (13 Slot)

**Model**: BUF(PCI)13

- External backplane expansion slots function as regular PCI slots
- Using ATX power supply, chassis power supply can be turned on & off with the host PC power supply.
- It cannot be used in PC-9800 series.

---

**Model** | BUF (PCI) | BUF (PCI) 13
--- | --- | ---
**Bus Type** | 32-bit PCI bus Rev2.1 (+5V) | 32-bit PCI bus Rev2.1 (+5V) |
**Address Space** | Memory: 32-bit addressing, I/O: 32-bit addressing | Memory: 32-bit addressing, I/O: 32-bit addressing |
**User Slots** | 7 Slots | 13 Slots |
**Interrupt Level** | INTA - INTD | INTA - INTD |
**DMA** | - | - |
**Accessible I/O space** | - | - |
**Accessible Memory** | - | - |
**Bus Clock** | 33 MHz (Max.) | 33 MHz (Max.) |
**Power Consumption** | BUS-PC(PCI) (PC side): +5 VDC 700 mA (Max.), BUS-PAC(PCI) (Extension side): +5 VDC 700 mA (Max.) | BUS-PC(PCI) (PC side): +5 VDC 700 mA (Max.), BUS-PAC(PCI) (Extension side): +5 VDC 700 mA (Max.) |
| | BUS-PC(PCI) (PC side): +5 VDC 300 mA (Typ.), BUS-PAC(PCI) (Extension side): +5 VDC 300 mA (Typ.) | BUS-PC(PCI) (PC side): +5 VDC 300 mA (Typ.), BUS-PAC(PCI) (Extension side): +5 VDC 300 mA (Typ.) |
| | BUS-PC(PCI) (PC side): +5 VDC 150 mA (Max.), BUS-PAC(PCI) (Extension side): +5 VDC 150 mA (Max.) | BUS-PC(PCI) (PC side): +5 VDC 150 mA (Max.), BUS-PAC(PCI) (Extension side): +5 VDC 150 mA (Max.) |
| | BUS-PC(PCI) (PC side): +5 VDC 300 mA (Typ.), BUS-PAC(PCI) (Extension side): +5 VDC 300 mA (Typ.) | BUS-PC(PCI) (PC side): +5 VDC 300 mA (Typ.), BUS-PAC(PCI) (Extension side): +5 VDC 300 mA (Typ.) |
**Operating Conditions** | 0 - 50°C, 30 - 90 % RH (no condensation) | 0 - 50°C, 30 - 90 % RH (no condensation) |
| | Dimensions (mm) | Dimensions (mm) |
| | BUS-PC(PCI) (PC side): 122.0 (L) x 107.0 (H) x 18.5 (D), BUS-PAC(PCI) (Extension side): 122.0 (L) x 107.0 (H) x 18.5 (D), PC-MBB(PCI) (Mother board): 220.0 (L) x 185.0 (H) x 20.0 (D) | BUS-PC(PCI) (PC side): 122.0 (L) x 107.0 (H) x 18.5 (D), BUS-PAC(PCI) (Extension side): 122.0 (L) x 107.0 (H) x 18.5 (D), PC-MBB(PCI) (Mother board): 220.0 (L) x 185.0 (H) x 20.0 (D) |
| | Attached Cable | 96-pin shielded cable, 1 m* |

Note:
- *1: Only the attached cable can be used.
- *2: This product provides I/O access to ISA bus board. It is subject to software and hardware restrictions. Please visit our website for details.
# Expansion Unit / Bus Adapter

## PCMCIA to ISA Bus Expansion Adapter

**BUF-CARD(PC)P**

- Standard ISA slots can be connected from a PC Card (PCMCIA) slot of host PC.
- Supported OS: Windows XP/2000/Me/98/95/3.1, MS-DOS

## ISA to PCMCIA Expansion Board

**PC-CARD(PC)H**

- Compatible with PC card Type I, Type II, and Type III based on PCMCIA 2.1/JEIDA 4.2 or later
- Maximum 2pcs. can be mounted simultaneously on the same system.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>BUF-CARD(PC)P</th>
<th>PC-CARD(PC)H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Type</td>
<td>PCMCIA to ISA expansion</td>
<td>-</td>
</tr>
<tr>
<td>Card Slot</td>
<td>JEIDA Ver.4.1/PCMCIA Rel.2.0 (TYPE II)</td>
<td>PC Card: JEIDA 4.2/PCMCIA 2.0 or later Type I, II, III (Power consumption: 1.2 A Max.)</td>
</tr>
<tr>
<td>I/O Address</td>
<td>-</td>
<td>2 port (X3E0h, X3E1)</td>
</tr>
<tr>
<td>DMA</td>
<td>Not supported</td>
<td>-</td>
</tr>
<tr>
<td>Bus Clock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Data Bus Width</td>
<td>8-bit (16-bit not available)</td>
<td>-</td>
</tr>
<tr>
<td>Accessible I/O space</td>
<td>32 consecutive ports can be selected as following: 220-22F, 240-24F, 260-26F, 280-28F, 2C0-2CF, 2E0-2EF, 300-30F, 320-32F, 340-34F, 360-36F, 380-38F, 3C0-3CF, 3E0-3EF</td>
<td>-</td>
</tr>
<tr>
<td>Accessible Memory</td>
<td>Not supported</td>
<td>-</td>
</tr>
<tr>
<td>Interrupt Level</td>
<td>One of IRQ 3, 5, 7, 9 to 12 or 15</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>BUS-CARD/PMIP (PC side): +5 VDC 100 mA, BUS-CARD(PC) (Extension side): +5 VDC 500 mA</td>
<td>5 VDC 150 mA (without PC Card)</td>
</tr>
<tr>
<td>Operating Conditions</td>
<td>0 - 50°C, 20 - 90 % RH (no condensation)</td>
<td>Temperature: 0 - 50°C, Humidity: 0 - 90%RH (no condensation)</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>BUS-CARD/PMIP (PC side): 54.0 (L) x 85.6 (H) x 5.0 (D), BUS-CARD(PC) (Extension side): 160.0 (L) x 122.0 (H) x 18.5 (D)</td>
<td>-</td>
</tr>
<tr>
<td>Applicable Models</td>
<td>AT-compliant PC equipped with a card slot compatible with a JEIDA 4.1 / PCMCIA 2.0 or later Type II card (should be compatible with Card Service Release 2.0 or later)</td>
<td>-</td>
</tr>
<tr>
<td>Attached Cable</td>
<td>32-pin shielded cable, 1 m</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes

1. There might be boards that cannot be used in some conditions. Please visit our website for details.
2. Only the Attached cable can be used.

---

*Global Site: www.contec.com*
### Parts of Maintenance Exchange

<table>
<thead>
<tr>
<th>Model</th>
<th>Chassis</th>
</tr>
</thead>
<tbody>
<tr>
<td>POW300</td>
<td>FA-PAC(PC)F14DRV, FA-PAC(PC)F14DR, FA-UNIT-F6DR, FA-UNIT-F8DR/M, FA-UNIT-F8DR</td>
</tr>
<tr>
<td>POW201</td>
<td>FA-PAC(PC)H12RF</td>
</tr>
<tr>
<td>POW100</td>
<td>FA-UNIT-F11RFV, FA-UNIT-F8RFV, FA-UNIT-M11RFV, FA-UNIT-M8RFV</td>
</tr>
<tr>
<td>POW250X</td>
<td>FA-PAC(PC)F13, ECH(PCI)BE-F13A, ECH(PCI)SF-F13A, ECH(PCI)BE-H13A, ECH(PCI)SF-H13A</td>
</tr>
<tr>
<td>POW251X</td>
<td>FA-UNIT-H1BE</td>
</tr>
<tr>
<td>POW105X</td>
<td>FA-PAC(PC)F7, FA-PAC(PC)H4, ECH(PCI)BE-H4A, ECH(PCI)BE-F7A, ECH(PCI)SF-H4A, ECH(PCI)SF-F7A, ECH(PCI)BE-H7A, ECH(PCI)SF-H7A</td>
</tr>
<tr>
<td>FAN1238</td>
<td>FA-PAC(PC)F14DRV, FA-UNIT-F8DR/M, FA-UNIT-F8DR, FA-UNIT+RFV series</td>
</tr>
<tr>
<td>FAN0820</td>
<td>FA-PAC(PC)M4D, FA-PAC(PC)H6DR</td>
</tr>
<tr>
<td>FAN062S</td>
<td>FA-UNIT-F1ME, FA-UNIT-M11BE, FA-UNIT-F6BE/2U</td>
</tr>
<tr>
<td>FAN025S</td>
<td>FA-UNIT-H1BE</td>
</tr>
<tr>
<td>FAN092S</td>
<td>FA-UNIT-H1BE</td>
</tr>
<tr>
<td>FAN123S</td>
<td>FA-UNIT-F1ME, FA-UNIT-F11BE, FA-UNIT-F6BE/2U</td>
</tr>
<tr>
<td>FLT120</td>
<td>FA-PAC(PC)F14DRV, FA-UNIT-F8DR</td>
</tr>
<tr>
<td>FLT90</td>
<td>FA-UNIT-F8DR, FA-PAC(PC)H4, ECH(PCI)BE-H4A, ECH(PCI)SF-H4A</td>
</tr>
<tr>
<td>FLT91</td>
<td>FA-PAC(PC)F7, ECH(PCI)BE-F7A, ECH(PCI)SF-F7A, ECH(PCI)BE-H7A, ECH(PCI)SF-H7A</td>
</tr>
<tr>
<td>FLT92</td>
<td>FA-PAC(PC)F13, ECH(PCI)BE-F13A, ECH(PCI)SF-F13A</td>
</tr>
<tr>
<td>FLT93</td>
<td>FA-UNIT-H1BE</td>
</tr>
<tr>
<td>FLT80</td>
<td>FA-PAC(PC)M4D, FA-PAC(PC)H6DR</td>
</tr>
<tr>
<td>FLT81</td>
<td>FA-UNIT-F6BE/2U</td>
</tr>
</tbody>
</table>

*1: Optional parts