HPCD3.C200
Extension module holder for 4 I/O modules

Description
The HPCD3.M6893 controllers can be expanded with HPCD3.Cxxx components, making additional module sockets available. On the HPCD3.M6893, up to 15 HPCD3.Cxxx module holders can be attached. This allows the user to attach a maximum of 64 I/O modules, or 1023 digital inputs/outputs.

HPCD3.C200 serves as a bus repeater and internally provides +5 V and V+ for a segment of I/O modules.

Device design
All standard I/O modules can be used in the expansion module holders. Communication modules or other intelligent modules can only be used in the slots of the Basic CPU.

Example calculation for the current consumption of the internal +5V and +V (24V) bus of the I/O modules

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**Device design**

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Planning data
- Step files (3D)
- BIM objects
The data can be downloaded with the following link:
https://sbc-support.com/en/services/bim-building-information-model/

Connections of the HPCD3.C200

Bus connection from CPU or module carrier
Bus connection to module carrier

LED power ok
Earth
Supply 24 VDC

Technical data

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of module slots</td>
<td>4</td>
</tr>
<tr>
<td>Description</td>
<td>4 I/O modules</td>
</tr>
<tr>
<td>External power supply (maximum load see below)</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Load capacity from +5 V bus HW versions A and B</td>
<td>1000 mA</td>
</tr>
<tr>
<td>Load capacity from +5 V bus Starting with HW version C</td>
<td>1500 mA</td>
</tr>
<tr>
<td>Load capacity from V+ bus HW versions A and B</td>
<td>100 mA</td>
</tr>
<tr>
<td>Load capacity from V+ bus Starting with HW version C</td>
<td>200 mA</td>
</tr>
<tr>
<td>Load capacity from +5 V bus Starting with HW version C</td>
<td>310 mA</td>
</tr>
<tr>
<td>Load capacity from V+ bus Starting with HW version C</td>
<td>630 mA</td>
</tr>
</tbody>
</table>

Internal supply of the LIO module carrier HPCD3.C200

When planning HPCD3 systems, it must be checked whether the two internal power supplies are not overloaded. This control is especially important when using analog, counting, and positioning and other special modules, as some of them consume a relatively large amount of power.
The following aspects should be considered when planning HPCD3 applications:

- In keeping with lean automation, it is recommended to leave the first slot in the CPU basic module free for any subsequent expansions. This slot can accommodate simple I/O modules but also communication modules.
- The total length of the I/O bus is limited by technical factors; the shorter, the better.

HPCD3 I/O modules are not hot-plug capable:

- Carefully insert and remove the I/O modules after switching off the power supply (24V).

I/O modules and I/O terminal blocks may only be plugged in and removed when the Control Edge PCD and the external +24 V are disconnected from the power supply.

Over 40 modules available with different functionalities

Types
- PCD3.Axxx Digital output modules
- PCD3.Exxx Digital input modules
- PCD3.Fxxx Communication modules
- PCD3.Wxxx Analogue input/output modules

Insertion of I/O modules

The HPCD3.C200 is used to extend the I/O bus or for the internal power supply +5V and +V (24V) to a module segment. Please note the following rules:

- Mandatory: Insert a HPCD3.C200 after the HPCD3.M6893 and after each cable (at the start of a row).
- Do not use more than six HPCD3.C200 in a single configuration, or the time delay will exceed the I/O access time. Use a maximum of five PCD3.K106/K116 cables.
- If an application is mounted in a single row (max. 15 module holders), then after five HPCD3.C100 a HPCD3.C200 must be used to amplify the bus signal (unless the configuration ends with the fifth HPCD3.C100).
- If the application is mounted in multiple rows, the restricted length of cable means that only three module holders (1x HPCD3.C200 and 2x HPCD3.C100) may be mounted in one row.
The calculation example shows that internal capacity is maintained in the CPU basic module HPCD3.M6895 and the holder module HPCD3.C200. The CPU basic module has a sufficient reserve to receive an additional communication module in the empty slot 0. The holder module HPCD3.C200 also has sufficient reserves to connect an additional HPCD3.C100 holder module. The power consumption of the internal +5V and +V (24 V) bus for the I/O modules can be calculated in the Control Edge PCD IO-Calculator Excel sheet.

### Consumption M6893 + C200 + C100

<table>
<thead>
<tr>
<th>Module</th>
<th>Internal 5V</th>
<th>Internal +V (24V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not used</td>
<td>25 mA</td>
<td>25 mA</td>
</tr>
<tr>
<td>W380</td>
<td>8 mA</td>
<td>20 mA</td>
</tr>
<tr>
<td>W340</td>
<td>110 mA</td>
<td>25 mA</td>
</tr>
<tr>
<td>E160</td>
<td>10 mA</td>
<td>40 mA</td>
</tr>
</tbody>
</table>

Total M6893: 58 mA 70 mA

<table>
<thead>
<tr>
<th>Module</th>
<th>Internal 5V</th>
<th>Internal +V (24V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A200</td>
<td>15 mA</td>
<td></td>
</tr>
<tr>
<td>A810</td>
<td>40 mA</td>
<td></td>
</tr>
<tr>
<td>A860</td>
<td>18 mA</td>
<td></td>
</tr>
</tbody>
</table>

Total C200: 113 mA

<table>
<thead>
<tr>
<th>Module</th>
<th>Internal 5V</th>
<th>Internal +V (24V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A860</td>
<td>10 mA</td>
<td></td>
</tr>
<tr>
<td>A460</td>
<td>10 mA</td>
<td></td>
</tr>
<tr>
<td>W380</td>
<td>25 mA</td>
<td></td>
</tr>
</tbody>
</table>

Total C100: 55 mA 25 mA

Total C200: 168 mA 40 mA

### Consumption C200 + C100

<table>
<thead>
<tr>
<th>Module</th>
<th>Internal 5V</th>
<th>Internal +V (24V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>W340</td>
<td>8 mA</td>
<td>25 mA</td>
</tr>
<tr>
<td>W340</td>
<td>8 mA</td>
<td>20 mA</td>
</tr>
<tr>
<td>W610</td>
<td>8 mA</td>
<td></td>
</tr>
<tr>
<td>E160</td>
<td>10 mA</td>
<td></td>
</tr>
</tbody>
</table>

Total C200: 136 mA 40 mA

<table>
<thead>
<tr>
<th>Module</th>
<th>Internal 5V</th>
<th>Internal +V (24V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E160</td>
<td>10 mA</td>
<td></td>
</tr>
<tr>
<td>E160</td>
<td>10 mA</td>
<td></td>
</tr>
<tr>
<td>E160</td>
<td>10 mA</td>
<td></td>
</tr>
<tr>
<td>E160</td>
<td>10 mA</td>
<td></td>
</tr>
</tbody>
</table>

Total C100: 40 mA 0

Total C200: 176 mA 40 mA

### Accessories

- **Type**: 32347605-001
  - **Short description**: Slot cover
  - **Description**: Slot cover for unused HPCD3 I/O slots
  - **Weight**: 8 g

- **Type**: 440549520
  - **Short description**: Screw terminal 2-pole
  - **Description**: Plug-in screw terminal block, 2-pole up to 2.5 mm² (orange block) for HPCD3.C200
  - **Weight**: 15 g

- **Type**: PCD3.K010
  - **Short description**: Connection plug
  - **Description**: Connection plug HPCD3.M/T/C to HPCD3.Cx00
  - **Weight**: 40 g

- **Type**: PCD3.K106
  - **Short description**: Extension cable 0.7 m
  - **Description**: Extension cable for HPCD3.M/T/C to HPCD3.Cx00 (length 0.7 m)
  - **Weight**: 140 g

- **Type**: PCD3.K116
  - **Short description**: Extension cable 1.2 m
  - **Description**: Extension cable for HPCD3.M/T/C to HPCD3.Cx00 (length 1.2 m)
  - **Weight**: 180 g

### Ordering information

<table>
<thead>
<tr>
<th>Type</th>
<th>Short description</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPCD3.C200</td>
<td>PCD3.C100 for 4 modules</td>
<td>Extension module holder for 4 I/O modules</td>
<td>440 g</td>
</tr>
</tbody>
</table>

### Connecting components

- **Slot cover**: 32347605-001
- **Screw terminal 2-pole**: 440549520
- **Connecting plug**: PCD3.K010
- **Extension cable 0.7 / 1.2 m**: PCD3.K106 / PCD3.K116
ATTENTION
These devices must only be installed by a professional electrician, otherwise there is the risk of fire or the risk of an electric shock.

WARNING
Product is not intended to be used in safety critical applications, using it in safety critical applications is unsafe.

WARNING - SAFETY
The unit is not suitable for the explosion-proof areas and the areas of use excluded in EN61010 Part 1.

WARNING - SAFETY
Check compliance with nominal voltage before commissioning the device (see type label). Check that connection cables are free from damage and that, when wiring up the device, they are not connected to voltage. Do not use a damaged device!

NOTE
In order to avoid moisture in the device due to condensate build-up, acclimatise the device at room temperature for about half an hour before connecting.

CLEANING
The device can be cleaned in dead state with a dry cloth or cloth soaked in soap solution. Do not use caustic or solvent-containing substances for cleaning.

MAINTENANCE
These devices are maintenance-free. If damaged during, no repairs should be undertaken by the user.

Observe this instructions (data sheet) and keep them in a safe place. Pass on the instructions (data sheet) to any future user.

WEEE Directive 2012/19/EC Waste Electrical and Electronic Equipment directive
The product should not be disposed of with other household waste. Check for the nearest authorized collection centers or authorized recyclers. The correct disposal of end-of-life equipment will help prevent potential negative consequences for the environment and human health.

EAC
EAC Mark of Conformity for Machinery Exports to Russia, Kazakhstan or Belarus.
Sales and Service
For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

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Specifications are subject to change without notice.

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