PCD3.W400
Analog output module, 4 channels, 8 bit, 0…10 V

High-speed output module with 4 output channels of 8 bits each. Suitable for processes in which a large number of actuators have to be controlled, such as in the chemical industry and building automation.

Technical specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of outputs (channels)</td>
<td>4, short circuit protected</td>
</tr>
<tr>
<td>Signal range selectable with jumpers</td>
<td>voltage 0…10 V</td>
</tr>
<tr>
<td>Resolution (digital representation)</td>
<td>8 bits (0…255)</td>
</tr>
<tr>
<td>Conversion time D/A</td>
<td>≤ 5 μs</td>
</tr>
<tr>
<td>Galvanic separation</td>
<td>no</td>
</tr>
<tr>
<td>Load impedance</td>
<td>for 0…10 V 3 kΩ</td>
</tr>
<tr>
<td>Accuracy (of output value)</td>
<td>for 0…10 V 1 % ± 50 mV</td>
</tr>
<tr>
<td>Residual ripple</td>
<td>for 0…10 V &lt; 15 mV pp</td>
</tr>
<tr>
<td>Temperature error (across temperature range 0 … +55 °C)</td>
<td>typ. ± 0.2 %</td>
</tr>
<tr>
<td>Burst protection (IEC 801-41)</td>
<td>± 1 kV, with unshielded cables</td>
</tr>
<tr>
<td></td>
<td>± 2 kV, with shielded cables</td>
</tr>
<tr>
<td>Internal current consumption (from +5 V bus)</td>
<td>1 mA</td>
</tr>
<tr>
<td>Internal current consumption (from V+ bus)</td>
<td>30 mA</td>
</tr>
<tr>
<td>External current consumption</td>
<td>max. 0.1 A</td>
</tr>
<tr>
<td>Terminals</td>
<td>Pluggable 10-pole spring terminal block for Ø up to 2.5 mm², plug type A ((4 405 4954 0)</td>
</tr>
</tbody>
</table>

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

Indicators and connections

The external 24 VDC power supply is not required.
Block schematic

- DATA
- WRITE
- ADDR
- V +
- +5 V
- GND

PCD Bus

I/O Bus

0
1
2
3

D A

D A

D A

D A

Reference Voltage

Voltage controlled

A0

A1

A2

A3

n.c.
**Principle diagram of analog outputs**

Output connection for 0…10 V

![Diagram showing output connection for 0…10 V](image)

**Connection concept for voltage outputs**

The actuators are connected directly to the 10-pole terminal block. To minimize the amount of interference coupled into the module via the transmission lines, connection should be made according to the principle explained below.

**Connection for 0 … 10 V**

![Diagram showing connection concept for voltage outputs](image)

**Digital-/analogue values**

<table>
<thead>
<tr>
<th>Signal range</th>
<th>0…10 V</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Digital values</th>
<th>Analogue values</th>
</tr>
</thead>
<tbody>
<tr>
<td>255</td>
<td>10.0 V</td>
</tr>
<tr>
<td>128</td>
<td>5.0 V *)</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*) 5.0 V = 0.5 V

**The external 24 VDC power supply is not required.**

**If shielded cables are used, the shielding should be connected to an earthing rail.**
Configuration

**HPS ControlEdge PCD Builder**

**HPCD-System**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCD3.W400</td>
<td>Analogue output module, 4 output (channels), resolution 8 bits, signal range 0...10 V, per channel with jumper selectable, connection with pluggable spring terminals, plug-in type A (4 405 4954 0) included</td>
<td>80 g</td>
</tr>
</tbody>
</table>

**Ordering information equipment**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 405 4954 0</td>
<td>Plug-in I/O spring terminal block, 10-pole up to 2.5 mm², labelled 0…9</td>
<td>15 g</td>
</tr>
</tbody>
</table>
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, no repairs should be undertaken by the user.

GUARANTEE
Opening the module invalidates the guarantee.

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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