

PCD3.W300

Analog input module, 8 channel, 12 bit, 0 ... 10 V

Fast, analog 8 channel input module with 0 ... 10 V and 12 bit resolution per channel. Use of a fast on-board micro controller allows decoupling and relief of the PCD regarding intensive computing tasks, such as scaling and filtering of signal data.

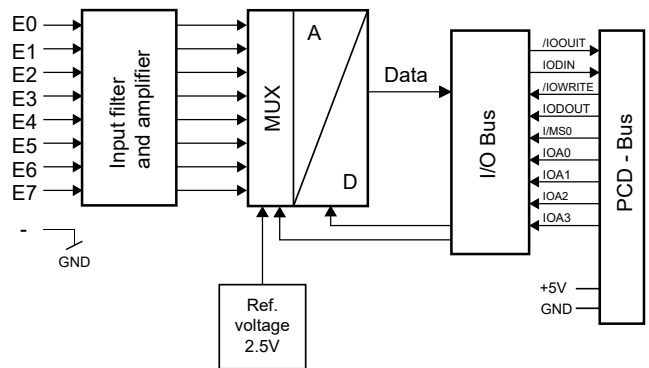
Technical specifications	
Number of inputs (channels)	8
Signal range	0 ... 10 V
Resolution (representation)	12 bit (0 ... 4095)
Resolution	2.442 mV pro bit
Galvanic separation	no
Measuring principle	non-differential, single-ended
Input resistance	20 kΩ / 0.15 %
Accuracy at 25 °C	± 0.5 %
Repeating accuracy (under same conditions)	± 0.05 %
Temperature error (0 ... +55 °C)	± 0.2 %
Conversion time A/D	≤ 10 μs
Overvoltage protection ¹⁾	± 50 VDC (permanent)
EMV protection	yes
Time constant of input filter	typisch 10.5 ms
Internal current consumption (from +5 V bus)	< 8 mA
Internal current consumption (from V+ bus)	5 mA
External current consumption	0 mA
Terminals	Pluggable 10-pole spring terminal block for Ø up to 2.5 mm ² , plug type A (4 405 4954 0)

¹⁾ No negative input voltage should be applied on these modules !



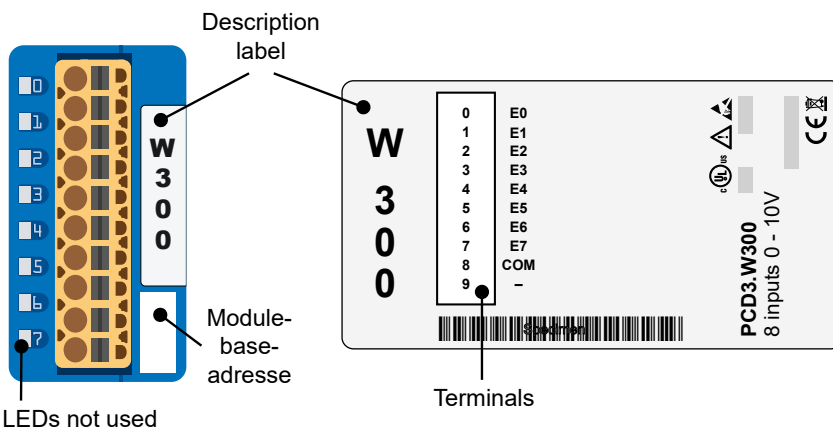
PCD3.W300

Block schematic



Type: PCD3.W300, PCD3.W310

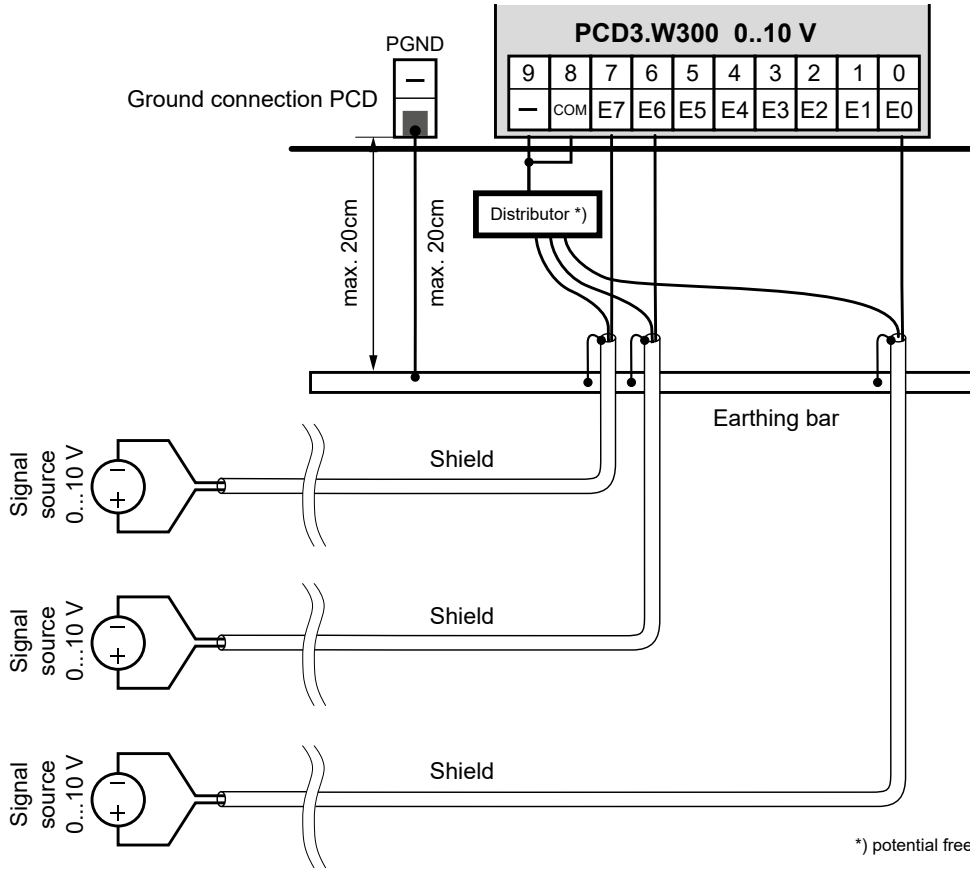
Indicators and connections



Connection concept for voltage inputs

The voltage input signals are connected directly to the 10-pole terminal block (E0 ... E7 and COM). 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



No negative input voltage should be applied on these modules !



The reference potentials of signal sources should be wired to a common GND connection (“-” and “COM” terminals). To obtain optimum measurement results, any connection to an earthing bar should be avoided.



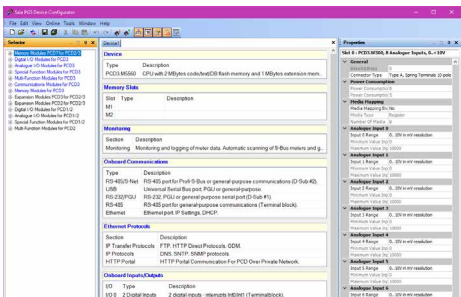
If shielded cables are used, the shielding should be connected to an earthing rail.



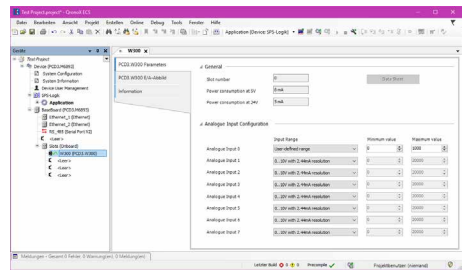
Input signals with incorrect polarity significantly distort the measurements on the other channels.

Configuration

Saia PCD® Classic

PCD-System	Evaluation
Classic	<p>The evaluation is performed by the firmware. It reads the values according to the configuration (Device Configurator or Network Configurator).</p> 
Alternatively	<p>An FBox "PCD2/3.W3" exists for evaluation.</p> <p>FBox for PCD3.W300 (Inputs 0...7 selectable)</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>PCD2/3.W3</p> <p>in0</p><p>in1</p><p>in2</p><p>in3</p><p>in4</p><p>in5</p><p>in6</p><p>in7</p><p>Error</p> <p>Add 180</p> </div> <div style="border: 1px solid black; padding: 5px; width: 150px;"> <p>PCD2/3.W3</p> <p>in0</p><p>Error</p> <p>Add I16</p> </div> </div>

Saia PCD® IEC-Controller

PCD-System	Evaluation
IEC-Controller	<p>The evaluation is performed by the firmware. It reads the values according to the configuration (Device Configurator)</p> 



Galvanic separation of inputs to CPU, channels themselves not separated.



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.



**Watchdog ..
.. in classic system**

The watchdog with his address 255 can influence this module if it is used at the base address 240.
For details, please refer to the manual Read "27-600_I/O-modules for PCD1 / PCD2 series and for PCD3" in chapter "A2 Hardware Watchdog", which describes the correct use of the watchdog together with PCD components.

.. in IEC-controller system

is not affected



Further information

This can be found in the Manual "27-600_I/O-modules for PCD1 / PCD2 series and for PCD3".

**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.

**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 Mark of Conformity for Machinery Exports to Russia, Kazakhstan or Belarus.



PCD3.W300



4 405 4954 0

Ordering information

Type	Short description	Description	Weight
PCD3.W300	8 analogue inputs 0...10 V, 12 bit	Analogue input module, 8 inputs (channels), resolution 12 bit, signal range 0...10 V, (the channels themselves not separated), connection with pluggable spring terminals, plug-in type A (4 405 4954 0) included	100 g

Ordering information equipment

Type	Short description	Description	Weight
4 405 4954 0	Plug-in, type A	Plug-in I/O spring terminal block, 10-pole up to 2.5 mm ² , labelled 0 ... 9	15 g

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