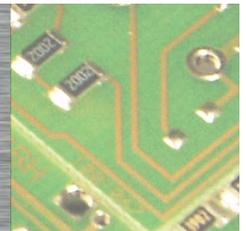


# PCD3.W350

## Analog input module, 8 channel, 12 bit, Pt100 / Ni100



Fast, analog 8 channel input module with 12 bit resolution for Pt100 / Ni100 temperature sensors. 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.

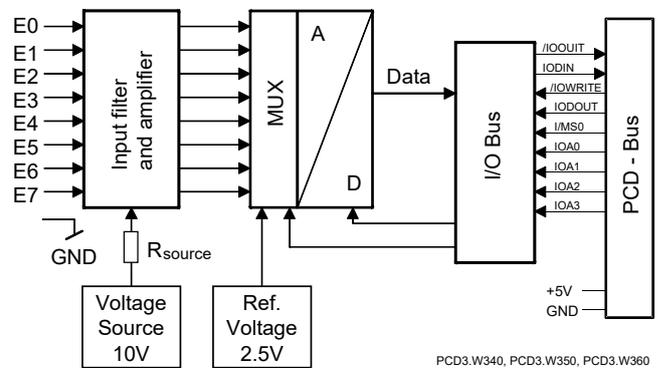
Technical specifications		
Number of inputs (channels)		8
Signal range	Pt100 Ni100	-50 ... +600 °C -50 ... +250 °C
Resolution (representation)		12 bit (0 ... 4095)
Resolution *)	Pt100 Ni100	0.14 ... 0.20 °C 0.06 ... 0.12 °C
Method of linearization for temperature inputs		by software
Galvanic separation		no
Measuring principle		non-differential, single-ended
Input resistance		nicht relevant
Maximum measurement current for temperature probes		1.5 mA
Accuracy at 25 °C		± 0.3 %
Repeating accuracy (under same conditions)		± 0.05 %
Temperature error (0 ... +55 °C)		± 0.2 %
Conversion time A/D		≤ 10 µs
EMV protection		yes
Time constant of input filter		typically 16.9 ms
Internal current consumption (from +5 V bus)		< 8 mA
Internal current consumption (from V+ bus)		< 30 mA
External current consumption		0 mA
Terminals		Pluggable 10-pole spring terminal block for Ø up to 2.5 mm <sup>2</sup> , plug type A (4 405 4954 0)

\*) value of least significant bit(LSB)



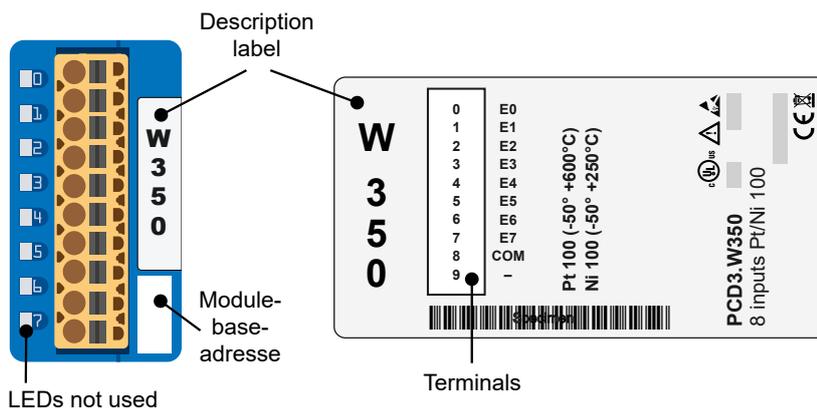
PCD3.W350

### Block schematic



PCD3.W340, PCD3.W350, PCD3.W360

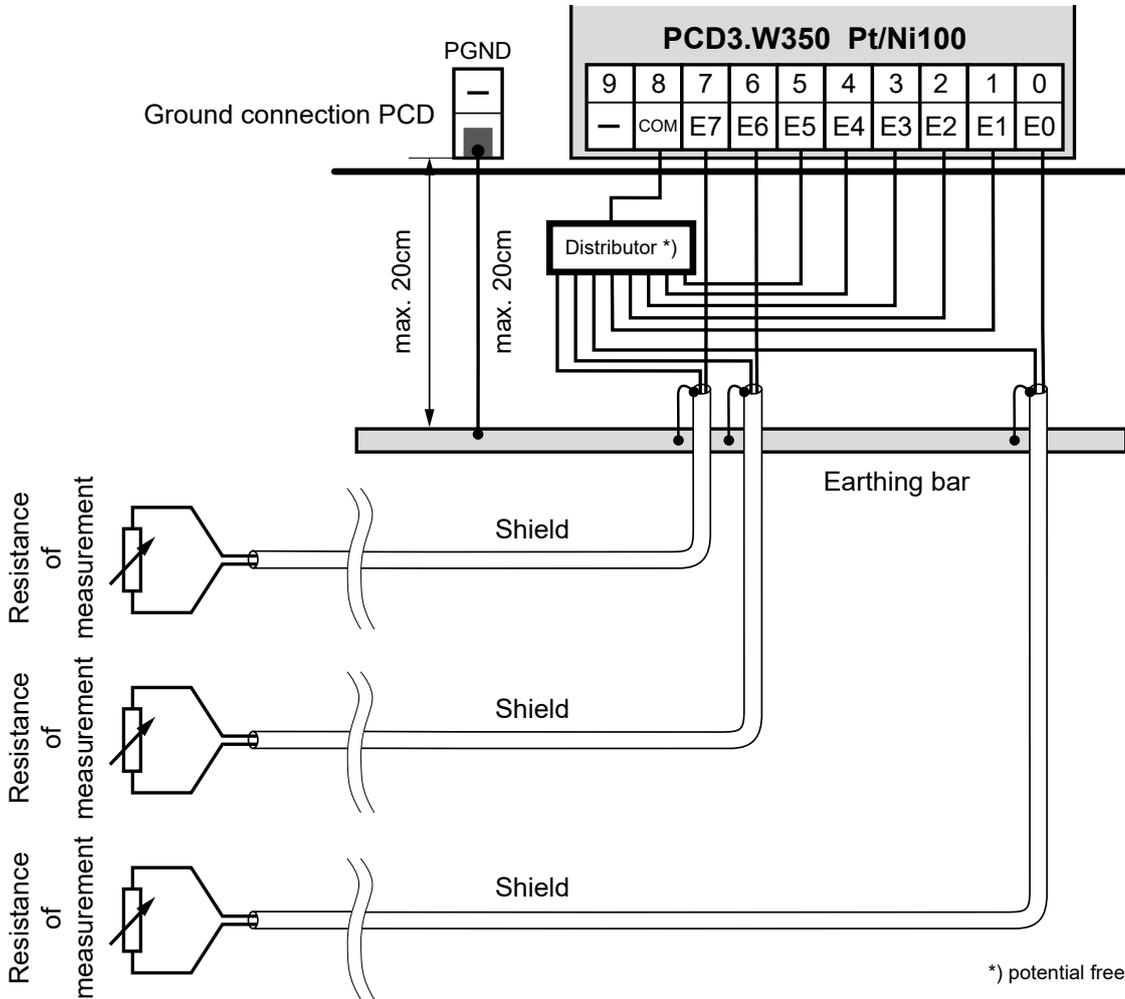
### Indicators and connections



## Connection concept

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 Pt100 / Ni100



### Good to now

- 

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.

- 

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.

# Configuration

## HPS ControlEdge PCD Builder

HPCD-System

Evaluation

HPCD3.M6893

The evaluation is performed by the firmware. It reads the values according to the configuration (Device Configurator)

The screenshot shows the 'System Configuration' window for a PCD3.W350 module. The interface includes a tree view on the left, a 'PCD3.W350 Parameters' section, and a 'General' configuration panel.

**PCD3.W350 Parameters**

- PCD3.W350 E/A-Abbild
- Information

**General**

- Slot number: 1
- Power consumption at 5V: 8 mA
- Power consumption at 24V: 30 mA
- Analogue Input Configuration

**Analogue Input Configuration**

Sensor type	Input range	Minimum value	Maximum value
User-specific range			
Analogue Input 0	12-bit resolution	0	0
Analogue Input 1	12-bit resolution	0	0
Analogue Input 2	12-bit resolution	0	0
Analogue Input 3	12-bit resolution	0	0
Analogue Input 4	User-defined range	0	2000
Analogue Input 5	User-defined range	0	1000
Analogue Input 6	User-defined range	0	500
Analogue Input 7	User-defined range	0	400

## Formulae for temperature measurement

Sensors		T = temperature in °C DV = digital value (0 ... 4095)
<b>Ni 100</b> Validity: Temperature range - 50 ... + 250 °C Computational error: ± 1.65 °C		$T = - 28.7 + \frac{300 \cdot DV}{3628} - 7.294 \cdot 10^{-6} \cdot (DV - 1850)^2$
<b>Pt100</b> Validity: Temperature range - 50 ... + 600 °C Computational error: ± 1 °C		$T = - 99.9 + \frac{650 \cdot DV}{3910} + 6.625 \cdot 10^{-6} \cdot (DV - 2114)^2$



PCD3.W350



4 405 4954 0

## Ordering information

Type	Short description	Description	Weight
PCD3.W350	8 analogue inputs, 12 bit, Pt100 / Ni100	Analogue input module, 8 inputs (channels), resolution 12 bit, signal range Pt100 / Ni100, (the channels themselves not separated), connection with pluggable spring terminals, plug-in type A (4 405 4954 0) included	80 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 <sup>2</sup> , labelled 0 ... 9	15 g

**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.

## Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

### ASIA PACIFIC

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FAX: +(61) 7-3840 6481  
Toll Free 1300-36-39-36  
Toll Free Fax:  
1300-36-04-70

#### China – PRC - Shanghai

Honeywell China Inc.  
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Fax: (86-21) 6237-2826

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Honeywell Pte Ltd.  
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(Sales) 1-800-343-0228

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or  
(TAC) [hfs-tac-support@honeywell.com](mailto:hfs-tac-support@honeywell.com)

## WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.** Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

*Specifications are subject to change without notice.*

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## For more information

Learn more about ControlEdge PCD, visit our website [www.honeywellprocess.com/ControlEdgePCD](http://www.honeywellprocess.com/ControlEdgePCD) or contact your Honeywell account manager.

## Honeywell Process Solutions

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