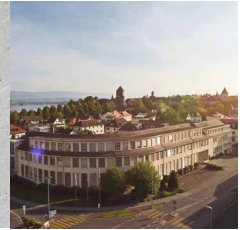


PCD3.W360

Analog input module, 8 channel, 12 bit, Pt1000



Fast, analog 8 channel input module with 12 bit resolution for Pt1000 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

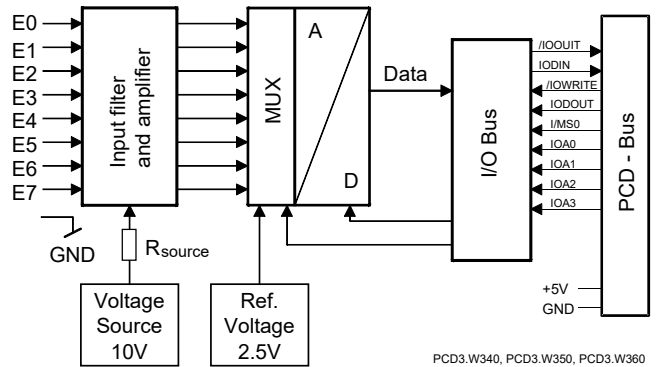
Number of inputs (channels)	8
Signal range	-50 ... +150 °C
Resolution (representation)	12 bit (0 ... 4095)
Resolution *)	0.07 ... 0.09 °C (<0.1 °C)
Method of linearization for temperature inputs	by software
Galvanic separation	no
Measuring principle	non-differential, single-ended
Input resistance	nicht 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)	< 20 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)

*) value of least significant bit(LSB)



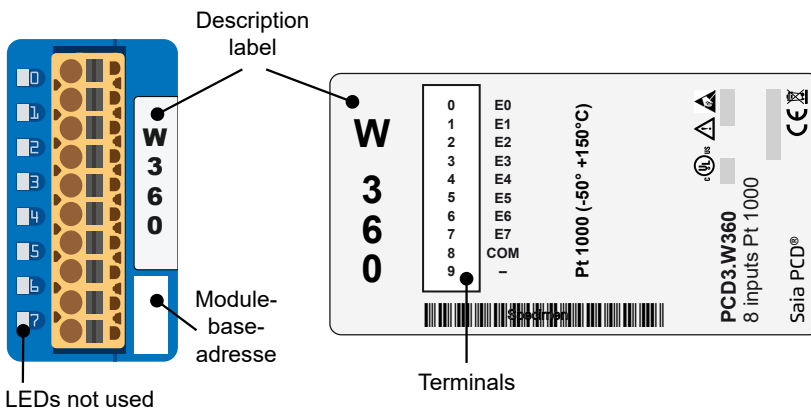
PCD3.W360

Block schematic



PCD3.W340, PCD3.W350, PCD3.W360

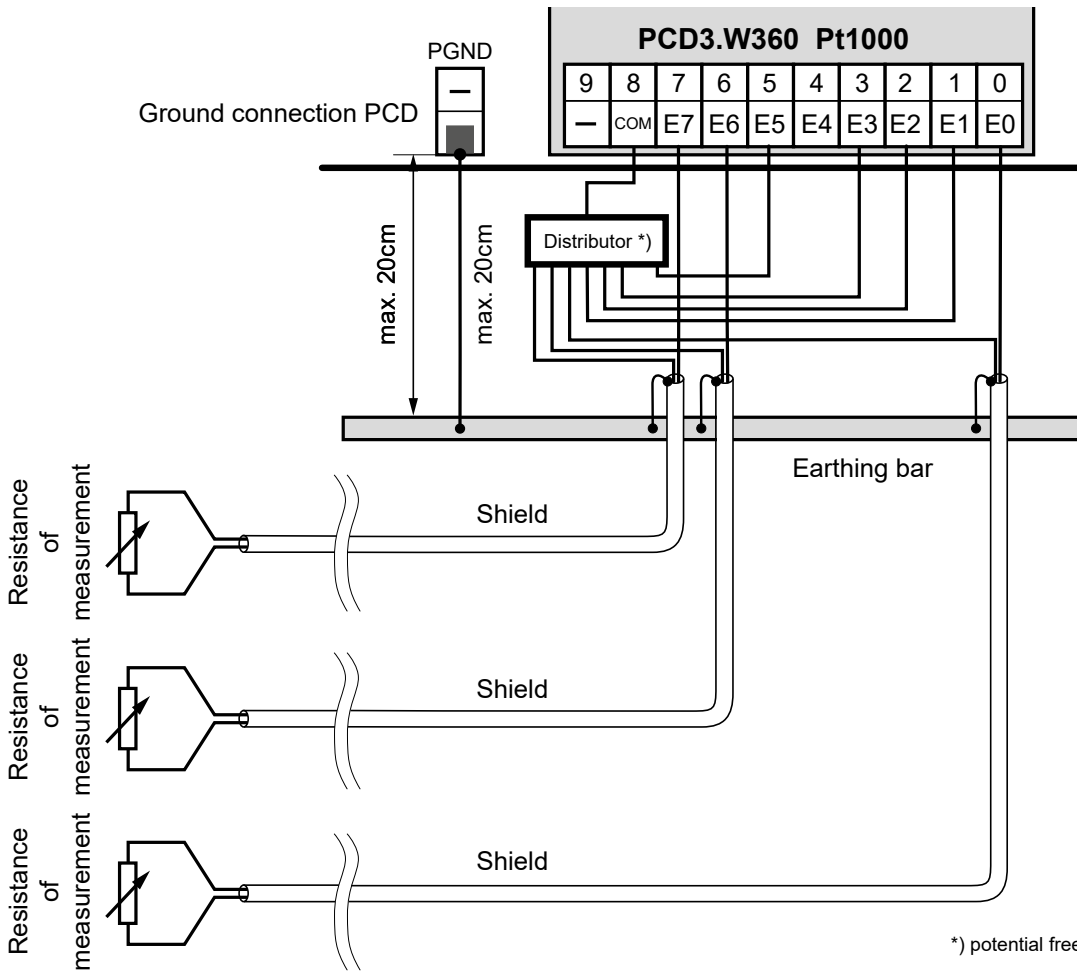
Indicators and connections





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 Pt1000



- 

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 PG5® Controls Suite

PCD-System	Evaluation
Classic	The evaluation is performed by the firmware. It reads the values according to the configuration (Device Configurator or Network Configurator).
PT1000	User Specific

Alternatively

An FBox "PCD2/3.W36" exists for evaluation.

FBox for PCD3.W360 (Inputs 0...7 selectable)

Saia Qronox ECS Engineering and Commissioning Suite

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

Information

Parameter: PT1000

Parameter: user specific

Mapping

Variable	Mapping	Channel	Address	Type	Unit	Description
Y126_AnalogInput0	Y	Analog Input 0	10117	INT		
Y126_AnalogInput1	Y	Analog Input 1	10118	INT		
Y126_AnalogInput2	Y	Analog Input 2	10119	INT		
Y126_AnalogInput3	Y	Analog Input 3	10120	INT		
Y126_AnalogInput4	Y	Analog Input 4	10121	INT		
Y126_AnalogInput5	Y	Analog Input 5	10122	INT		
Y126_AnalogInput6	Y	Analog Input 6	10123	INT		
Y126_AnalogInput7	Y	Analog Input 7	10124	INT		

Formulae for temperature measurement

<p>Sensors</p> <p>Pt1000</p> <p>Validity: Temperature range - 50 ... + 150 °C</p> <p>Computational error: ± 0.25°C</p>	<p>T = temperature in °C</p> <p>DV = digital value (0 ... 4095)</p> $T = -178.1 + \frac{200 \cdot DV}{2509} - 3.873 \cdot 10^{-6} \cdot (DV - 2786)^2$
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Good to now



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.

.. 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 EN 61010 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.W360



4 405 4954 0

Ordering information

Type	Short description	Description	Weight
PCD3.W360	8 analogue inputs, 12 bit, Pt1000	Analogue input module, 8 inputs (channels), resolution 12 bit, signal range Pt1000, (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 ² , labelled 0 ... 9	15 g

Saia-Burgess Controls AG
 Bahnhofstrasse 18 | 3280 Murten, Switzerland
 T +41 26 580 30 00 | F +41 26 580 34 99
 www.saia-pcd.com
 support@saia-pcd.com | www.sbc-support.com

Honeywell | Partner Channel