

PCD3.W305

Universal analogue module with 7 input channels, 0...10 V, resolution 12 bits.

High-speed analogue input module for general use with galvanic isolation.

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.



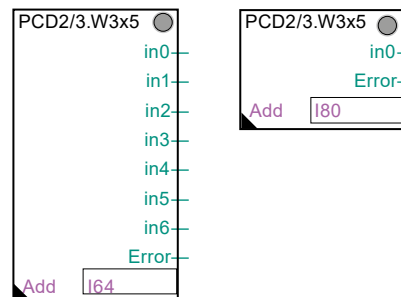
Technical data	
Number of inputs	7
Galvanic separation	500 V, electrical isolation of inputs to Saia PCD®, channels themselves not separated
Signal range	Voltage 0...10 V
Resolution (digital representation)	12 bits (0...4095)
Resolution	2.5 mV
Measuring principle	non-differential, single-ended
Input resistance	13.5 kΩ / 0.1%
Accuracy at 25°C	± 0.15%
Repeat accuracy	± 0.05%
Temperature coefficient	± 0,01 %/K
Temperature error (0...+55°C)	± 0.25%
Conversion time A/D	≤ 2 ms
Overvoltage protection	± 40 VDC (permanent)
Cut off frequency	65 Hz
EMC protection	Yes
Internal current consumption (from +5 V bus)	< 60 mA
Internal current consumption (from V+ bus)	0 mA
External current consumption	0 mA
Operating temperature	0...55°C
Terminals	Pluggable 14-pole spring terminal block (4 405 4998 0), for Ø up to 1.5 mm ²

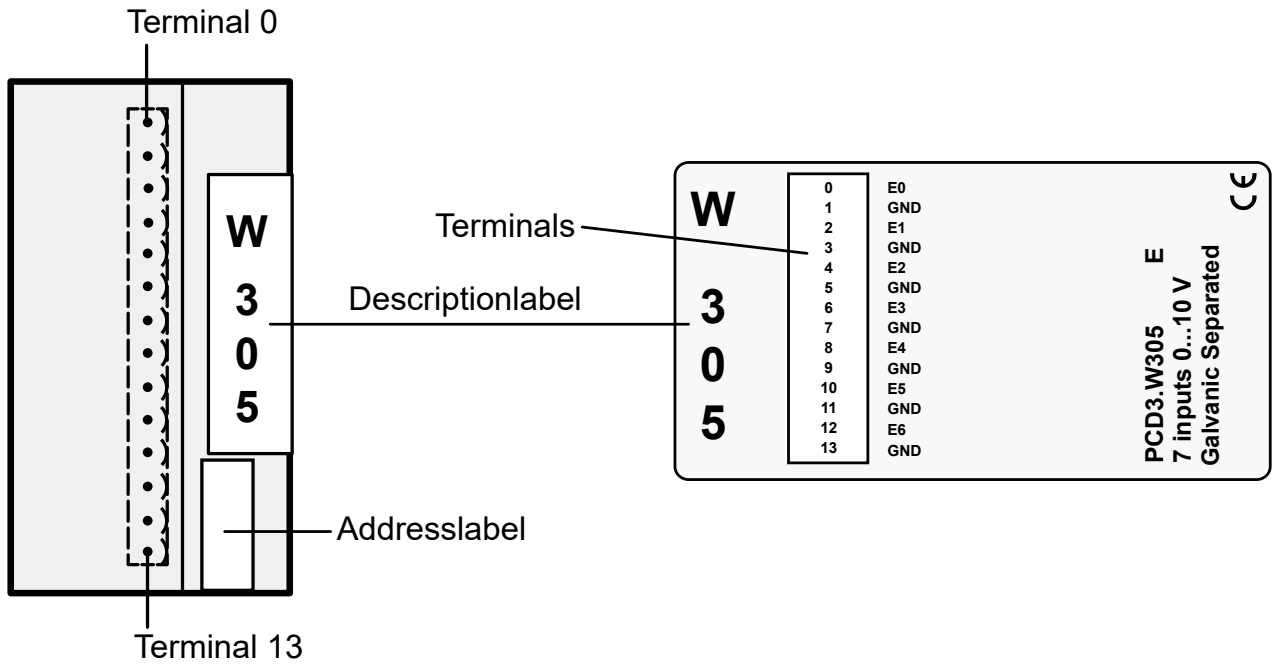
Pin configuration

13	12	11	10	9	8	7	6	5	4	3	2	1	0
-	E6	-	E5	-	E4	-	E3	-	E2	-	E1	-	E0

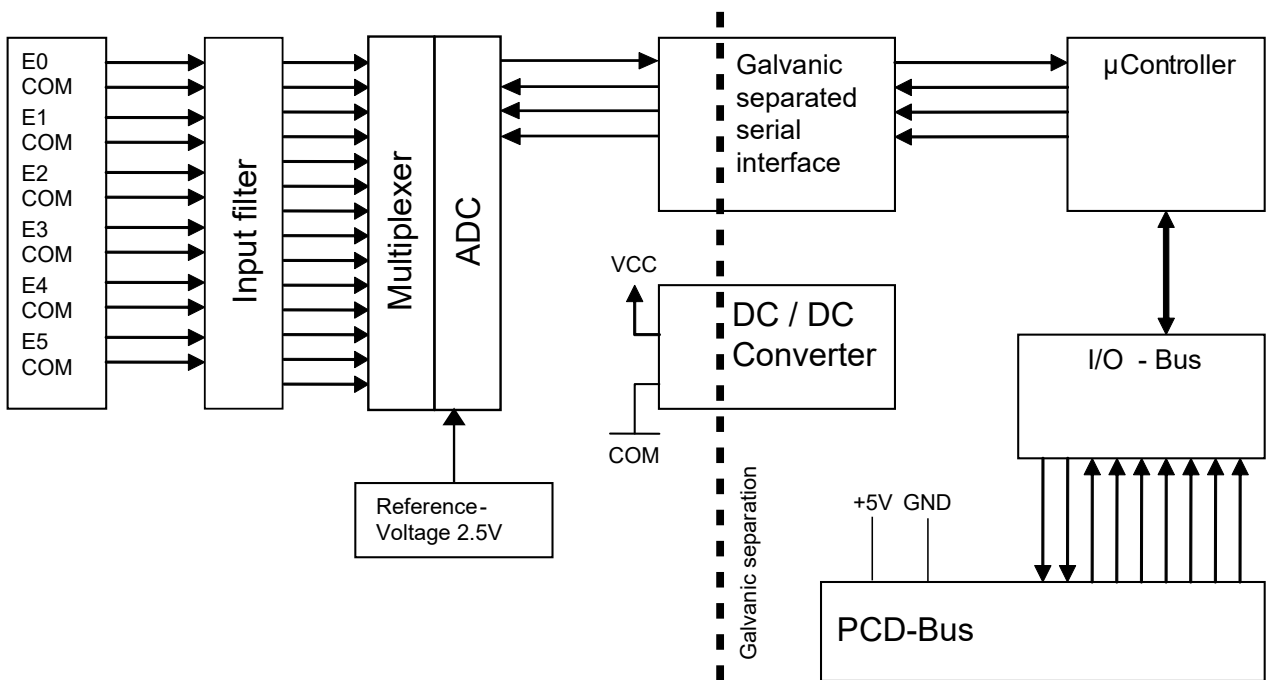
Inputs 0...6 with separate negative connection

FBox PCD3.W305 (1...7 inputs selectable)





Block diagram



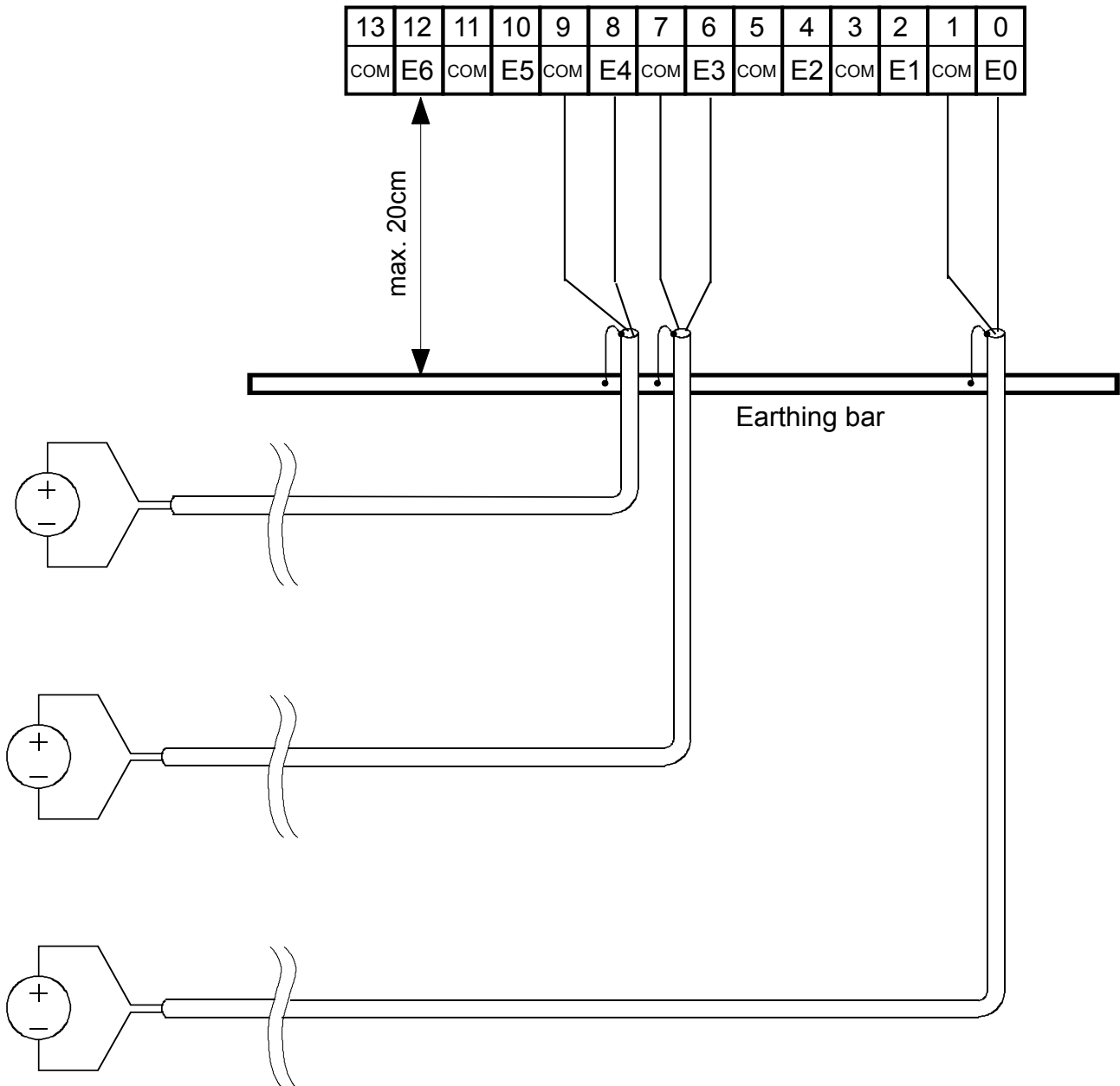
Connection concept

The voltage input signals are connected directly to the 14-pole terminal block (I0...I6 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.

The diagram shows a typical wiring layout:

- If shielded cables are used, the shield should be continued to an external earthing bar.

Connection for 0...10 V



Analogue/digital values

Input voltage	Digital values		
	SBC - Classic	xx7	Simatic
10.0 V	4095	4095	27684
5.0 V	2047	2047	13842
0 V	0	0	0



Galvanic separation of inputs to Saia PCD®, channels themselves not separated.



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



Watchdog: This module can be used on all base addresses; there is no interaction with the watchdog on the CPUs.



For programming the modules PCD3.W605, an FBox is available.



xx7 and RIOs: the firmware reads in the values according to the configuration (I/O Builder or network configurator).



Further information can be found in the Manual 27-600_ENG "I/O-modules for PCD1 / PCD2 series and for PCD3".

Ordering information

Type	Short description	Description	Weight
PCD3.W305	7 inputs 12 bit, electrically isolated, 0...10 V	Analogue input module with galvanic isolation, 7 channels, 12 bits, 0...10 V (connector type E included)	100 g

Accessories

Type	Short description	Description	Weight
4 405 4998 0	Plug-in, type E	Plug-in I/O spring terminal block, 14-pole up to 1.5 mm ² , labelled 0 to 13, for complex modules (e.g. weighing modules), connector type "E"	13 g

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