

PCD3.W625

Universal analogue module with 6 output channels, -10 V...+10 V, resolution 10 bits.

High-speed analogue output 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.



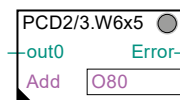
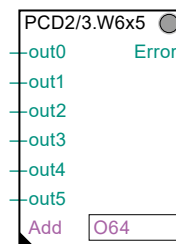
Technical data	
Number of outputs	6
Galvanic separation	500 V, electrical isolation of outputs to Saia PCD®, channels themselves not separated
Signal range	Voltage -10 V...+10 V
Resolution (digital representation)	10 bits (0...1023)
Resolution	20 mV
Cut off frequency	300 Hz
Load resistance	>3 kΩ
Accuracy at 25°C	± 0.4%
Temperature error (0...+55°C)	± 0.25%, 100 ppm/K or 0.01%/K
Short circuit protection	yes (permanent)
EMC protection	According to standards ENV 50 141, EN 55 022, EN 61000-4-2, EN 61000-4-4, EN 61000-4-5
Time constant of output filter	typ. 1 ms
Internal current consumption: (from +5 V bus)	110 mA (typ. 80 mA)
Internal current consumption: (from V+ bus)	0 mA
Terminals	Pluggable 14-pole spring terminal block (4 405 4998 0), for Ø up to 1.5 mm²

Pin configuration

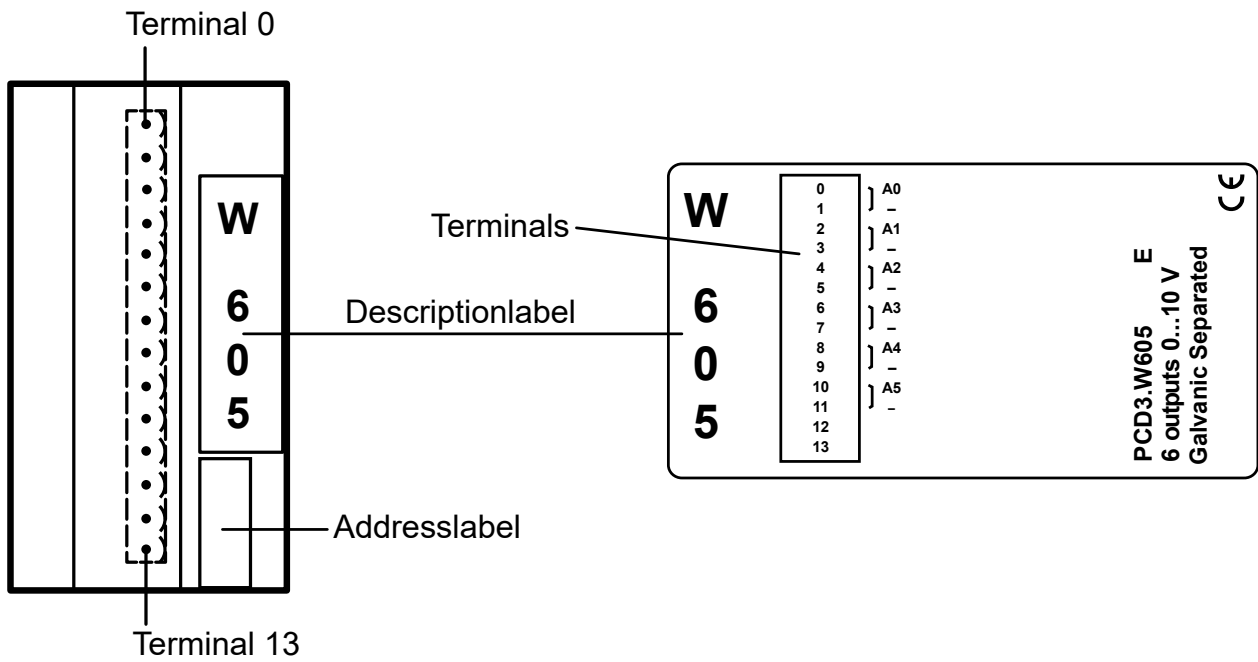
13	12	11	10	9	8	7	6	5	4	3	2	1	0
n.c.	n.c.	-	A5	-	A4	-	A3	-	A2	-	A1	-	A0

Outputs 0...5 with separate negative connection

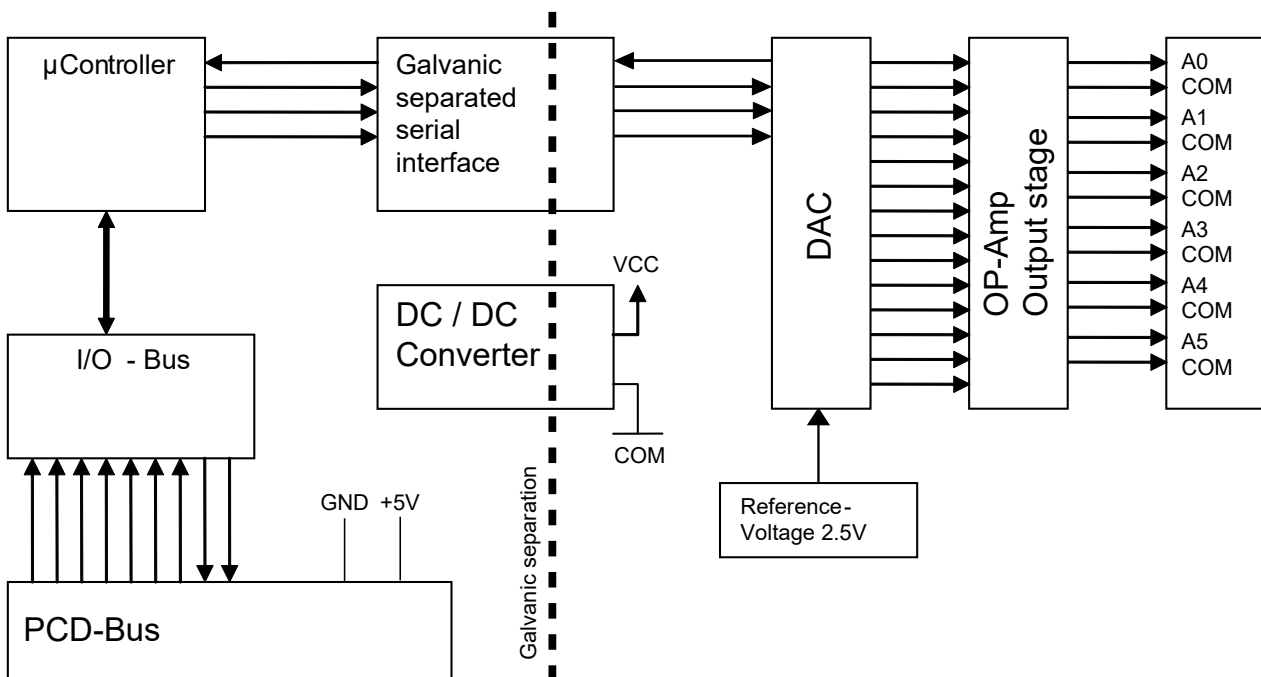
FBox PCD3.W605 (1...6 outputs selectable)



LEDs and connection terminals

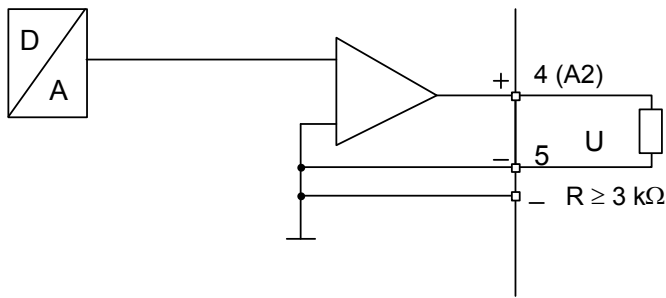


Block diagram



Connection concept

Connection for 0...10 V



Analogue/digital values and jumper positions

Digital values			Output voltage
Classic	xx7	Simatic	
1023	1023	27684	+10.0 V
512	512	13842	-10.0 V
0	0	0	0 V

Notes on the output range

Balancing the offset and the amplification is done for the PCD3.W625 digitally by the μC . As there is no potentiometer, the output range has been slightly enlarged to cover maximum values even in the worst case.

Typical output range (without component tolerances):

- 10.62 V ... 10.36 V (instead of - 10...+10 V)

This range is broken down on a 10 bit scale (1024 steps), as before.

The result is the following LSB resolution:

1 LSB = 20.75 μV



Galvanic separation of outputs 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 series PCD2 and PCD3".

Ordering information

Type	Short description	Description	Weight
PCD3.W625	6 outputs 10 bit, electrically isolated, -10...10 V	Analogue output module with galvanic isolation, 6 channels, 10 bits, -10...10 V (connector type E included)	80 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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