



# PCD1.W5300-C15

## E-Line analogue module

The module has a housing width of 35 mm (2 HP) that is compatible with electrical control cabinets, is controlled via RS-485 and enables the recording of analogue measurement signals and the control of actuators with analogue control variables. This module can be used via a PCD as a remote input/output unit. Regulators and controllers can therefore be flexibly adjusted to adapt to specific requirements. It has four inputs and outputs, respectively, for all established sensor and actuator types in the industry.

### Features

- 4 analogue inputs, individually configurable via software
- 4 analogue outputs, individually configurable via software
- Electrical isolation between supply, bus and I/Os
- Pluggable terminal blocks, protected by flaps
- Status LEDs on the front
- RS-485, USB and NFC interfaces
- Freely programmable with Saia PG5®

### General technical data

#### Power supply

Supply voltage	Nominal 24 VAC (50 Hz) or DC 24 VDC, -15/+20% incl. 5% ripple 24 VAC, -15%/+10% (in accordance with EN/IEC 61131-2)
Electrically isolated	500 VDC between power supply and RS-485 as well as between power supply and inputs/outputs
Power consumption max.	2 W

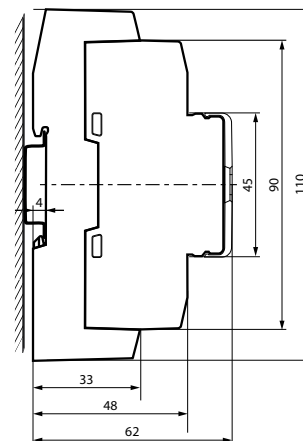
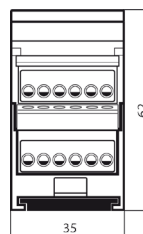
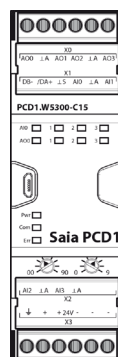
#### Interfaces

Communications interface	RS-485 with galvanic isolation Baud rate: 9,600, 19,200, 38,400, 57,600, 115,200 bps (autobauding)
Address switch for S-Bus address	Two rotary switches 0...9 Address range 0...253
Service interface	Micro USB NFC (Near Field Communication)

#### General data

Ambient temperature	Operation: 0 ... +55°C Storage: -40 ... +70°C
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### Dimensions and installation



on DIN rails 35 mm  
(in accordance with DIN EN 60715 TH35)

Housing width 2 HP (35 mm)  
Compatible with electrical control cabinets  
(in accordance with DIN 43880, size 2 x 55 mm)

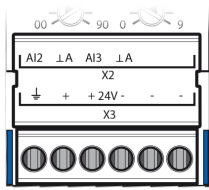


## Terminal technology

Rigid or flexible wires with a diameter of up to 1.5 mm<sup>2</sup> can be used. A max. of 1 mm<sup>2</sup> is permitted with wire ferrules.

## Connection concept

The device is supplied by a 24 VDC or AC voltage supply.

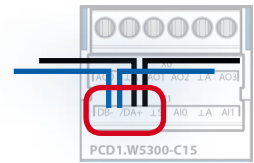


## Assignment overview

X0							
0	1	2	3	4	5		
AO0	┘A	AO1	AO2	┘A	AO3		
X1							
0	1	2	3	4	5		
DB-	/DA+	┘S	AI0	┘A	AI1		
AI0	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
AO0	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>
USB							
Pwr	<input type="checkbox"/>						
Com	<input type="checkbox"/>						
Err	<input type="checkbox"/>	PCD1.W5300-C15					
X2							
AI2	┘A	AI3	┘A				
0	1	2	3	4	5		
24V AC/DC							
┘	+	+	-	-	-		
0	1	2	3	4	5		
X3							

## Bus wiring

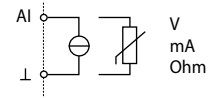
DB- and /DA+ terminals must be used for exchanging data between the modules. The bus is through-wired to a terminal to ensure the exchange between modules to avoid an interruption in the bus connection.



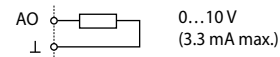
Flexible RS-485 cables with a cross section of no more than 0.75 mm<sup>2</sup> are permissible for bus wiring. A cable cross section of 1.5 mm<sup>2</sup> per terminal applies overall. External bus terminating resistors must be used.

## Connection diagrams

### Analogue input



### Analogue output



GND	┘	ground
DGND	┘D	digital galvanic isolated ground
AGND	┘A	analogue galvanic isolated ground
SGND	┘S	signal ground
a, b, .. alphanumeric index by different grounds		



## Programming

The modules are programmed with Saia PG5® via a master controller or directly via Micro USB.

### Program

Non-volatile memory (Flash memory)

Program blocks	
COB	COB 0
XOB	XOB 10, 12, 13 and 16
PB / FB	100 with maximum hierarchy of 8
Data types	
ROM Text / DB	50
Memory	
64 kByte	Program memory

### Media

Volatile memory (RAM) without battery backup

Data types	
2000	Register
2000	Flag
200	Timer / Counter
Memory	
5 kByte	Memory (RAM) for 50 Text / DB
2 kByte	Memory (EEPROM) for up to 500 parameters (media) backup
Real-time clock (RTC)	Cyclic synchronisation with PCD controller

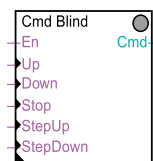
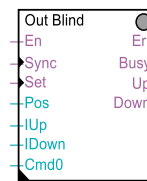
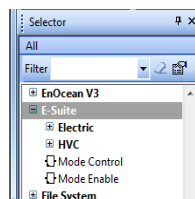
### Supported libraries

The modules are planned with Saia PG5® using FBoxes or IL. The Saia PG5® Fupla Editor provides a selection of FBoxes which significantly simplify engineering.

PG5 standard FBox libraries:

- ▶ Binary
- ▶ Blinker
- ▶ Block Control (without SB)
- ▶ Buffers
- ▶ Com.Text (not interpreted)
- ▶ Converter
- ▶ Counter
- ▶ DALI E-Line Driver (new)
- ▶ Data Block
- ▶ Data Buffer
- ▶ EIB Driver (partly)
- ▶ EnOcean (partly)
- ▶ Flip-Flop
- ▶ Floating Point (IEEE only)
- ▶ HVC (partly)
- ▶ Indirect
- ▶ Integer
- ▶ Ladder
- ▶ Move In / Out
- ▶ MP-Bus
- ▶ Regulation (partly)
- ▶ Special, sys info (partly)
- ▶ Timer

In addition to these libraries, an “E-Suite” library is available for specific applications that can be created with the Saia PCD1 E-Line modules. An example for the electrical plant: shade control, light dimming...



Further information, including which FBoxes are supported, Getting Started, etc. can be found on our support page [www.saia-support.com](http://www.saia-support.com)

### Ordering information

Type	Short description	Description	Weight
PCD1.W5300-C15	E-Line analogue module	Freely programmable E-line input/output module for analogue applications Supply 24 VAC/VDC 4 analogue inputs 12 bit, 0...10 V, ±10 V, 0(4)...20 mA, NTC, Pt/Ni 1000, Ni 1000 L&S 0...2500 Ω, 0...7500 Ω, 0...300 kΩ 4 analogue outputs 12 bit, 0...10 V, ±10 V (10 mA max.) 3 interfaces: RS-485 (S-Bus), USB & NFC (Service)	120 g

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