

PCD1.G1100-C15

E-Line light and blind 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 light and blind control. It has two analogue and two relay outputs and four digital inputs. The user can optionally use the relay for the direct switching of two light groups or to control window shading or blinds. The blinds or shading can be positioned and defects localised via the integrated load current measurement. The user can implement the digital inputs to connect electrical sensors. All inputs/outputs are available to the PLC program at all times via the communications interface.

Features

- 4 digital inputs
- 2 relays incl. current detection
- 2 analogue outputs
- 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

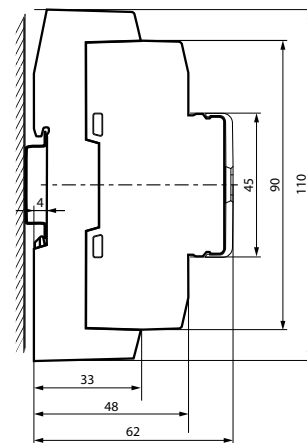
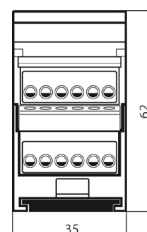
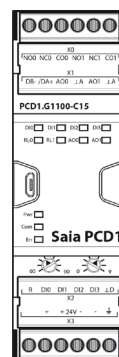
Interfaces

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)

Input/output configuration

Digital inputs

Number	4
Input voltage	24 VAC / VDC source operation (positive switching) or sink operation
Switching level	Low: 0...5 V, High: 15...24 V
Input current	Typically 2 mA (AC/DC)
Input delay	20 ms (AC), 2 / 8 / 50 ms (DC)

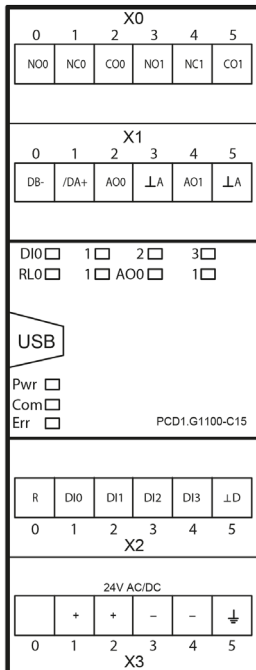
Relay outputs

Number	2 (changeovers)
Switching voltage max.	250 VAC / 30 VDC
Switching current max.	8 A (AC1, DC1)
Max. inrush current	15 A
Contact protection	None
Local operation	None

Analogue outputs

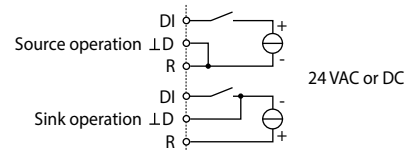
Number	2
Resolution	12 bit
Signal range	0...10 V
Protection	Short-circuit protection
Resolution	2.44 mV
Max. load at output	3.3 k Ω (3.3 mA @ 10 V)
Accuracy (at T _{Ambient} = 25°C)	0.3 % of the value +/- 10 mV
Residual ripple	< 15 mVpp
Temperature error (0°C...+55°C)	+/- 0.2 %
Output delay	Channel update 1 ms (all channels are updated during this time) Time constant of hardware output filter voltage measurement τ = 2.5 ms
Local override operation	None

Assignment overview

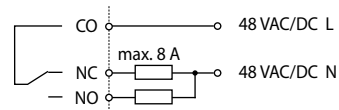


Connection diagrams

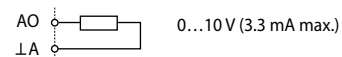
Digital input



Relay (6A)



Analogue output



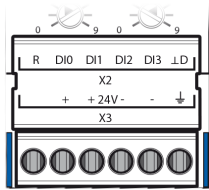
GND	L	ground
DGND	LD	digital galvanic isolated ground
AGND	LA	analogue galvanic isolated ground
SGND	LS	signal ground
a, b, .. alphanumeric index by different grounds		

Terminal technology

Rigid or flexible wires with a diameter of up to 1.5 mm² can be used. A max. of 1 mm² is permitted with wire ferrules.

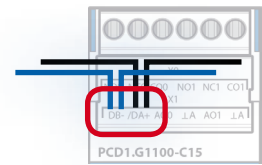
Connection concept

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



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 mm² are permissible for bus wiring. A cable cross section of 1.5 mm² per terminal applies overall. External bus terminating resistors must be used.

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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
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Memory

Program memory	64 kByte
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Media

Volatile memory (RAM) without battery backup

Data types

Register	2000
Flag	2000
Timer / Counter	200

Memory

Memory (RAM) for 50 Text / DB	5 kByte
Memory (EEPROM) for up to 500 parameters (media) backup	2 kByte
Cyclic synchronisation with PCD controller	Real-time clock (RTC)

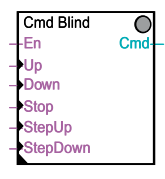
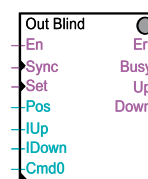
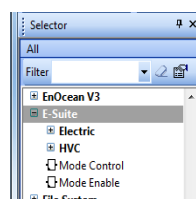
Supported libraries

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

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,...



More details on which FBoxes are supported, Getting Started, etc. are available on our support page www.saia-support.com

Ordering information

Type	Short description	Description	Weight
PCD1.G1100-C15	E-Line light and blind module	Fully programmable E-line input/output module for light and blind Supply 24 VAC/VDC 4 digital inputs 24 VAC / VDC 2 changeover relays 230 VAC / 30 VDC, 8 A, max. inrush current 15 A, incl. electrically isolated current measurement 2 analogue outputs 12 bit, 0...10 V (3 mA max.) 3 interfaces: RS-485 (S-Bus), USB & NFC (Service)	140 g

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