

PCD1.F2611-C15

E-Line DALI module + auxiliary RS-485

The freely programmable module with a housing width of 35 mm (2 HP) can be controlled via RS-485 and enable the direct control of 64 DALI subscribers. It has the DALI line as well as four digital inputs. The user can implement the digital inputs to connect electrical sensors. The module is freely programmable and can also be used as a “standalone” DALI small controller. For example, smaller DALI lighting systems for enhanced individual rooms can therefore be implemented and subsequent linking to a higher level controller is no longer problematic.

Features

- S-bus (RS-485) / DALI interface
- Incl. DALI voltage supply (can be deactivated)
- Up to 64 DALI ballasts
- 4 digital inputs
- Electrical isolation between supply, bus and I/Os
- Pluggable terminal blocks protected by flaps
- Status LEDs on the front
- RS-485, USB and NFC interface
- 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

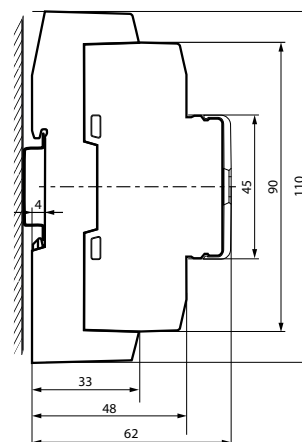
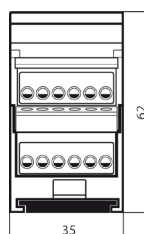
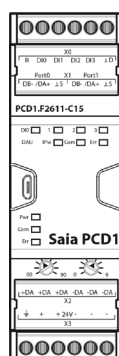
Interfaces

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)
Additional interface	RS-485 in “Mode C” (without interpreted text). Baud rate: 1,200, 2,400, 4,800, 9,600, 19,200, 38,400, 57,600, 115,200 bps
Terminating resistor	Install externally

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

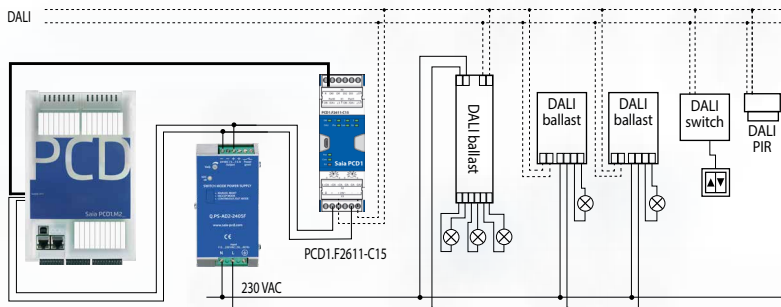
Digital inputs

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)

DALI output

Output voltage	13...15.5V
Output current	Up to 160 mA

Connection example



LEDs for the DALI line

LED	Colour	Description
IPw	Green	Internal DALI supply active
	Off	External supply active
Com	Flashing yellow	DALI communication is active
	Off	no DALI communication on the bus
Err	Red	If an error occurs on the DALI bus (e.g. a short-circuit)

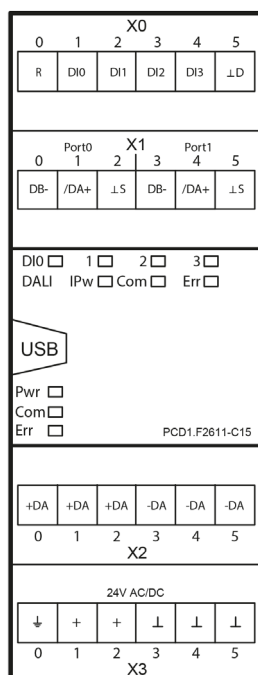
Internal / external DALI supply

The DALI bus can be supplied using the internal or via an external DALI supply in accordance with the IEC 62386-101 standard.



Warning: Observe the polarity when using an external supply. The module is not protected against incorrect polarity.

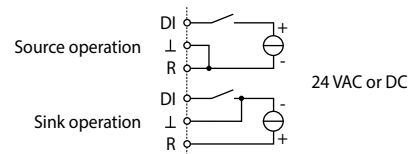
Assignment overview



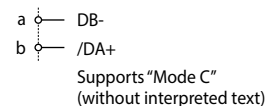
GND	┴	ground
DGND	┴D	digital galvanic isolated ground
AGND	┴A	analogue galvanic isolated ground
SGND	┴S	signal ground
a, b, ... alphanumeric index by different grounds		

Connection diagrams

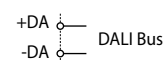
Digital input



Additional RS-485 interface



DALI interface



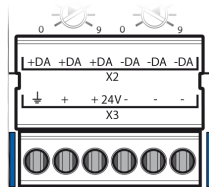
The 27-606 PCD2 / PCD3.F26xx manual contains information regarding the DALI standard, cable recommendations, current, etc.

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.

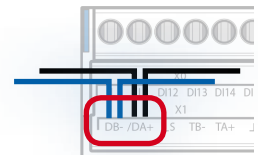
Connection concept

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.

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

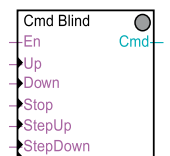
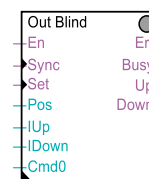
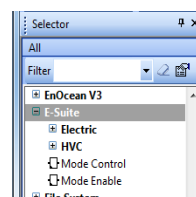
Supported libraries

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:

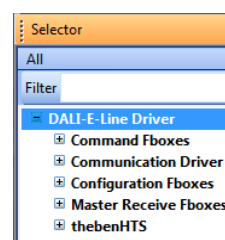
- ▶ Binary
- ▶ Flip-Flop
- ▶ Blinker
- ▶ Floating Point (IEEE only)
- ▶ Block Control (without SB)
- ▶ HVC (partly)
- ▶ Buffers
- ▶ Indirect
- ▶ Com.Text (not interpreted)
- ▶ Integer
- ▶ Converter
- ▶ Ladder
- ▶ Counter
- ▶ Move In / Out
- ▶ DALI E-Line Driver (new)
- ▶ MP-Bus
- ▶ Data Block
- ▶ Regulation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

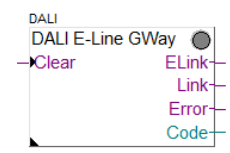


DALI library

The DALI master module includes the Bus power supply for up to 64 DALI participants. The extensive PG5 FBox library has function modules for commissioning, operating and servicing with the PLC program. The “DALI E-Line driver” library is included in the “DALI F26xx driver” library. Smaller DALI controls can be implemented with the PCD1.F2611-C15 E-Line DALI module.



DALI-E-Line driver library



E-Line gateway driver



Further information, including which FBoxes are supported, Getting Started, etc. can be found on our support page www.saia-support.com

Ordering information

Type	Short description	Description	Weight
PCD1.F2611-C15	E-Line DALI module + aux. RS-485	E-Line DALI module freely programmable for up to 64 DALI devices with integrated DALI-bus voltage supply Supply 24 VAC/VDC 4 digital inputs 24 VAC / VDC 4 interfaces: RS-485 (S-Bus), auxillary RS-485, USB & NFC (service)	389 g

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