

## 2.6.6 DALI

### field bus module for lighting systems



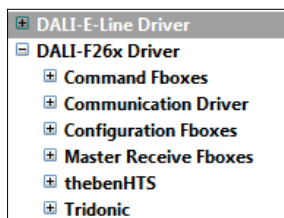
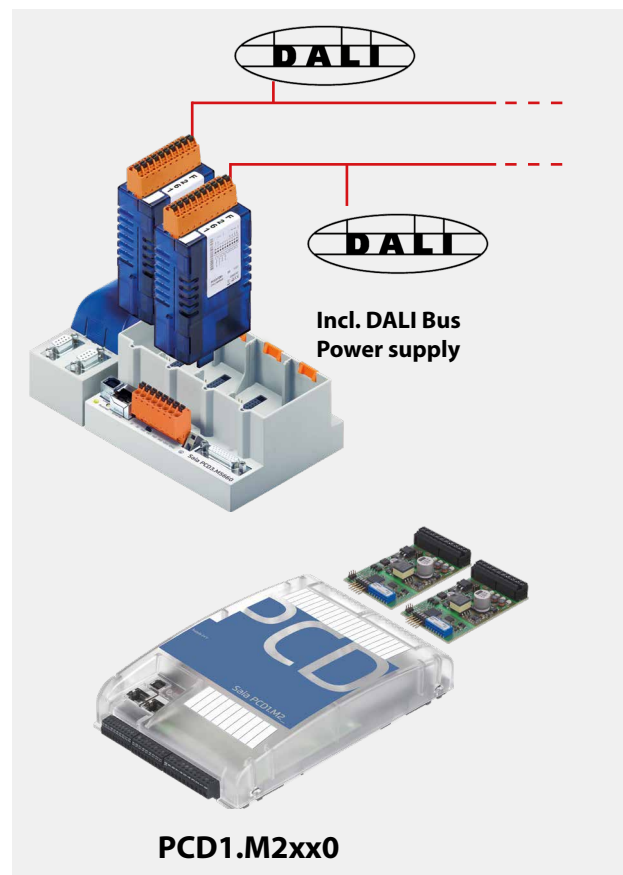
#### DALI master interface module

DALI is a communication system for lighting control, standardised in accordance with IEC 62386-101/102. Installation is easy. The DALI Bus simply needs 2 unshielded wires which can be threaded through the same cable along with the power supply, generally 230 V.

The light parameters are standardised. All upstream devices therefore have the same parameters for dimming, grouping and scenes, irrespective of the type of lighting.

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. External software tools or other components are not required.

Smaller DALI controls can be implemented with the PCD1.F2611-C15 E-Line DALI module. Detailed information about this small controller can be found in the E-Line chapter.



PG5 – DALI F26x FBox library



PCD3.F261



PCD2.F2610



PCD1.F2611-C15

#### Order details

Type	Description	Application note	Weight
PG5 – DALI F26x	PG5 – DALI communication library for connecting DALI lighting control systems	–	–
PCD3.F261	DALI master interface for up to 64 DALI participants incl. bus power supply (200 mA/12... 13.5 V)	PCD3.Mxxx0: I/O slot 0-3 PCD3.T666: I/O slot 0-3	80 g
PCD2.F2610	DALI master interface for up to 64 DALI participants incl. bus power supply (200 mA/12... 13.5 V)	PCD1.M2110R1: I/O slot 0 PCD1.M2xx0: I/O slot 0-1 PCD2.M4160: I/O slot 0-1 PCD2.M4560: I/O slot 0-3 PCD2.M5xx0: I/O slot 0-3	60 g
PCD1.F2611-C15	DALI master interface for up to 64 DALI participants incl. bus power supply (160 mA/13... 15.5 V)	–	130 g



Please observe the information for the PCD firmware version and the PG5 version on the support page.

## DALI communication library

### Commissioning and servicing made easy

When initialising, the "DALI F26x Driver" FBox is positioned once only when the program starts. The "Configuration Manager" FBox then parameterises all the DALI participants on the bus. The FBox also provides predefined symbols for further use, e.g. in S-Web. The parameters can also be used securely in the PCD file system. The "Backup to Flash" FBox stores all DALI parameters in parallel in two files. This guarantees the retention of data in PCD systems with no batteries, e.g. in the Smart RIO PCD3.T666, required.

When commissioning DALI systems, it is usual to install all DALI participants then issue the addresses and set the parameters via the DALI commissioning software. The "Random addressing" and "Exchange addresses" modules are in the Saia PG5® – DALI library.

Parameterisation takes place after the addressing process using the "Configuration manager" FBox. Group and scene parameters can alternatively be set using the "Edit Groups" and "Edit Scene Levels" FBoxes to provide a better overview.



### Operation

The "Send Command Inputs", "Send Command Online", "Send Power Control" and "Send Scene" FBoxes are available for transmitting DALI commands. These FBoxes cover all standard DALI commands.

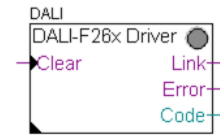
The receipt of master telegrams is also supported by the "Receive Commands" and "Receive Raw" FBoxes. "Receive Raw" is useful for receiving non-standard telegrams. The raw data can then be processed further in the application program.

The lamp status can be requested using the "Read Status" FBox. The "Query numeric" FBox provides the application program with access to a further 21 DALI standard data points such as the current light level.

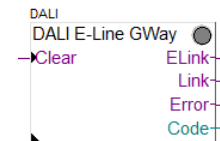
The "Read Memory" FBox is used to read any data from a DALI device. It is therefore possible to request brightness and presence information from one sensor, which would not be accessible with the DALI standard methods.

### DALI controller with PCD1.F2611-C15:

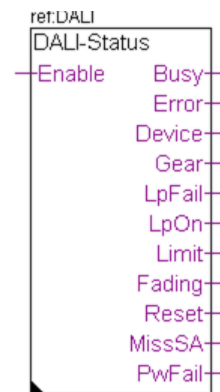
There are also different FBoxes within the "DALI E-Line Driver" rubric for commissioning and operation for this interface.



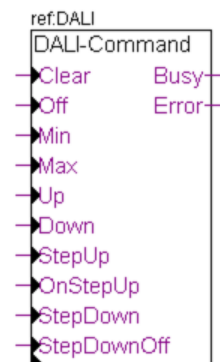
Driver module



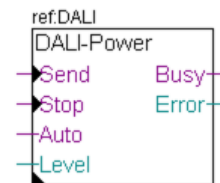
E-Line gateway driver



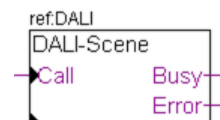
Status monitoring



Lighting control on/off, dimmable



Direct lighting control



Scene controller



The current DALI standard does not guarantee a genuine multi-master function. Multi-master capable products such as those of Tridonic, Osram or Zumtobel are either based on the new draft DALI extension E DIN 62386-103 (2011-08) or accept the loss of telegrams in bus collisions. Permanent polling, e.g. of the status, should therefore be avoided in "multi-master" projects. The maximum number of DALI master devices can be restricted to 8 units, for example, depending on the product and hardware manufacturer.