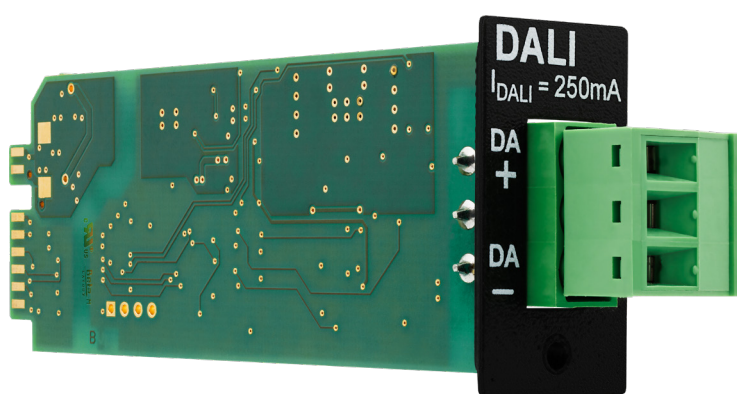


SYMPL FUSION DALI-2 Module 1 Port

Information for Use



Read the Information for Use and the Safety Instructions carefully. Subject to modification without prior notice.

Typographical and other errors do not justify any claim for damages. Modification of the product is prohibited.

This document is designed for electricians and system administrators of the product.

All product names and trademarks mentioned in this manual are trademarks of their respective owners.

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Downloads and more information at:
www.ecue.com

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1 Safety instructions

Please read and follow the safety instructions, provided in a separate manual, carefully. Make sure that the environmental, mounting, and installation prerequisites are met. This manual should be kept at a safe place and in reach of the device.

1.1 Symbols



The exclamation mark warns about possible damage of the device itself, to connected devices, and to the user.



The information symbol gives general hints and informs about handling and procedures for use of the device.

1.2 General safety instructions



- Connect the module, cables and data only when the SYMPL FUSION Base Device is powered down.



- If safety instructions are missing, please contact Traxon e:cue to receive a new copy.

2 General device description

Whatever setup your project requires, the SYMPL Fusion always has the right configuration at hand. The modular slot card concept allows the freedom to compose your individual demands. The SYMPL FUSION DALI-2 Module 1 Port offers one DALI line and its bus power supply. Being DALI-2 certified, this module integrates DALI components into your system.

Highlights

- Provides DALI bus power supply, max. 250 mA, guaranteed 220 mA
- Power supply via base device; insulated PSU
- DALI-2 certified

More information about the SYMPL Fusion system and the SYMPL FUSION Base Device:

<https://eu.traxon-ecue.com/products/syml-fusion/>



2.1 Delivery content

Delivery content of the e:cue SYMPL FUSION DALI-2 Module 1 Port - Product number CL24100604035

1. SYMPL FUSION DALI-2 Module 1 Port
2. Welcome card
3. DALI connector, 3-pin (Würth 691 3515 00003)
4. 1 x Bezel
5. 1 x Screw.

3 General remarks

3.1 Transport

Only transport the device in its original packaging. This protects the device from damage.

3.2 Unpacking

Only unpack the device at its installation location. To protect the device against condensation water, unpack it and wait until all moisture remaining in the device has evaporated. Condensation can occur when the device is moved from a cold to a warm location. Keep the packaging for use in case of further transport. Inspect all parts for completeness regarding chapter “2.1 Delivery content” (page 2). If there is apparent damage to the device or parts are missing from the delivery scope, please contact the Traxon e:cue support service.

3.3 Warranty regulations

Depending on the product, warranty regulations are of different duration. The warranty time is usually noted in the quote and in the order confirmation. See www.traxon-ecue.com/terms-and-conditions for details. Legal warranty regulations apply in any case.

3.4 Maintenance and Repair

This device requires no maintenance.



- Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).
- Do not try to repair the device. Return it to your Traxon e:cue distributor for replacement or repair.

To update the firmware see the Information of Use of the SYMPL FUSION Base Device.



3.5 Disposal

The proper disposal of packing materials and of the device is the responsibility of the respective user and for his account; in all other matters, the retrieval obligation for packing materials and the device is subject to the statutory regulations.

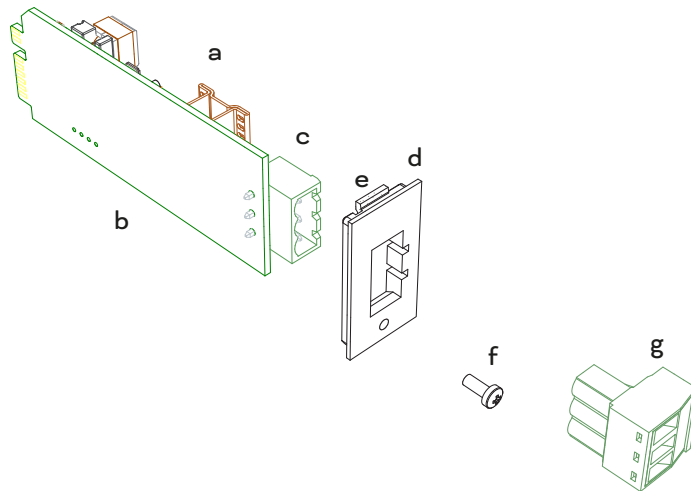
3.6 Support

In case of technical problems or questions regarding installation and repair please contact:

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 support@ecue.com

4 Interfaces

4.1 Connectors and Interfaces



a Module

b Bare side of module

c Plug Fixed to the module, counterpart of connector.

d Bezel Module specific capping.

e Hook Holds the top edge of the module's bezel connected to the SYMPL FUSION Base Device.

- f Screw To fasten the module's bezel.
 - g DALI connector DALI (DA +, DA – top to bottom)
Further installation details: [“6.1 DALI connection” on page 7](#)
- 

4.2 User interface: LEDs

The slot in which the module is inserted has a corresponding LED. This slot LED on the SYMPL FUSION Base Device indicates different states of the SYMPL FUSION DALI-2 Module 1 Port:

Slot LED	Status
Off	DALI bus power off
Yellow, static	DALI bus power on
Yellow, blinking	DALI output
Green	DALI input
Red, static	Error. Press the Identify button to retry the DALI bus and, if successful, exit the error state.
Red, blinking	Test mode active

4.3 Identify button

In addition to the functions regarding the SYMPL FUSION Base Device, the Identify button has another function for a SYMPL FUSION DALI-2 Module 1 Port: If the SYMPL FUSION DALI-2 Module 1 Port runs into a DALI bus error in case of a short circuit or other bus problems, the Slot LED of DALI module will turn red. Pressing the Identify button will send a bus power recovery message to the module and it will try to enable the DALI bus again. If this succeeds, the module status LED will show normal operation. Otherwise, it continues showing the red error status.



5 Product specifications

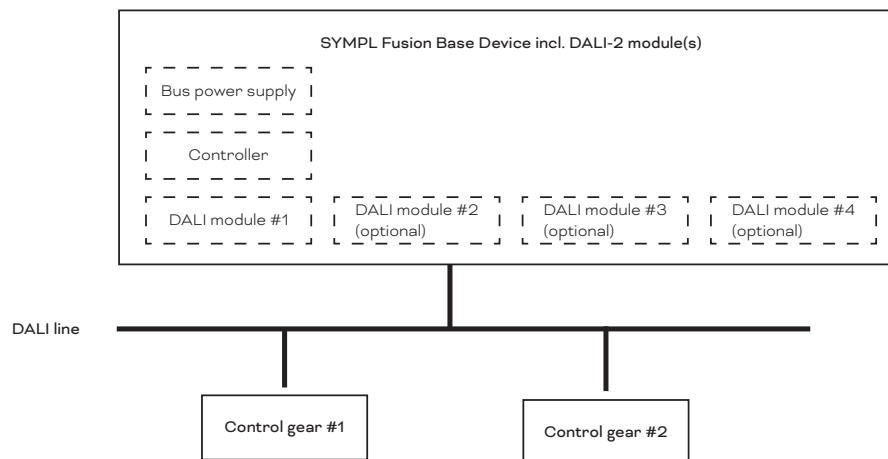
IC	CL24100604035
Weight	18 g / 0.04 lb
Power supply input	from SYMPL Fusion base device, isolated PSU
Operating temperature	-20 ... 40 °C / -4 ... 104 °F
Storage temperature	-20 ... 70 °C / -4 ... 158 °F
Op. / Stor. humidity	0 ... 80% RH, non-condensing
Certificates	CE, ETL, DALI-2

Interface specifications

Output interfaces	1 x DALI line 3-pin terminal plug max. supply current = 250 mA guaranteed supply current = 220 mA wire gauge: 0.5 ... 2.5 mm ² conformal to IEC 62386-101, IEC 62386-103
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DALI-2 details

The SYMPL FUSION DALI-2 Module 1 Port is designed as Multi-Master application controller with integrated bus power supply. No additional bus power supplies are allowed!



DALI bus power supply current maximum: $I = 250 \text{ mA}$

Guaranteed bus power supply current for connected control devices and control gears: $I = 220 \text{ mA}$

Recommended bus power supply current for connected control devices and control gears: $I = 220 \text{ mA}$

Calculation for guaranteed and recommended bus power current:

$$2 \text{ mA} \times n_{\text{Externally powered bus units}} + \sum I_{\text{Bus powered bus units}} \leq 220 \text{ mA}$$

Example:

Bus powered units:

3 x DALI-2 Push-Button Coupler ($I_{max} = 10 \text{ mA}$)

8 x DALI-2 Multi Sensor LS/MD ($I_{max} = 6 \text{ mA}$)

3 x DALI-2 Multi Sensor HF ($I_{max} = 10 \text{ mA}$)

9 x DALI-2 Panel 8-Key ($I_{max} = 10 \text{ mA}$)

Externally powered bus units:

none

Calculation for guaranteed and recommended bus power current:

$$2 \text{ mA} \times 0 + (3 \times 10 + 8 \times 6 + 3 \times 10 + 9 \times 10) \leq 220 \text{ mA}$$

$$198 \text{ mA} \leq 200 \text{ mA}$$

DALI wiring can be star and/or linear structure. Ring structure is not allowed.

Voltage drop on the bus cables must be less than 2 V, considering a bus current of 250 mA.

Maximum cable length (any cable type) $L < 300 \text{ m}$

Cable type	Cable cross section in mm ²	Maximum cable length in m		
		25 °C	50 °C	75 °C
Aluminum	0.14	19	17	16
	0.5	68	62	57
	0.75	102	93	86
	1.0	136	125	115
	1.5	205	187	172
	2.0	273	250	230
	2.5	300	300	288
Copper	0.14	31	28	26
	0.5	112	102	93
	0.75	168	153	140
	1.0	224	204	187
	1.5	300	300	281
	2.0	300	300	300
	2.5	300	300	300



The device does not support identification by means of an LED or buzzer.

The DALI card implements a shutdown mechanism in case of a short circuit of the DALI bus. The bus short circuit current is limited to 250 mA. If the short circuit condition lasts for more than 10 ms, the current will be further reduced to ~60 mA to protect the DALI card against excessive overheating. If the short circuit condition lasts for more than 600 ms, the bus power supply will be switched off and will be switched on again after ~1 sec (retry).

Typical DALI bus voltages:

- no load: 19 V
- 220 mA load: 16 V

6 Installation

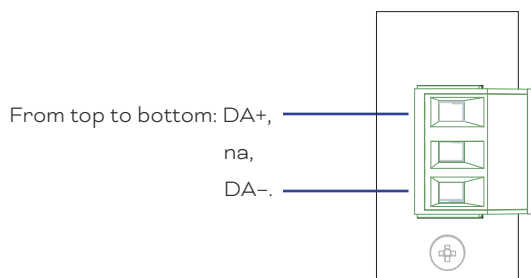
The installation of the SYMPL FUSION DALI-2 Module 1 Port consists of installing the module into the SYMPL FUSION Base Device and connections to a DALI line.



Install the module and connect cables only when the SYMPL FUSION Base Device is powered down.

6.1 DALI connection

The SYMPL FUSION DALI-2 Module 1 Port offers a 2-pin assigned screw terminal plug for the DALI output. Use a screw driver to open and close the terminal for attaching the DALI bus wires. Connect the wires according to the pin assignment on the label.



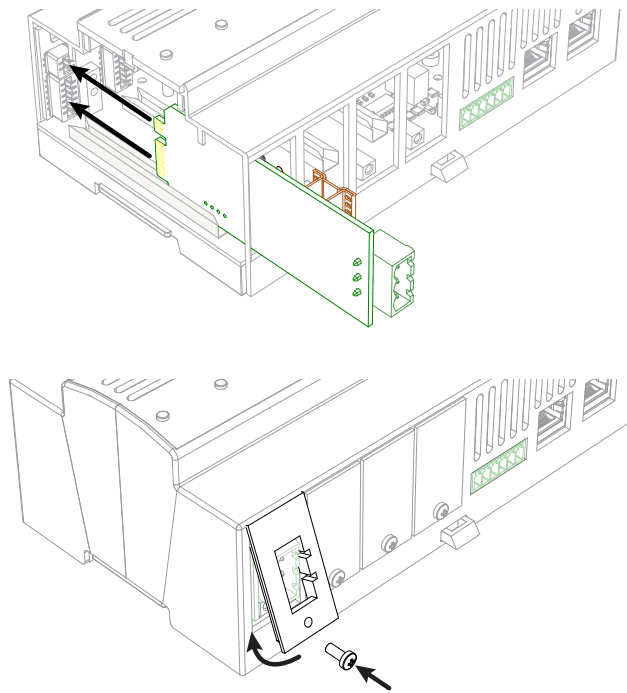
DALI connection cable length ≤ 300 m, depending on wire material, wire gauge and temperature. The total voltage drop on the line shall not exceed 2 V.

6.2 Insert Module

The modular slot card concept allows the freedom to compose your individual demands. The SYMPL FUSION Base Device can control four modules in any combination.

Insert a module into a slot and fix the module with a screw to the base device. For further information see the Information for Use of the SYMPL FUSION Base Device.





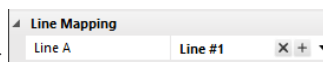
Do not insert or remove modules while the device is powered on.

7 Module Configuration

The module has properties that are configurable in Sympholight. The configurable properties of a SYMPL FUSION DALI-2 Module 1 Port are:

Line A:

Select the DALI line for the module's port.



Each SYMPL FUSION DALI module and each SYMPL FUSION 0/1-10V Module 4 Ports has its own DALI line in the SYMPL FUSION Base Device. Therefore, when a base device contains e.g. two DALI modules and two 0/1-10V modules which are set to DALI, then four DALI lines are created and used within one Fusion.

The modules are handled the same way as other devices in Sympholight and are listed in the Device Manager - Offline devices.

Starting point

Open the Sympholight software and your project file.

7.1 Optional: Unassigned modules in the project

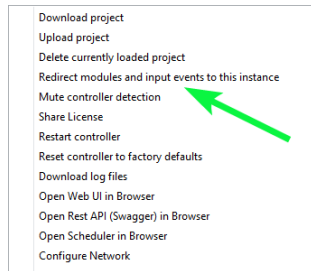
1. Place unassigned modules in the project according to your needs.



2. Configure the properties of the modules. See the individual instruction for each module type.
3. Set the slot number in which the corresponding module type is installed in the SYMPL FUSION Base Device. Leave it at 0 to prevent direct assignment when modules become available in the next chapter.

7.2 Making modules available for configuration

1. Open the context menu of the SYMPL FUSION Base Device.
2. Select “Redirect modules and input events to this instance”.

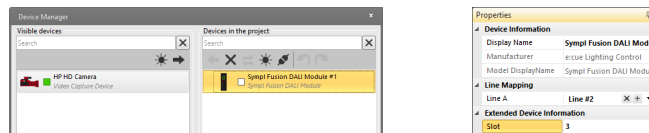


The status box of the SYMPL FUSION Base Device and the Status LED turn blue indicating the redirection.

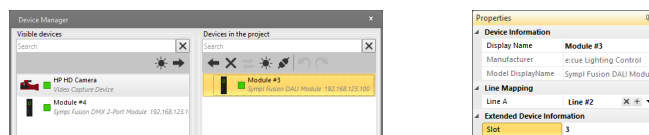
- The modules are now either directly assigned to the pre-arranged modules when the module types in the slot numbers matches.

Example: You have an unassigned place holder of type DALI module that is set to slot number 3. The real DALI module in slot 3 of the SYMPL Fusion is assigned to this place holder and takes over its properties .

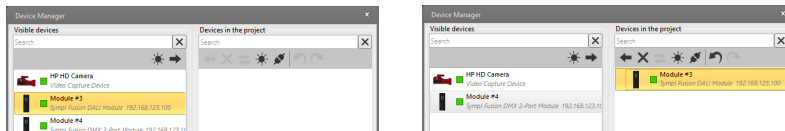
Place holder:



Place holder is automatically replaced by real module of the same slot. The real module applies the pre-configured properties of the place holder:



- Or the modules are available in the Device Manager - Online devices. Drag & drop them into the project and configure their properties now.

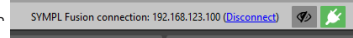


- Unassigned modules with slot number 0 can be assigned to a real module of matching type when you set the slot number to an yet unmatched module.

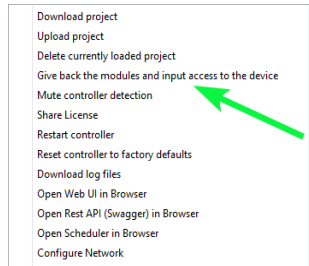


7.3 Return of control

To complete the modules configuration, return the control over them back to the SYMPL FUSION Base Device. To cancel the redirection, click “Disconnect” in the main menu bar



Alternatively, open again the context menu of the SYMPL FUSION Base Device and select “Give back the modules and input access to the device”.

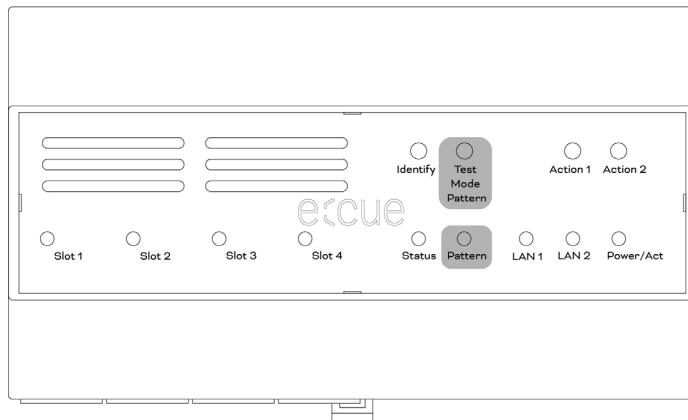


Upon uploading a project file to the SYMPL FUSION Base Device and clicking “Handover & Close”, the control over the modules also returns back to the SYMPL Fusion.

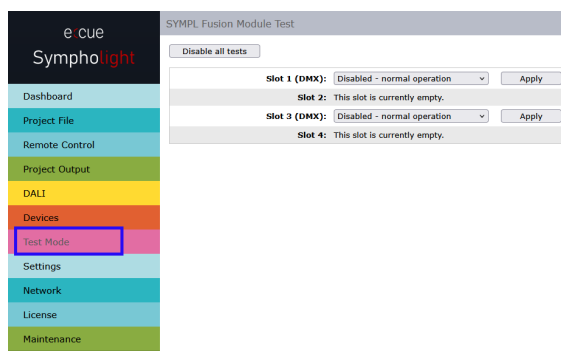
The status box of the SYMPL FUSION Base Device turns back to green indicating the full control of the device.

8 Test Mode

The following test patterns are available for the SYMPL FUSION DALI-2 Module 1 Port - both via Test Mode Pattern button



and via web interface of the SYMPL FUSION Base Device:



For further information see the Information for Use of the SYMPL FUSION Base Device

Test pattern	DALI output	Pattern LED
1	Full on	Blue static
2	Strobe	Violet static
3	Off	Off

9 Dismounting

For dismantling information see the Information for Use of the SYMPL FUSION Base Device.



Before dismounting, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

10 Certifications



DALI-2 Multi Master application controller
Complying to IEC 62386-101, 62386-103



Conforms to ANSI/UL Std. 62368-1
Certified to CSA Std. C22.2 NO. 62368-1

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