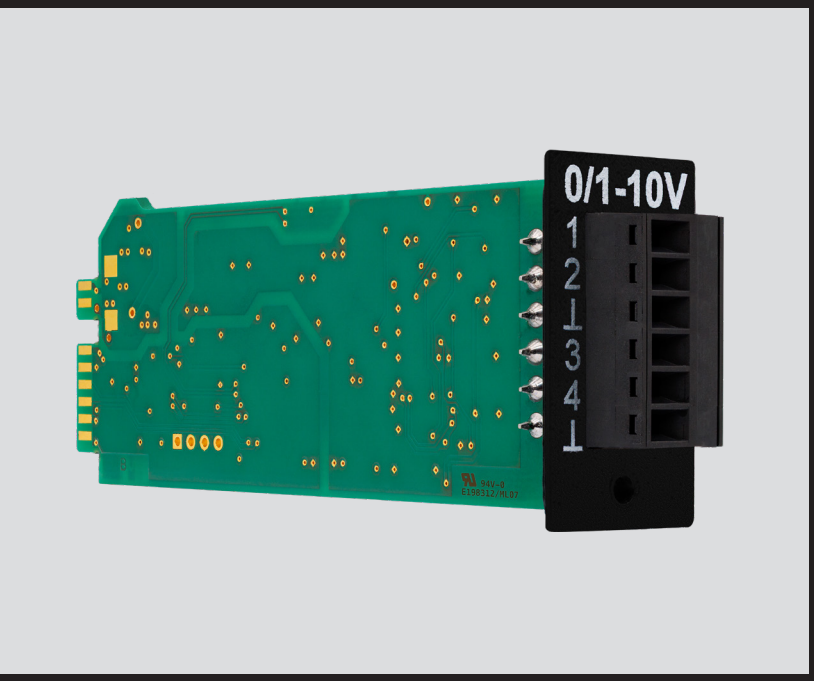
SYMPL FUSION 0/1-10V Module 4 Ports

Information for Use



SYMPL FUSION

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.
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Downloads and more information at:
www.ecue.com

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Table of Contents

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.
- The operation of this device may cause radio interference in residential areas.

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

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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 0/1-10V Module 4 Ports offers four 0/1-10V ports. Each port supports sinking or source mode, integrating 0/1-10V components into your system.

Selectable Control Logic for 0–10V
Use your 0–10V lighting either as DMX-style control (fast, real-time dynamics) or as a DALI-like ballast (stable, behaviour-driven operation) — or freely combine both approaches in one system

4 Independent Ports
Control multiple channels individually for maximum flexibility and scalability

Universal 0/1–10V Compatibility
Supports both standards for maximum flexibility

Auto Sink/Source Detection
Automatically adapts, simplifying installation

High Output Performance
Up to 60mA source / 80mA sink for reliable control

Advanced Customization
Configure dimming curves, gamma, and startup behaviour to match any requirement

All-in-One Flexibility
One module that adapts from dynamic control to functional lighting logic as needed

More information about the SYMPL Fusion system and the SYMPL FUSION Base Device:
https://eu.traxon-ecue.com/products/sympl-fusion/

2.1 Delivery content

Delivery content of the e:cue SYMPL FUSION 0/1-10V Module 4 Ports - Product number CL25100005335

1. SYMPL FUSION 0/1-10V Module 4 Ports
2. Welcome card
3. 0/1-10V connector, 6-pin (Molex 39500-0006)
4. 1 x Bezel
5. 1 x Screw.

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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

Batteries and technical appliances must not be disposed of with domestic waste, but should be handed in at the appropriate collection and disposal points.

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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Im Dörener Feld 8
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support@ecue.com

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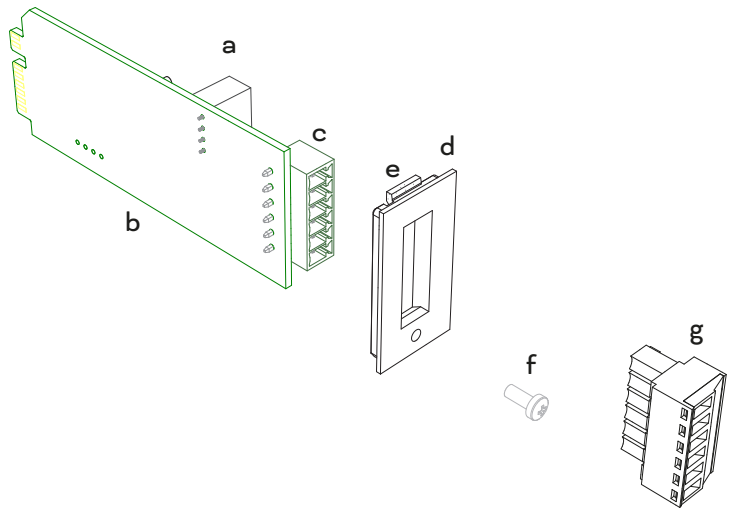
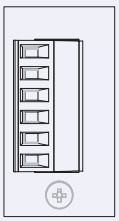
4 Interfaces

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	0/1-10V connector 	4 x 0/1-10V (Port 1, Port 2, GND, Port 3, Port 4, GND top to bottom) Further installation details: "6.1 0/1-10V connection" on page 6

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 0/1-10V Module 4 Ports:

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Slot LED	Status
Off	No output
Green	Module ready
Red, static	Error
Red, blinking	Test mode active

5 Product specifications

IC	CL25100005335
Weight	15 g / 0.03 lb
Power supply input	from SYMPL Fusion base device, isolated PSU
Operating temperature	-10 ... 50 °C / 14 ... 122 °F
Storage temperature	-20 ... 70 °C / -4 ... 158 °F
Op. / Stor. humidity	0 ... 80% RH, non-condensing
Certificates	CE, ETL pending

Interface specifications

Output interfaces	4 x 0/1 ... 10 V analog outputs for connection to resistive loads and lighting ballasts with 0-10V interface according to ANSI E1.3/C82.11 or IEC60929 6-pin terminal plug sink or source mode per output
Power sourcing	10V DC, max. 60mA source
Power sinking	max. 10V input voltage, max. 80mA sinking current
Overload protection	Per channel when sourcing, triggers at ~78mA, overload event switches off all outputs, auto retry
Output insulation	All outputs are galvanically isolated from Fusion base system. Basic insulation, 3.5kV
Output precision	10 bits

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Voltage Drop per Channel

Load current (mA)	Output voltage (V) (nominal 10 V)
0	9.99
3	9.98
5	9.98
10	9.97
20	9.96
30	9.95
40	9.93
50	9.92
55	9.89
60	9.79

content

6 Installation

The installation of the SYMPL FUSION 0/1-10V Module 4 Ports consists of installing the module into the SYMPL FUSION Base Device and connections to 0/1-10V fixtures.

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

6.1 0/1-10V connection

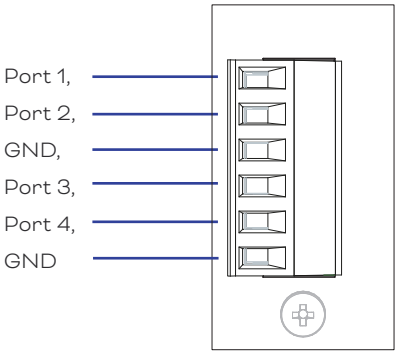
The SYMPL FUSION 0/1-10V Module 4 Ports offers a 6-pin screw terminal plug for the four outputs. It supports both sink and source mode.

⚠ Do not use sinking and sourcing devices on the same port.

Use a screw driver to open and close the terminal for attaching the wires. Connect the wires according to the pin assignment on the label.

The appropriate pin assignment is defined as follows:

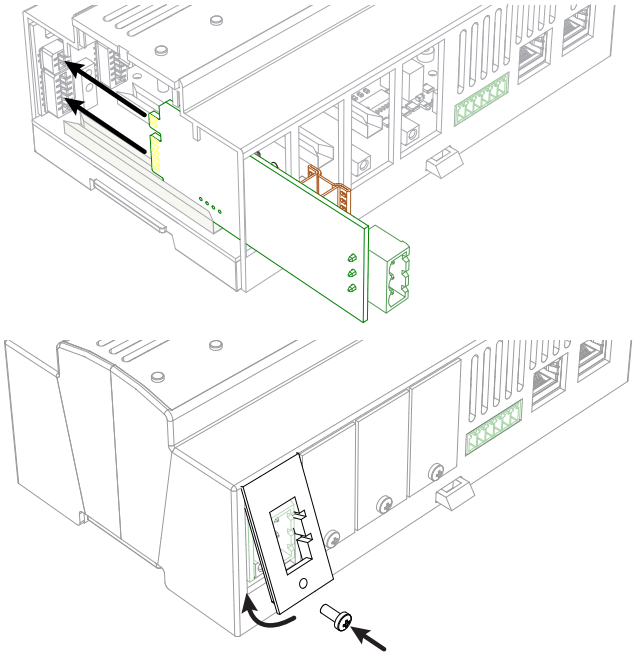
From top to bottom:



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.

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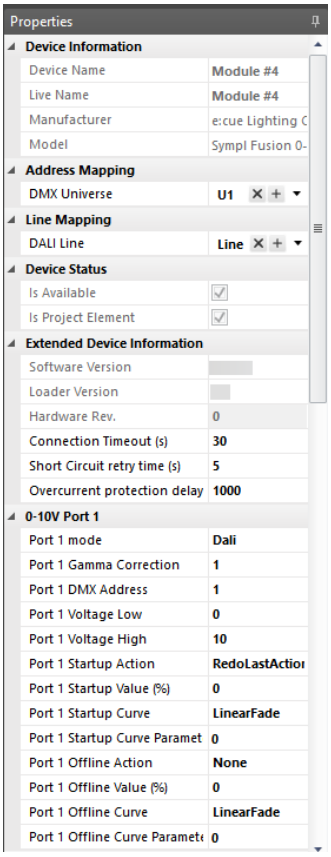
7 Module Configuration

The module has properties that are configurable in Sympholight.



Each port can be configured individually to DALI or DMX :

0-10V Port - mode:
Select the mode, i.e. the data source of this port. Set the mode for each port individually.

- | Port 1 mode | Dmx |

  When set to DMX, then the port is mapped to a DMX channel. It functions as a generic DMX intensity fixture.

- | Port 1 mode | Dali |

  When set to DALI, then the port acts as a DALI ballast. It functions as a regular DALI ballast (supporting dimming, scene control, etc.).

i If any port is set to DALI, actively scan the DALI line (= execute a line scan).

Default setting: DMX.

Set all properties as needed:

DMX Universe	Select the DMX universe for all module's ports whose mode are set to DMX.
DALI Line	Select the DALI line for all module's ports whose mode are set to DALI.
Connection Timeout	The timeout in seconds after which the module operates offline (related to all properties named "Offline").
Short Circuit retry time	The time in seconds after which the module retries operation after a short circuit is detected (see property „Overcurrent protection delay"). When set to zero (0), then a retry is not performed.
Overcurrent protection delay	The time in microseconds after which the module overcurrent protection triggers after a short circuit is detected.

content

Mode	The mode of the port, i.e. the data source of this port. Set the mode for each port individually. When set to DMX, then the port is mapped to a DMX channel. It functions as a generic DMX intensity fixture. When set to DALI, then the port acts as a DALI ballast. It functions as a regular DALI ballast (supporting dimming, scene control, etc.).
Gamma Correction	The gamma correction for the port, default = 1.
DMX Address	The DMX channel for this port, default = 1. Only considered in DMX mode (property “Mode” = DMX). Port 1 mode: Dmx
Voltage Low	The minimum output voltage for this port, default = 0.
Voltage High	The maximum output voltage for this port, default = 10.
Startup Action	The action of the port after startup, default = None. **None**: No action. **PredefinedAction**: Performs the startup as defined in the properties Startup Value, Startup Curve & Startup Curve Parameter. **RestoreLastState**: The value that was in place prior to the shutdown is executed. **RedoLastAction**: Recall of the last action of the specific Workflow block for the SYMPL FUSION 0/1-10V Module 4 Ports. - The block has not yet been implemented (Sympholight v5.5. SR1).
Startup Value	The output target value of the port after startup in percent, default = 0.
Startup Curve	The curved used for startup transitions of the port, default = LinearFade. LinearFade* DaliFade (logarithmic curve as defined in DALI standard)** SinusFade*** LinearRamp* DaliRamp (logarithmic curve as defined in DALI standard) ** SinusRamp***
Startup Curve Parameter	The additional parameter for the Startup Curve. For fade curves the time in ms to reach the Startup Value (= the speed); for ramp curves the slope in steps per second to reach the Startup Value (= the incline).

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Offline Action	The action of the port when going offline, default = None. **None**: No action. **HoldLastValue**: The value that was in place prior to going offline is executed. **PredefinedAction**: Performs the offline action as defined in the properties Offline Value, Offline Curve & Offline Curve Parameter.
Offline Value	The output value of the port when going offline in percent, default = 0.
Offline Curve	The curved used for transitions of the port when going offline, default = LinearFade. LinearFade* DaliFade (logarithmic curve as defined in DALI standard)** SinusFade*** LinearRamp* DaliRamp (logarithmic curve as defined in DALI standard) ** SinusRamp***
Offline Curve Parameter	The additional parameter for the curve when going offline. For fade curves the time in ms to reach the Offline Value (= the speed); for ramp curves the slope in steps per second to reach the Offline Value (= the incline).

* Linear curve: 

** DALI curve: 

*** Sinus curve: 

- 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 six DALI lines are created and used within one Fusion.

- The „DMX Address“ property is only considered in DMX mode. The other properties are mode-independent and always considered.

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.

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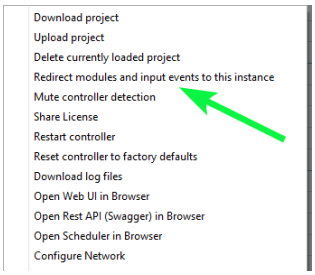
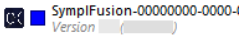
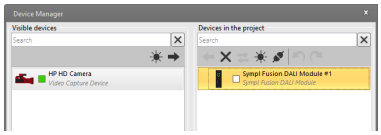
7.2 Making modules available for configuration

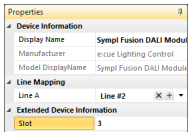
1. Open the context menu of the SYMPL FUSION Base Device.
2. Select “Redirect modules and input events to this instance”.



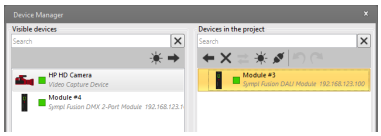
The status box of the SYMPL FUSION Base Device and the Status LED turn blue indicating the redirection. 

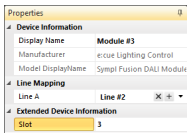
- The modules are now either directly assigned to the pre-arranged modules when the module types in the slot numbers matches.
  Example: You have an unassigned place holder of type DALI module that is set to slot number 3. The real DALI module in slot 3 of the SYMPL Fusion is assigned to this place holder and takes over its properties.
  Place holder:



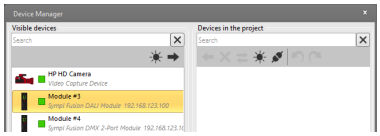


  Place holder is automatically replaced by real module of the same slot. The real module applies the pre-configured properties of the place holder:





- 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.

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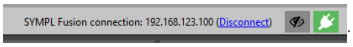
7.3 Return of control

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 

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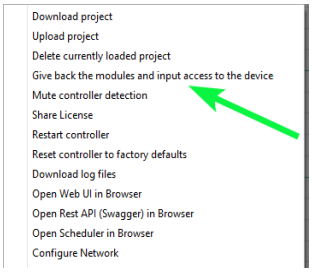
Alternatively, open again the context menu of the SYMPL FUSION Base Device and select “Give back the modules and input access to the device”.

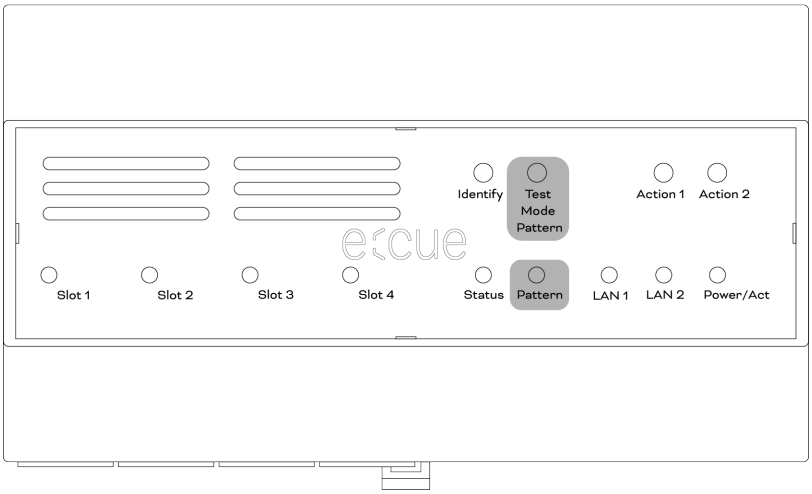


Upon uploading a project file to the SYMPL FUSION Base Device and clicking “Handover & Close”, the control over the modules also returns back to the SYMPL Fusion.
The status box of the SYMPL FUSION Base Device turns back to green indicating the full control of the device.

8 Test Mode

The SYMPL FUSION Base Device provides a Test mode for connected fixtures. There are two kinds: using the Test button and using the web interface of the SYMPL FUSION Base Device.
Please note that the Test mode overwrites all other output like running project content for the time of testing. A running show is reverted to after exiting the Test mode.

8.1 Test mode via Test buttons



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You can directly test fixtures connected to installed modules via the “Test Mode Pattern” button and the “Act / Test Slot” buttons on the device.

- Long press the “Test Mode Pattern” button: Test mode on/off. The Pattern LED blinks in blue when the Test mode is activated.
- Press the “Act / Test Slot” buttons: Select the slot you want to test. The LED of the currently selected slot blinks in red.
- Short press the “Test Mode Pattern” button: Switch between test patterns for the selected slot. The available test patterns depend on the installed module type.

When you do not deactivate the test mode for each module explicitly by switching the test pattern to “Off“, the test remains active on the module, even when the slot is deselected. This makes it possible to create a test mode across all modules with different content on each module.

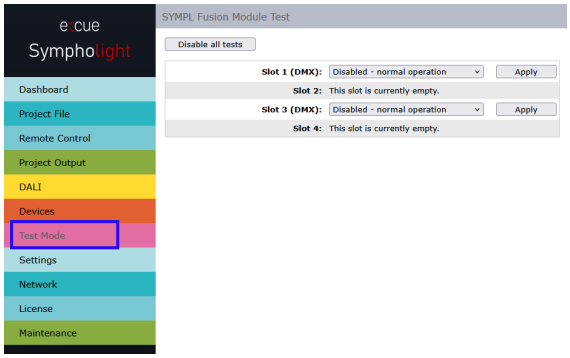
The Test mode can be turned off using different methods: :

- Press and hold the Pattern button. This also works for tests started from the web interface.
- On the web interface, disable all tests button. This also works for tests started with the buttons.
- Restart the device.

8.2 Test mode via web interface

The web interface of the SYMPL FUSION Base Device provides four different test patterns.
To access the web interface, open a web browser on a connected PC. Enter the SYMPL FUSION Base Device’s IP address into the address bar:
e.g. http://192.168.123.100.

Open the Test mode page by selecting “TestMode” on the left side of the web interface of the SYMPL FUSION Base Device:



Each module is tested individually:

- Select the test pattern. The available test pattern depends on the module type.
- Start and stop the test.

Click “Disable all tests” to stop all running tests and return to normal operation. Tests started using the buttons before show up in the web interface. You can change the patterns and disable the tests there as well.

content

In case a Test mode is running and a Desktop Sympholight connects to the SYMPL FUSION Base Device, the Test mode remains active.

8.3 Test Patterns

The following test patterns are available for the SYMPL FUSION 0/1-10V Module 4 Ports - both via Test Mode Pattern button (and Pattern button) and via web interface of the SYMPL FUSION Base Device.

Test pattern	Output	Pattern LED
1	Full on	Blue static
2	Strobe	Violet static
3	Off	Off
Web interface only	Fade up/down	

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

10 Certifications

Conforms to ANSI/UL Std. 62368-1
Certified to CSA Std. C22.2 NO. 62368-1
Intertek
4000805