

SYMPL dmx Node

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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1 Safety instructions

Please read 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 instructions



- Connect cables and data only when the device is powered down.
- When using a power supply unit, the device must be supplied by a separate power supply that is certified according to the local regulations (e.g. SELV, Class 2).



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

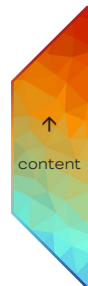
2 General device description

e:cue SYMPL Nodes are a system of interfaces for e:cue SYMPHOLIGHT only. They provide various connection types like DMX512, DALI, digital inputs and outputs etc. SYMPL Nodes always operate in online mode, as a device interface for SYMPHOLIGHT. All interactions are initiated and controlled by SYMPHOLIGHT. Connections between servers, Cores and Nodes are always made with e:net via Ethernet.

The SYMPL dmx Node is a two-channel DMX and RDM interface for use with e:cue's lighting control solution SYMPHOLIGHT. It provides two independent DMX/RDM interfaces for two DMX512 universes. The SYMPL dmx Node can be powered by an external power supply or via Power-over-Ethernet. It is easily mounted on standard 35 mm DIN rails, or with a key hole in the housing base on walls or on any stable vertical surface. The SYMPL dmx Node is a simple, reliable and easy to use interface solution for e:cue lighting control solutions with SYMPHOLIGHT.



- To operate SYMPL Nodes a SYMPHOLIGHT version 2.0 or higher or a Lighting Application Suite version 7.0 SR2 or higher is mandatory.
- Connections to the SYMPL dmx Node are not hot-pluggable.



2.1 Delivery content

Delivery content for the e:cue SYMPL dmx Node (AB444180035):

- 1. e:cue SYMPL dmx Node
- 2. Safety instructions
- 3. Welcome note

2.2 Product specifications

Dimensions (W x H x D)	53.5 x 90.5 x 62 mm/ 2.1 x 3.6 x 2.4 in (excl. fastening clip)
Weight	100 g
Power supply	24 V DC (terminal plug) wire gauge: 0.21 ... 3.31 sqmm; or PoE IEEE 802.3af on RJ45
Power consumption	2 W (incl. DMX termination)
Operating temperature	-20 ... 50 °C / -4 ... 122 °F
Storage temperature	-20 ... 70 °C / -4 ... 158 °F
Electrical safety	SELV
Op./storage humidity	0 ... 80% non-condensing
Protection Class	IP20
Housing material	Self extinguishing blend PC/ABS UL document E140692
Mounting	on 35 mm DIN rail (EN 60715), 3 units or with key hole on any stable vertical surface
Certification	CE, ETL, UKCA

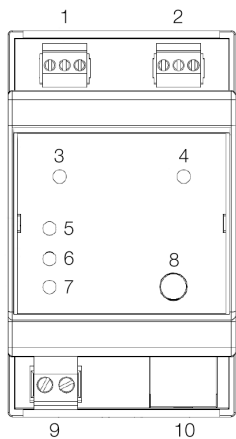
Interface specifications

Interfaces	2 x DMX512/RDM, individually isolated (1 kV) 3-pin terminal plug wire gauge: 0.08 ... 1.31 sqmm
Interface specifications	$V_{DMXmax}/V_{DMXmin} = 4.8\text{ V}/0.8\text{ V}$ Short circuit protected: $I_{SCmax} = 62\text{ mA}$
Ethernet-Port	1 x e:net 10/100 Mbit/s, RJ-45
User interface	LEDs for error, Ethernet activity, device status, DMX/RDM status Identify button



2.3 Connectors and interfaces

View from top:



- | | | |
|----|--|--|
| 1 | DMX output 1
(GND, DMX-, DMX+
left to right) | „4.4 DMX connection“
on page 10 |
| 2 | DMX output 2
(GND, DMX-, DMX+
left to right) | |
| 3 | DMX/RDM 1 status
LED | „2.4 User interface:
LEDs“ on page 05 |
| 4 | DMX/RDM 2 status
LED | |
| 5 | Test / Error LED | |
| 6 | e:net LED (Ethernet,
LAN activity) | |
| 7 | Status LED (Device
status) | |
| 8 | Identify button | „2.5 Identify button:
Identification & Reset &
Testing“ on page 06 |
| 9 | Power supply
(Vcc+, Vcc- left to
right) | „4.5 Power supply“ on
page 10 |
| 10 | e:net / Ethernet | „4.3 Ethernet
connection“ on page
09 |

2.4 User interface: LEDs

The SYMPL dmx Node has five LEDs on the front panel. The five LEDs show the basic states of the SYMPL dmx Node.

LEDs

Status	On: If constantly on, the device is online. Server application is in operation. Blinking: If blinking in one second intervals, the device is offline, no connection to a SYMPHOLIGHT server or Core is available. If blinking more rapidly, the device is in bootloader mode.
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e:net	Off: no link available. On: link established. Blinking: e:net traffic.
Test / Error	Off: no error detected. Short-short-long sequence: Test mode active. On: If constantly lights in red, an error occurred. This can be an internal error or malfunction of the device, or an external error, e.g. a shortcut of interface connections or alien power supply. Switch the device off and on. If the error persists, check the wiring or contact Traxon e:cue Service.
Status + Test / Error	The Status and Test / Error LED blink simultaneously to identify the SYMPL Node (enabled "Identify Interface Mode" in SYMPHOLIGHT).
DMX/RDM 1 and 2	Orange: DMX/RDM data outgoing. Blue: data incoming. Orange + White: port error.

2.5 Identify button: Identification & Reset & Testing

The Identify button has four functions: to send an Identify message (A), to reset the Node (B), to test the installation (C), and to exit the error state (D)

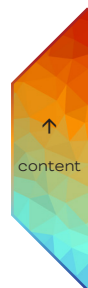
(A) A short press during operation in online mode sends an Identify message to the server. This allows the Node of the installation to be associated with the indicated Node in SYMPHOLIGHT.

(B) The Identify button can also be used to reset the device to factory state or to stay in bootloader mode. With a reset you restore the password and other properties by using the Identify button. Please note that the device name and the offline content are not reset:

- Keep the Identify button pressed while powering up, Status and Test / Error LEDs light up at first. Bootloader mode is signaled by a fast blinking Status LED. Release the button now. The device stays in bootloader mode to download a new firmware.
To exit the bootloader mode, short press the Identify button again.
- Press the Identify button until Status and Test / Error LEDs blink alternating, then blink together. Releasing the button now resets the device to its factory settings. The password and other settings are reset to their default values. Please note that the Offline Content cannot be reset. To employ a reset Startup behavior, a restart of the device is required.
- Keeping the button pressed further on, the device proceeds to normal operation. No changes apply.

(C) Use the Identify button also to test the connected fixtures to ensure their correct installation.

- Access the Test mode of the SYMPL Node by double-pressing the Identify button during operation. The Test / Error LED signals the Test mode by blinking



short-short-long repeatedly. The Test mode starts at the first DMX port with blinking lights of all channels (test pattern 1).

- Single-press the Identify button to switch between the following Test patterns:
 - Chasing lights at intervals of 96 channels (pattern 2).
 - All channels at 100% (pattern 3).
 - All channels off (pattern 4).
 - Alternate between the individual DMX ports and the four test patterns. After the individual test of the last DMX/RDM port, all DMX/RDM ports are tested simultaneously. Another short-press starts the test patterns from the beginning.
- Exit the Test mode any time by double-pressing the Identify button again. The device proceeds to normal operation. The DMX/RDM LEDs no longer flicker and the Test / Error LED is off.

(D) Short press the Identify button if an error occurs and you want to exit the error mode. The device will switch back to normal activity if the cause of error is eliminated. The Node might reboot.

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 e:cue SYMPL dmx Node 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“ on page 04. 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

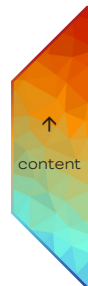
Depending on the product, warranty regulations are of different duration. The warranty time is usually noted in the quote and in the order confirmation. See www.traxon-ecue.com/terms-and-conditions for details. Legal warranty regulations apply in any case.

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 „8 Firmware Update“ on page 15.

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:

Traxon Technologies Europe GmbH
Customer Service
Karl-Schurz-Str. 38
33100 Paderborn, Germany
+49 (5251) 54648-0
support@ecue.com

3.7 Cybersecurity



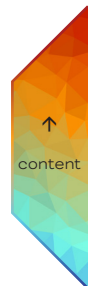
Cybersecurity disclaimer

In order to protect building automation systems, plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Traxon's product portfolio including this product you are about to install only forms one element of such a concept. Keep into account that Traxon's products including the product you are about to install contain the ability of third parties to connect to the device via USB, wired and wireless network interfaces.

You are responsible for preventing unauthorized access to your building automation system, plants, systems, machines and networks which should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. Additionally, Traxon's guidance on appropriate security measures should be taken into account.

Traxon's portfolio undergoes continuous development to make it more secure.

Traxon strongly recommends that updates are applied as soon as they are available and that the latest versions are used. Use of versions that are no longer supported, and failure to apply the latest updates may increase your exposure to cyber threats. Traxon strongly recommends to comply with security advisories on the latest security threats, patches and other related measures.



4 Installation



Connect cables and data only when the device is powered down.

The installation of the SYMPL dmx Node consists of mounting the device, connections to DMX devices, to e:net, and to power supply.

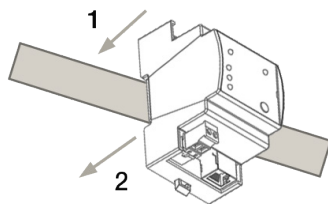
The sequence of cabling is not defined. Supply the SYMPL dmx Node with power after all cabling is completed; it starts booting.

4.1 Installation conditions

Installation position	Terminals on top and bottom
Horizontal spacing	No spacing necessary
Minimum vertical rail grid spacing	115 mm (90 + 25 mm) (excluding conduit)
Recommended vertical rail grid spacing	160 mm (with 40 mm conduit)
Installation location	Indoor

4.2 Mounting process

The e:cue SYMPL dmx Node is designed to mount onto a 35 mm DIN rail (EN 60715) in a vertical position.



1. Clip the device to the rail from top.
2. Gentle pressure is then applied to the top front to snap it in place. The SYMPL dmx Node has been mounted successfully.

You can also mount the e:cue SYMPL dmx Node on any flat vertical surface. Use 3 to 3.5 mm screws for the hanger hole.



For mechanical stability, mounting on a rail is recommended.

4.3 Ethernet connection



- Never connect more than one SYMPL Node in factory state to a network. The identical IP addresses will conflict and disturb proper communication.
- The Ethernet port of the SYMPL Node is not designed for inter-building connections with power and lighting transients. Use only intra-building networks to connect the SYMPL Nodes and Cores.

The pin-assignment of the Ethernet port corresponds to RJ45 standards. You can use every common Ethernet component, like cable. Connect the SYMPL dmx Node at the designated Ethernet interface with a patch cable (RJ45, CAT5).



It is recommended to use a max. cable length of 80 m and CAT5E cables with shielding (at least F/UTP, better S/FTP).

4.4 DMX connection

The SYMPL dmx Node can control two DMX512 universes with its two DMX ports. Connect DMX devices to the SYMPL Node using 3-pin terminal plugs at the DMX interface of the SYMPL Node.

The appropriate pin assignment is defined as follows:
From left to right: GND, DMX-, DMX+



It is recommended to use twisted pair cabling, for cable runs over 150 m (a max. cable length of 300 m is recommended) to use a booster and to terminate the cable end with an 120 Ohm resistor.

4.5 Power supply

The e:cue SYMPL dmx Node can be powered via Power-over-Ethernet (PoE) or by an external power supply (PSU).

PoE:

Connect an Ethernet connection from a power sourcing device.

External power supply:

Connect the SYMPL dmx Node to a 24 V DC power supply unit that complies with the local regulations. Present power supply equates to the status “On” or running of the SYMPL dmx Node.

To connect the device to a power supply unit, use the provided 2-pole terminal and lay the wires as stated on the front label. The voltage assignment is left V+ and right V-.

Turn the power on when all cables are connected to the SYMPL dmx Node. The device starts operating. The device is in operation when the LED Status is flashing.



The SYMPL dmx Node is not suited for powering over a DC power supply network. The device must be supplied by a separate power supply that is certified according to the local regulations (e.g. SELV, Class 2).



5 Network configuration

The configuration of the e:cue SYMPL dmx Node is completely done via e:cue SYMPHOLIGHT. See the SYMPHOLIGHT System Manual for details on configuration, available at www.ecue.com.

The network properties of the device are preconfigured. The successful installation of the power supply is required for changing the network configuration. You can either adjust the network settings with SYMPHOLIGHT or using the web interface of the device. Via the web interface extended DMX/RDM settings are configurable.

5.1 Default network properties

The SYMPL dmx Node has as factory setting the default IP address 192.168.123.1.
Subnet mask: 255.255.255.0.
DHCP is enabled by default.

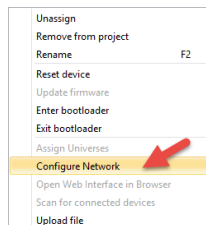
Login credentials for the web interface of the SYMPL dmx Node:

The default password is: **ecue**

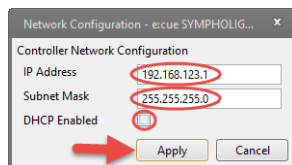
To change the network configuration use either SYMPHOLIGHT or the web interface of the SYMPL dmx Node:

5.2 Network configuration with SYMPHOLIGHT

1. Open the context menu of the SYMPL dmx Node in the Setup tab of SYMPHOLIGHT by a right-click on the device.
2. Select "Configure Network":



3. Define the IP address, the subnet mask and the DHCP settings to your needs:



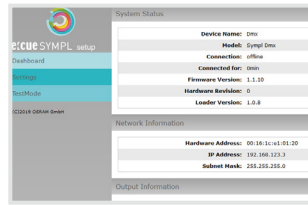
4. Click "Apply" to submit the changes.

The network configuration of the SYMPL dmx Node is completed.

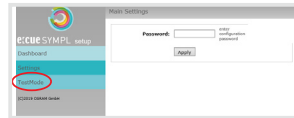
5.3 Network configuration with the web interface

1. Open a common web browser on a connected PC. Enter the SYMPL dmx Node's IP address into the address bar:
e.g. <http://192.168.123.1>

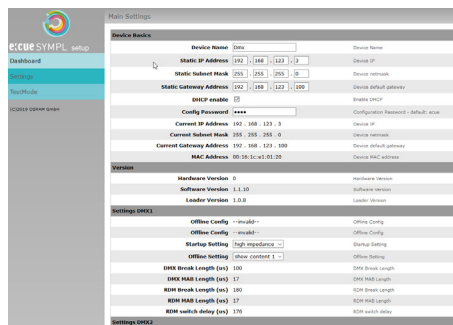
The web interface of the SYMPL dmx Node is displayed:



- On the left side, select “Settings” and enter the default password **ecue**:



- Click “Apply”. The Settings page is displayed:



- Define the network settings at “Device Basics” to your needs. You can also change the password for entry to the web interfaces of the SYMPL dmx Node here.
- Click “Submit” to apply the settings.

The network configuration of the SYMPL dmx Node is completed.



- The employment of a discrete network is recommended.
- Note down all employed and, if applicable, reserved IP addresses. Keep the information for future network configurations.
- You can change the login password to the SYMPL dmx Node's configuration page and the device name of the SYMPL dmx Node at “Settings” page. Do not forget the new password.

6 Extended DMX/RDM settings

DMX/RDM settings are configured via SYMPHOLIGHT at the properties of the SYMPL dmx Node in the Setup Tab. Is the Node not connected to SYMPHOLIGHT, extended DMX/RDM settings take effect.

Over the web interface of the SYMPL dmx Node you can define the extended DMX/RDM properties for:

- the period of powering up until a show takes over (Startup Setting)
- the time of no e:net connection (Offline Setting) - after prior connection to a show
- DMX and RDM Break time and Mark
- DMX to RDM wait Switch time (RDM Packet Space).

These properties are only configurable when the device is not assigned to a show. SYMPHOLIGHT must have had control once over the Node for the settings to take effect.

To access the web interface, open a common web browser on a connected PC. Enter the device's IP address into the address bar:

e.g. <http://192.168.123.1>.

At Startup Setting and Offline Setting, the setting “send MARK” sends a MARK (a logical one) on the bus: no data are sent to the fixtures and the DMX port awaits further commands. With the setting “High Impedance”, the same behavior without sending a MARK is configured. It is recommended to use “High Impedance” for backup systems only.

Running Startup Setting is indicated by flashing DMX/RDM status LEDs.

Please note that when you select an content image (snapshot) at these settings, the framerate of the displayed image is reduced to 20 FPS.

7 Test mode

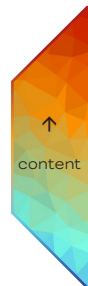
- SYMPHOLIGHT v5.0 or higher needed-

The SYMPL dmx Node provides a Test mode for the connected DMX devices. The Test mode is designed for DMX luminaires. There are two kinds: using the Identify button and using the web interface of the SYMPL dmx Node.

Please note that the Test mode overwrites all other DMX output like running shows, Startup Setting's or Offline Setting's output for the time of testing. A running show, the Startup and the Offline output respectively are reverted to after exiting the Test mode. The Test mode is indicated by flickering DMX/RDM LED(s) and the blinking Test / Error LED.

7.1 Test mode via Identify button

See section (C) on [page 06](#) at “2.5 Identify button: Identification & Reset & Testing”.



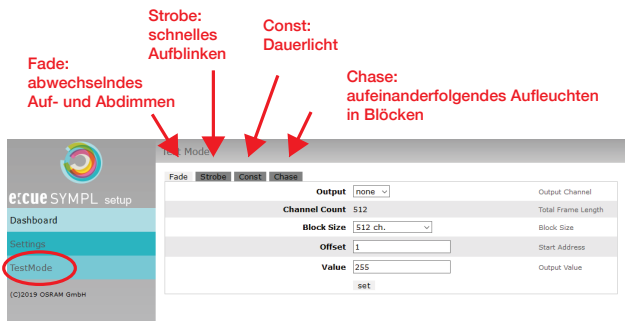
7.2 Test mode via Web interface

The web interface of the SYMPL dmx Node provides four different test patterns and allows to change their properties.

To access the web interface, open a common web browser on a connected PC. Enter the SYMPL dmx Node’s IP address into the address bar:

e.g. http://192.168.123.1.

Open the Test mode page by selecting “TestMode” on the left side of the web interface of the SYMPL dmx Node:



Click a button to choose a test pattern. Define the properties:

Property	Description
Output	DMX ports to run the test on.
Channel Count	Total frame length (0 - 1024).
Block Size	Block size in which to step through the frame length in channel count.
Offset	Start address of the first test loop (first channel = 1).
Value	Luminance of the test output (0 - 255).
Step Time	Delay between steps. Manual: Press the Test button to move the block. Define the first channel at “Start Address”.

Click “set” to run the test and to apply changes in the test settings.

Exit the Test mode by leaving the Test mode page, e.g. go to “Dashboard”, or by double-pressing the Identify button.

8 Firmware Update

To update the SYMPL dmx Node, a connection of the SYMPL dmx Node to SYMPHOLIGHT is required.

Updating with SYMPHOLIGHT

Use the usual update options in the Device Tree of the Setup tab in SYMPHOLIGHT: select “Update firmware” in the context menu of the SYMPL dmx Node or click the Update button  in the head toolbar.

9 Dismounting



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

Disconnect all attached cables. Dismount the e:cue SYMPL dmx Node from the rail by pulling the black DIN rail handle and unhitching the SYMPL dmx Node. The dismounting is completed.

10 Certifications

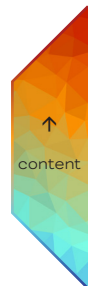
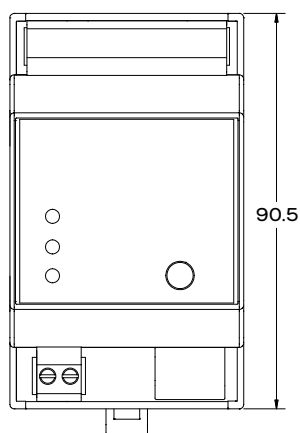
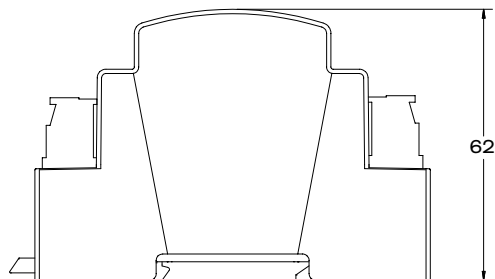
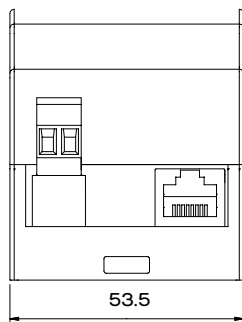


Conforms to UL Std. 62368-1
Certified to CSA Std. C22.2 NO. 62368-1



11 Dimensions

All dimensions in mm



ecue

Please check for the latest updates and changes on the Traxon website.

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