# SYMPL pixel Node

**e:cue Interfaces**

Lighting applications are heterogenous by nature. e:cue interfaces serve to integrate many networks, protocols and third party products into e:cue solutions. They also aid in applying special control functions for fixtures, they integrate analog or mechanical signaling into the digital world and offer bridging functions. e:cue interfaces are the links to bring together the many techniques and technologies of lighting control.

## e:cue SYMPL pixel Node

The SYMPL pixel Node is a LED pixel controller, converting e:net to control a wide range of supported serial addressable LED pixels like digital LED strips, dots and boards with multi controllable pixels. Control a wide range of supported asynchronous and synchronous like SPI LED pixels and configure content with e:cue's SYMPHOLIGHT. It comes with 2 x Pixel outputs over screw terminal plugs. Choose the output protocol separately for each of the two outputs. The SYMPL pixel Node makes it possible to run up to 2 x 2048 channels (=4096 in total, = 1364 RGB pixels). Connection to SYMPHOLIGHT runs via Ethernet interface with 100 Mbit/s. The Node is powered by an external power supply, Power-over-Ethernet, or via pass back power from the connected fixture. It is easily mounted on standard DIN rails, or with a key hole in the housing base on walls or on any stable vertical surface. Cover distances of up to 300 m* between the Node and the fixture with the optional Pixel Range Extender.

## Highlights

- e:net to serial addressable LED pixel interface, with 2 x Pixel outputs
- Controls up to 2048 pixel channels per output (= 682 RGB pixels)
- Supports 512 DMX channels per output (= 170 RGB pixels)
- 3 ways of power supply: external, PoE, pass back power from the fixture
- Flexible mounting on 35 mm DIN rails
- Simple and easy integration in e:cue SYMPHOLIGHT
- Web interface for status and configuration

## Delivery scope

| | Identcode |
|---|---|
| • e:cue SYMPL pixel Node | AM390290035 |
| • Welcome note, safety instructions | |

## Optional accessories

| | |
|---|---|
| • Power Supply 15W 24V DIN rail | AM1884100HA |
| • 2 x Pixel Range Extender | AM394020035 |
| • SYMPL Switch | AM313830035 |

## Product specifications

| | |
|---|---|
| Dimensions (W x H x D) | 53.5 x 90.5 x 62 mm (excl. fastening clip) |
| Weight | 100 g |
| Power supply input | 5 ... 24 V DC pass back power from Pixel Port 1 (e.g. from Pixel Strip)<br>or 5 ... 24 V DC terminal plug cross cable section: 0.2 - 3.3 sqmm<br>or PoE IEEE 802.3af on RJ45 |
| Power consumption | 2 W |
| Operating temperature | -20 ... 50 °C / -4 ... 122 °F |
| Storage temperature | -20 ... 70 °C / -4 ... 158 °F |
| Operating / storage humidity | 0 ... 80% RH, non-condensing |
| Protection class | IP20 |
| Installation | Indoor installation only, intra building connections only |
| Electrical safety class | SELV |
| Housing | Self extinguishing blend PC/ABS, UL E140692 |
| Mounting | on 35 mm DIN rail (EN 60715), or with key hole on any stable vertical surface |
| Certificates | CE, ETL, RoHS, FCC, UKCA |

### Interface specifications

| | |
|---|---|
| Output connectors | 2 x serial addressable LED pixel output (4-pin terminal plug)<br>cross cable section: 0.2 - 3.3 sqmm |
| Output channels | Up to 2048 pixel channels per output (= 682 RGB pixels)<br>or up to 512 DMX channels per output (= 170 RGB pixels) |

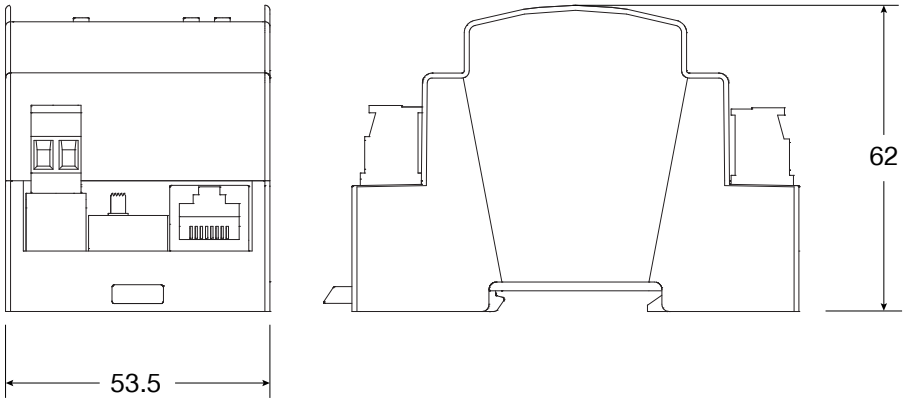
| | |
|---|---|
| Output wiring | Cable length between controller and fixture up to 3 m (with Pixel Range Extender up to 300 m* ) |
| Ethernet-Port | 1 x ethernet 10/100 Mbit/s, RJ45 for e:net, PoE |
| User interfaces | LEDs for Ethernet activity, device status, output activity; Identify button; web interface |

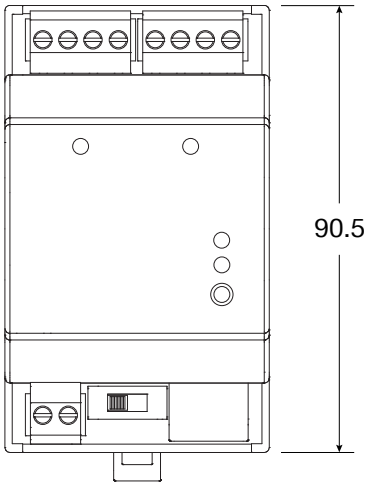
*) depending on installation setup, cable quality, and fixture type.

Conforms to ANSI/UL Std. 62368-1
Certified to CSA Std. C22.2 NO. 62368-1
Intertek 4006376

## Dimensions

All measures in mm




## Supported protocols

**Communication protocols (input):**

- e:net

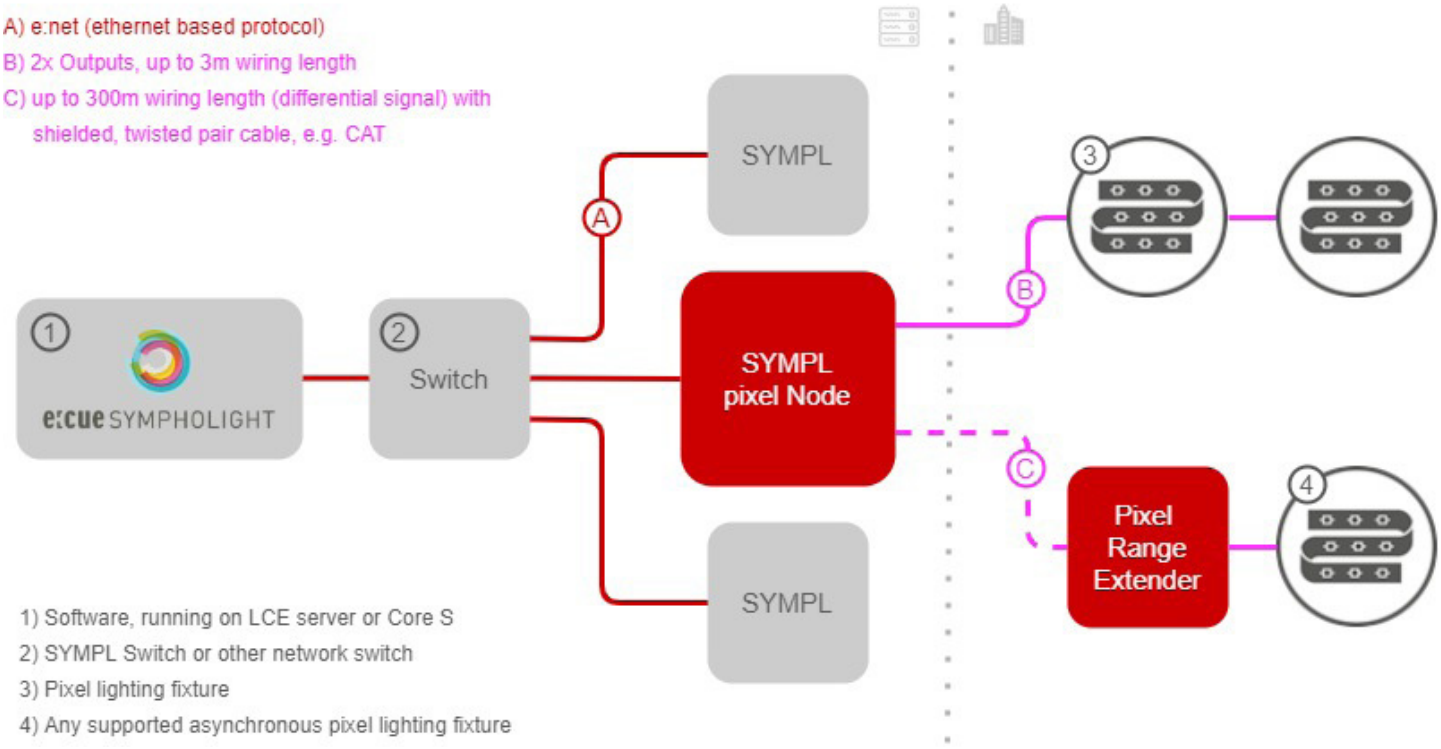
**LED pixel protocols (output):**

- TM1804_800
- TM1812
- APA104
- UCS2903
- UCS2904
- UCS8904A_16 bit
- UCS8903
- WS2811_800
- WS2812+b
- WS2813
- APA102+C
- WS2801
- DMX512

See www.ecue.com for all supplemented protocols.

## System diagram

A) e:net (ethernet based protocol)
B) 2x Outputs, up to 3m wiring length
C) up to 300m wiring length (differential signal) with shielded, twisted pair cable, e.g. CAT

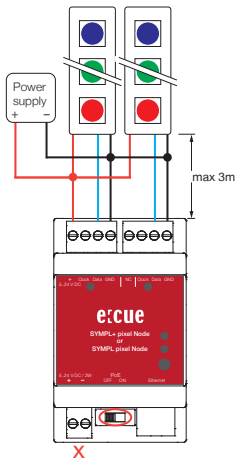



1) Software, running on LCE server or Core S
2) SYMPL Switch or other network switch
3) Pixel lighting fixture
4) Any supported asynchronous pixel lighting fixture

## Wiring diagrams


PSU between Node and fixture, parallel connection - recommended wiring

left: One PSU supplies both fixtures and the Node via port 1 with power (+ pin, 5 .. 24 V DC). Have PoE switched OFF.




right: Each fixture has a separate PSU. The PSU for the fixture on port 1 also supplies the Node with power (+ pin, 5 .. 24 V DC). Have PoE switched OFF.