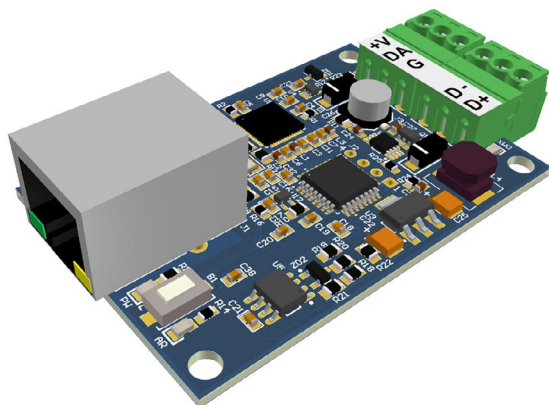
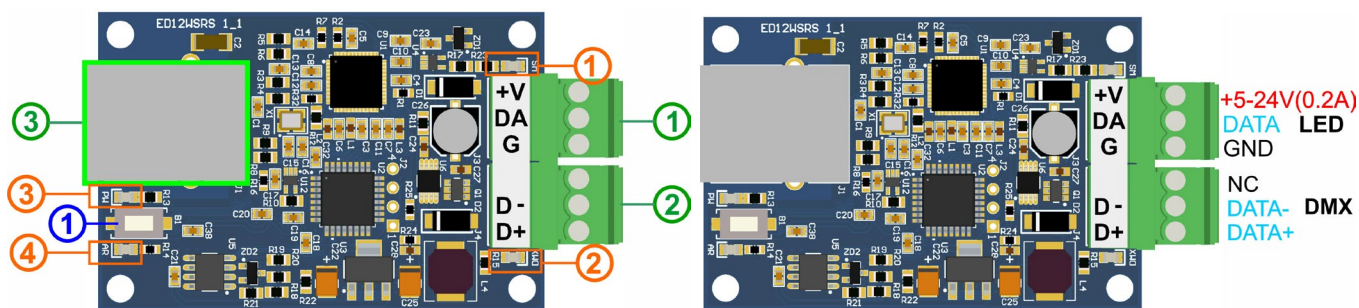


User manual 26.12.24



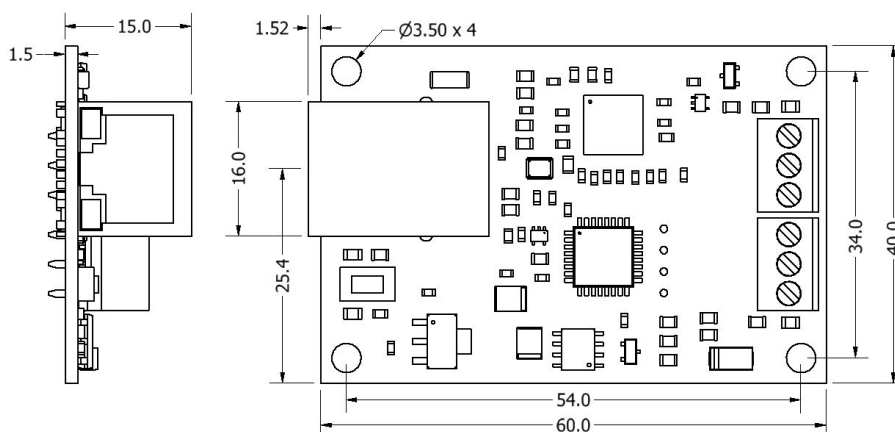
- **5V-24V DC power**
- **LED port** output data for up to 9520 leds in repeat mode. Output up to 8 universe, 1360 LED's FPS 25Hz in normal mode. Supported chips: WS281X, TM1814, SK6812, SM16703..... RGB and RGBW.
- **DMX512 output/input port** for use with standard DMX devices or DMX LED chips. Output: 40, 33, 25, 10, 1 Hz or «By input». Input mode to ART-NET or to sACN network.
- Firmware updates can be performed via the network.

CONNECTION



Ref.	Connector	Led	Button
1	LED port. LED's data + power	Data sent to LED chip	Switch to bootloader with default network parameters. Press and turn on power.
2	DMX512 output/input port	DMX data sent to port or received from port	
3	RJ45 network	Firmware update, power, blink on the packet loss	
4		Data received from network	

DIMENSIONS(mm)



Configuration

Default network

IP: 192.168.1.210
MASK: 255.255.255.0
Gateway IP: 192.168.1.1

Net control page

The controller is configured using a built-in web page accessible via the controller's IP address. The default IP browser string is: «http://192.168.1.210». Rebooting the controller is necessary if parameters are changed on the «Net Control» page.

Net control Port control Groups Test

ShortName: AN NODE

LongName: AN NODE 1

Source IP 192.168.1.212

Gateway IP 192.168.1.1

Subnet Mask 255.255.255.0

MAC Address 42:45:00:00:00:01

Protocol ART-NET

Password On: ☐

Boot startup ☐

Save configuration

Firmware update

Firmware update is done via the built-in web bootloader. There are two ways to start in bootloader:

1: Check the «Boot startup» checkbox on the «Net Control» page. After saving the configuration and rebooting, the bootloader will start with the current network configuration.

2: Turn off the controller's power -> Press and hold the button -> Turn on the controller's power. The bootloader will start with the default network configuration.

Boot ED 5.1

Network configuration

Source IP 192.168.1.212

Gateway IP 192.168.1.1

Subnet Mask 255.255.255.0

MAC Address 42:45:00:00:00:01

Boot startup ☒

Save settings Load default settings

Update firmware. Current firmware version: 5.20

Choose File No file chosen Upload

Reboot

On the boot loader page, you can modify the network configuration, reset all settings to default, and update the firmware to the required version. However, in the boot loader, you can only alter the network configuration.

Write operations are indicated by colors to denote success or failure. A green field indicates success, while a red field indicates an error or the need to reset to default settings. The controller will always start in boot mode if the image file has errors or if the configuration has been corrupted.

Update firmware. Current firmware version: 5.1

Choose File No file chosen Upload

Update firmware. Current firmware version: ERROR

Choose File No file chosen Upload

DESCRIPTION

Port control page

The controller can convert 8 universes of Art-Net or sACN network into a single-wire protocol for controlling LED chips and one universe for DMX 512 output/input. Both ports can work simultaneously and independently.

The «SPI Port Control» section modifies LED Port settings:

- **Number universe (1-8):** Defines the number of universes waiting to be received from the network and sent to the port. Output to the port will occur only after all universes have been received and distributed.
- **Un (0-32767):** Address of the universe.
- **Start:** The channel number from which this universe will be added to the output.

• **Chip:** The correct chip must be installed. **LEDs groups must contain compatible chips.**

- **Groups(1-100):** number of LED's groups. The description of groups is done on the Groups page.

- **Speed:** 800 KHz, 1 Mhz, 1.2 MHz data transmission speed select.

- **Sync:** The data output to the LEDs will be initialized after receiving all universes or receiving a Sync packet if checked, if unchecked the output will be initialized immediately after the end of the previous data.

Chip
WS2812
WS2811
WS2812
WS2813
WS2815
TM1814
SK6812
SM16703
APA104
UCS1903
UCS2903
UCS8903/4
GS8208
SM8606
FW1906

Net control

Port control

Groups

Test

SPI port control

Number universe: 1

Un

Start

0

1

Chip

Groups

Speed

Sync

WS2812

1

0.8 MHz

☒

Save SPI control

DMX port control

Un

Channels

Merge

Mode

Time

8

512

HTP

Disable

40 Hz

Save DMX control

Reboot

Adjustment of the current for TM1814 and SM8606 LED chips is available.

Chip	Groups	Speed	Sync
TM1814	1	0.8 MHz	<input checked="" type="checkbox"/>

Current 0-63

W-0
R-0
G-0
B-0

Save SPI control

«DMX port control» section changes of DMX Port settings.

- **Un (0-32767):** address of the universe
- **Channels:** number of input and output channels at the DMX Port.
- **Merge:** HTP or LTP merge settings
- **Mode:** Disable, Output, Input, Input to SPI. Input to SPI mode allows you to use the controller as a DMX to SPI converter with LED's grouping functions.
- **Time:** refresh rate settings in output mode. 40Hz, 33Hz, 25Hz, 10Hz, 1Hz or «By input». In the «By input» mode, the data on the DMX port will be updated after receiving data from the network.
- **Input to IP and Broadcast** -The address to send the input universe. The controller will slow down if a non-existent unicast address is set. Packets are sent to the network in Art-Net or sACN format in accordance with the protocol settings.

DMX port and HTP/LTP Merge

The controller can convert 1 universe of Art-Net or sACN network into DMX512-A protocol. The output DMX signal has a Break time of 100µs and a Mark After Break (MAB) time of 23µs, with an adjustable length of the input and output DMX512 packet within 16-512 channels. Ports are protected from overvoltage and impulse noise.

Merging occurs when two streams from different IP addresses are directed to the same universe port address. If multiple streams are directed to the same Port-Universe, they will be ignored. If one of the sources of ArtDmx stops (but not both), the failed source is held in the merge buffer for 10 seconds. During this 10-second timeout, if the failed source resumes, the Merge mode continues. However, if the failed source does not recover by the end of the timeout period, the Node port exits from Merge mode.

DESCRIPTION

Groups control page

The controller can manage up to 100 groups of LEDs. For each group there must be a definition of three parameters: color, repetitions, and the number of pixels.

- **Groups:** information about the number of groups. Set on the Port control tab.
- **Select:** the group number of which is edited or viewed.
- **Color:** defines the color order of the LEDs used in the group.
- **Repeat(1-9520):** defines the number of LEDs in a pixel.
- **Pixels(1-9520):** defines the number of LEDs in a pixel.
- **Output(1-9520):** information about the number of LEDs output. Set automatically according to the number of universes, groups, color, repeat, pixels.

Color mode has many modes that allow you to organize different groups. RGBW strips can be set to RGB emulation mode. To do this, select one of the underline modes. In this mode, white color will be disabled. This must be set correctly otherwise the merged pixels will not be displayed correctly.

WWW mode uses one channel of the universe to control 3 channels of RGB LED chip which only has white LEDs connected to it.

Test control page

Checking the correct layout of universe channels and groups is performed using the universe number. During testing, input data will be disabled. This test data can be sent to the DMX controller output if the universe number is specified as the universe number used for the DMX port.

- **Un (0-32767):** the number of the universe to which the data will be sent.
- **Start-End (1-512):** Channels of the universe that will change.
- **Color:** The parameter is similar to the parameter on the Groups tab. Specifies the pixel length for dynamic effects.

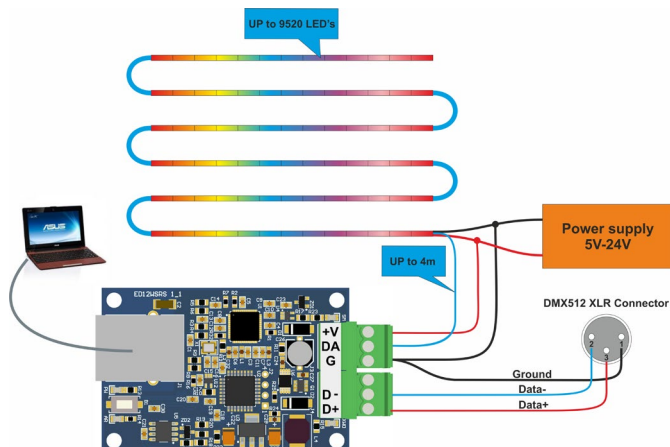
• Mode:

- **Level (0-255):** Channel level or maximum level for a lighting effect.
- **Speed (1-100 Hz):** dynamic light effect Frequency.



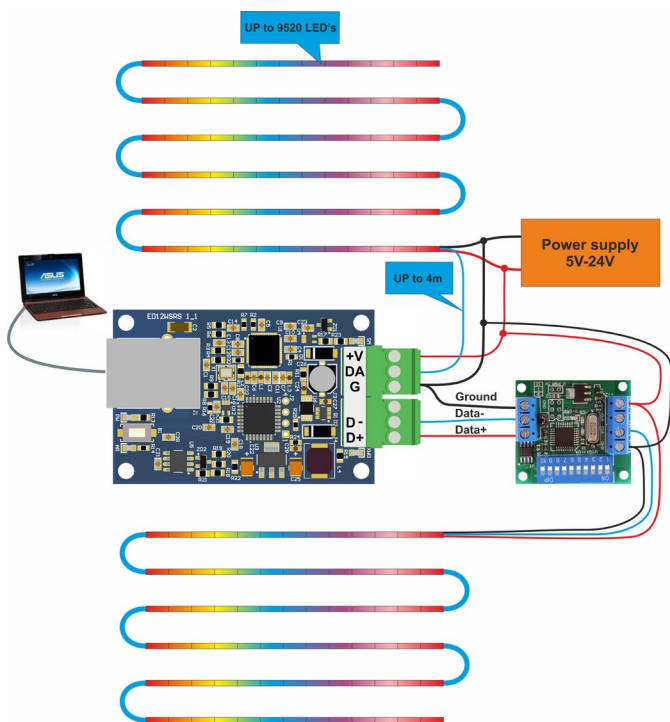
ADDITIONAL

Connect to a 5V-24V power supply.



Led port refresh rate. The controller supports increased data transfer rates to the tape. All tested tapes can operate at 1 MHz, however, you must reduce the length of the data wire to 1 meter.

0.8 MHz		1 MHz		1.2 MHz	
LED's (RGB)	FPS	LED's (RGB)	FPS	LED's (RGB)	FPS
340	90	340	>90	340	>90
680	45	680	60	680	70
1360	23	1360	30	1360	35
9520	3.5	9520	4.5	9520	6



Links:

YouTube examples.

Art-Net protocol.

DMX to UCS1903,WS2811,WS2812(B) converter.

DMX converter to RGB RGBW pixel combination for WS2811 - WS2815 SK6812 GS8208.

Art-Net DMX to SPI controller.

FreeStyler.

Madrix.

Jinx.

eBay store.