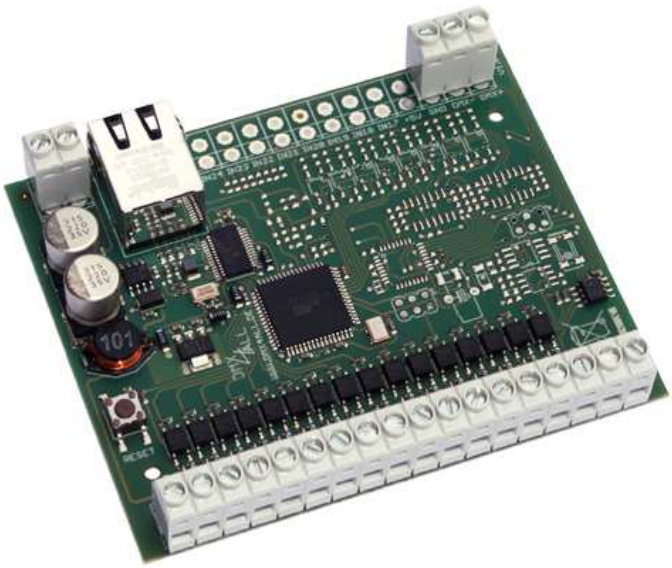
# ArtNet-DMX Mux16

User Manual



ART NET ETHERNET

DMX 4 ALL ®

For your own safety, please read this user manual and warnings carefully before installation.

# Description

The **ArtNet-DMX Mux16** has 16 digital inputs outputted via ArtNet and DMX.

**16 Long Distance Inputs**
16 digital inputs are available for the connection of buttons or switches. The inputs are designed as Long Distance Inputs, so the switching elements can also be mounted at a greater distance.

**Individually configurable**
Each input is individually configurable. The function (mode) as well as the DMX-Channels to be controlled are adjustable for each input.

**Easy Configuration**
A user-friendly configuration via a web browser allows a quick and uncomplicated setting of all parameters. No special software is needed, a normal web browser is enough.
This allows configuration at any time from PC, smart phone or tablet.
For an easy setting of the IP, we provide the IP-Configurator as a PC-Tool or Android app free of charge. This allows leaving the network settings unchanged and configure the IP without any problems.

**Firmware-Update-Function**
To use future functions the ArtNet-DMX Mux16 offers a firmware update function. This can be started from the web browser so no access to the device is necessary!

**Top hat rail housing available**
The top-hat rail housing 1050 is available as accessory for the ArtNet-DMX Mux16.

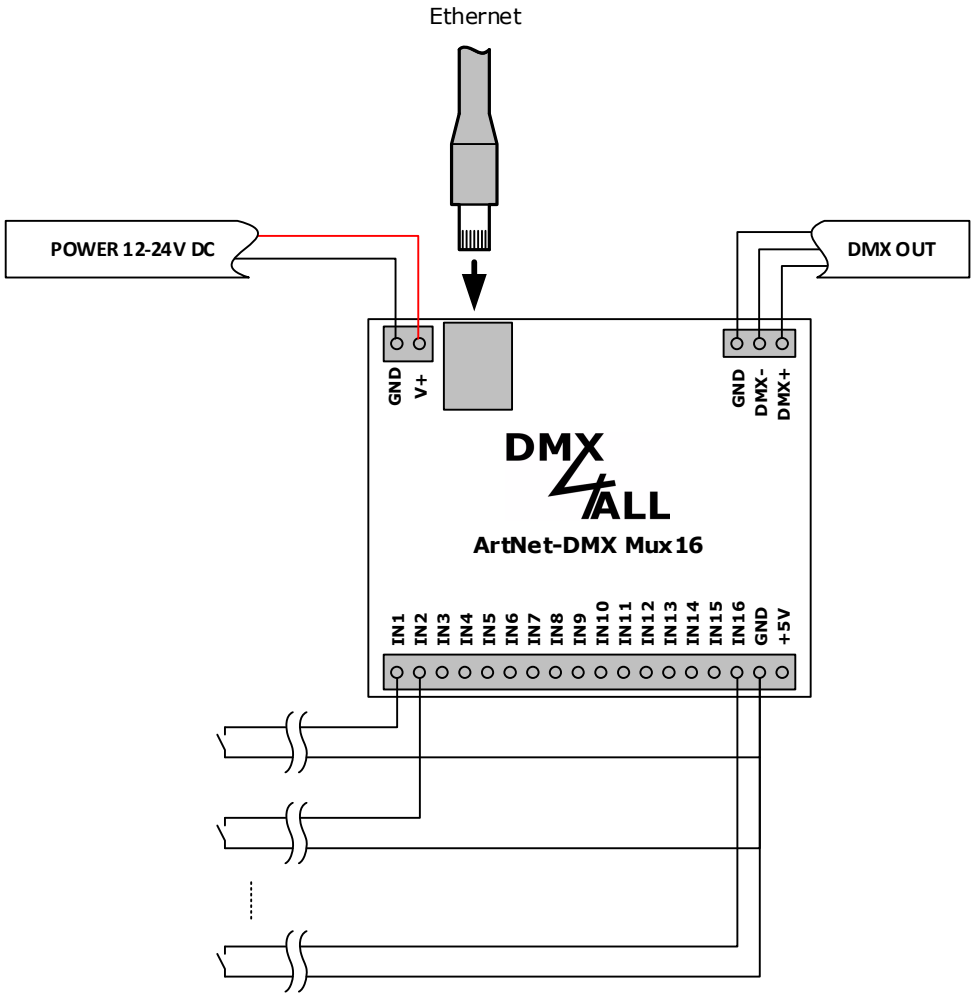
# Data sheet

| | |
|---|---|
| **Power supply:** | 7-24V DC<br>0,4A@12V / 0,2A@24V |
| **Ethernet:** | RJ45 |
| **Output:** | DMX512 with 512 DMX channels<br>Art-Net™ with 512 DMX channels |
| **Inputs:** | 16 Long Distance Digital Inputs |
| **Modes:** | Switch<br>Button<br>Switch button<br>Dimmer UP<br>Dimmer DOWN<br>Dimmer UP/DOWN<br>Button ON + Dimmer UP<br>Button OFF + Dimmer DOWN<br>Button ON/OFF + Dimmer UP/DOWN |
| **Status display:** | LED green/yellow for Ethernet<br>Optional external LED per input possible |
| **Dimensions:** | 99mm x 82mm |

# Delivery

1x ArtNet-DMX Mux16
1x Quick guide (german and english)

# Connection


Ethernet
POWER 12-24V DC
DMX OUT
GND
V+
GND
DMX-
DMX+
ArtNet-DMX Mux16
IN1
IN2
IN3
IN4
IN5
IN6
IN7
IN8
IN9
IN10
IN11
IN12
IN13
IN14
IN15
IN16
GND
+5V

# LED-Display

### LED green

The green LED flashes, if there is no Ethernet connection available and lights permanent, if an Ethernet connection is available.

### LED yellow

The yellow LED lights up as soon as data are received.

# Configuration

The **ArtNet-DMX Mux16** configuration occurs via a web-interface which can be called up via any web browser.

# Set the IP with IP-Configurator

The **IP-Configurator** allows the setting of the IP-Address and net mask also, if the net work settings of the PC are not in the IP-Range of the ArtNet-DMX Mux16.

- Install the program IP-Configurator
- Connect the ArtNet-DMX Mux16 with the net work and turn on the device.
- Start the program IP-Configurator


- The ArtNet-DMX Mux16 is shown in the list
- Select the entry (click)
- Enter the new IP and net mask
- Click SET

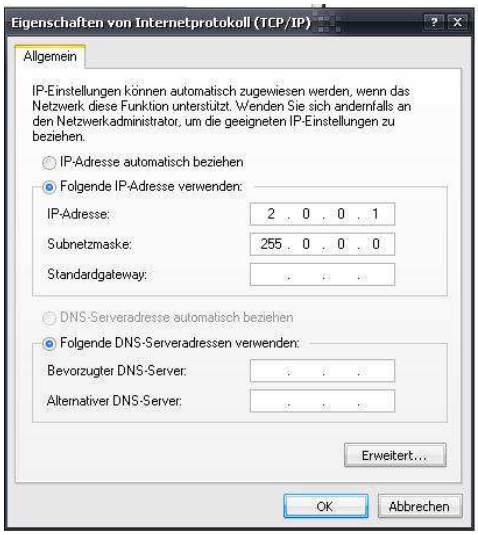
# Set the IP with web browser

The assigned **IP-Address** which will be used for the web-interface as well as for the ArtNet is within the delivery status **2.0.0.5** .

Set the net work card of your PC to this IP-Range to call the IP-Address 2.0.0.5 via the web browser.

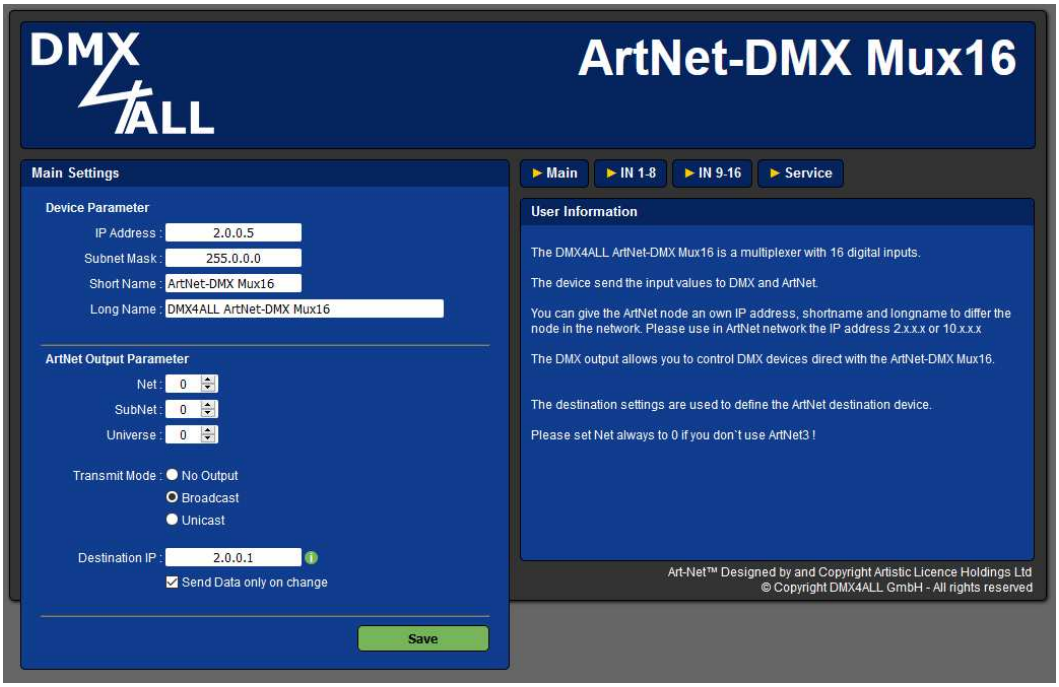
⚠ The PCs network settings must be the **IP-Address 2.0.0.1** and the **subnet mask** must be **255.0.0.0**.

Please take further details from the ArtNet-specifications.



# Device Configuration

Call, via the address task at the web browser, the IP of the ArtNet-DMX Mux16 (delivery state: 2.0.0.5) to get the following configuration site:




## *Main*

### Device Parameter

Each device needs an own **IP-Address** that the assignment occurs clearly within the network. Please use in accordance to the ArtNet-Specification the IP-Address 2.x.x.x or 10.x.x.x with the **net-mask** 255.0.0.0 .

Any other IP-Address can be used too, like e.g. 192.168.1.10 .
In this case the net mask must be adjusted to 255.255.255.0 !

For a better distinction you can name the ArtNet-DMX Mux16 anyway.

The **short-name** is limited to 18 signs and the **long-name** to 64 signs.

## ArtNet Output Parameter

The ArtNet Output Parameter specify the values for the ArtNet™-Output.

**Net** / **SubNet** / **Port/Universe** are the ArtNet™-Paramtere which define the aim.

The **Transmit Mode** defines the data output via Art-Net™.
**Broadcast** activates the ArtNet™ data output to all ArtNet™ devices.
**Unicast** sends the Art-Net™-Data to the device with the destination IP.

Under **Destination IP** the IP address is entered to which the data should be sent via Art-Net™ (Unicast).

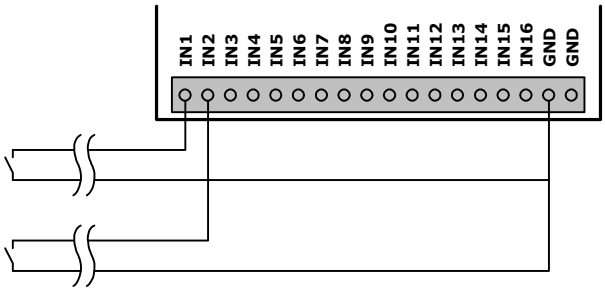
**Send only on change** suppressed the regular repeated output of the values via ArtNet™.

**SAVE** stores the configuration.

# Digital Inputs

The digital inputs are designed as LONG DISTANCE inputs which allow using longer supply pipes to the switching element.

The inputs are controlled (actuated) with a switch or push-button against GND:



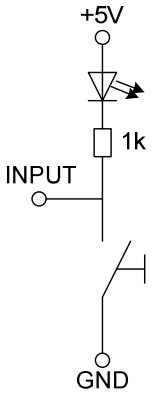

For the LONG DISTANCE inputs we recommend not to exceed cable lengths of 25m. Depending on the environment and type of cable, longer distances may also be possible.
The cable cross-section should not be smaller than 0,5mm².

# Status display

(from Hardware V1.1)

The digital inputs have the possibility to connect an external status display for example a LED at the operating element. The status display is available for mode button (Button) and switch button (Toggle-Button).

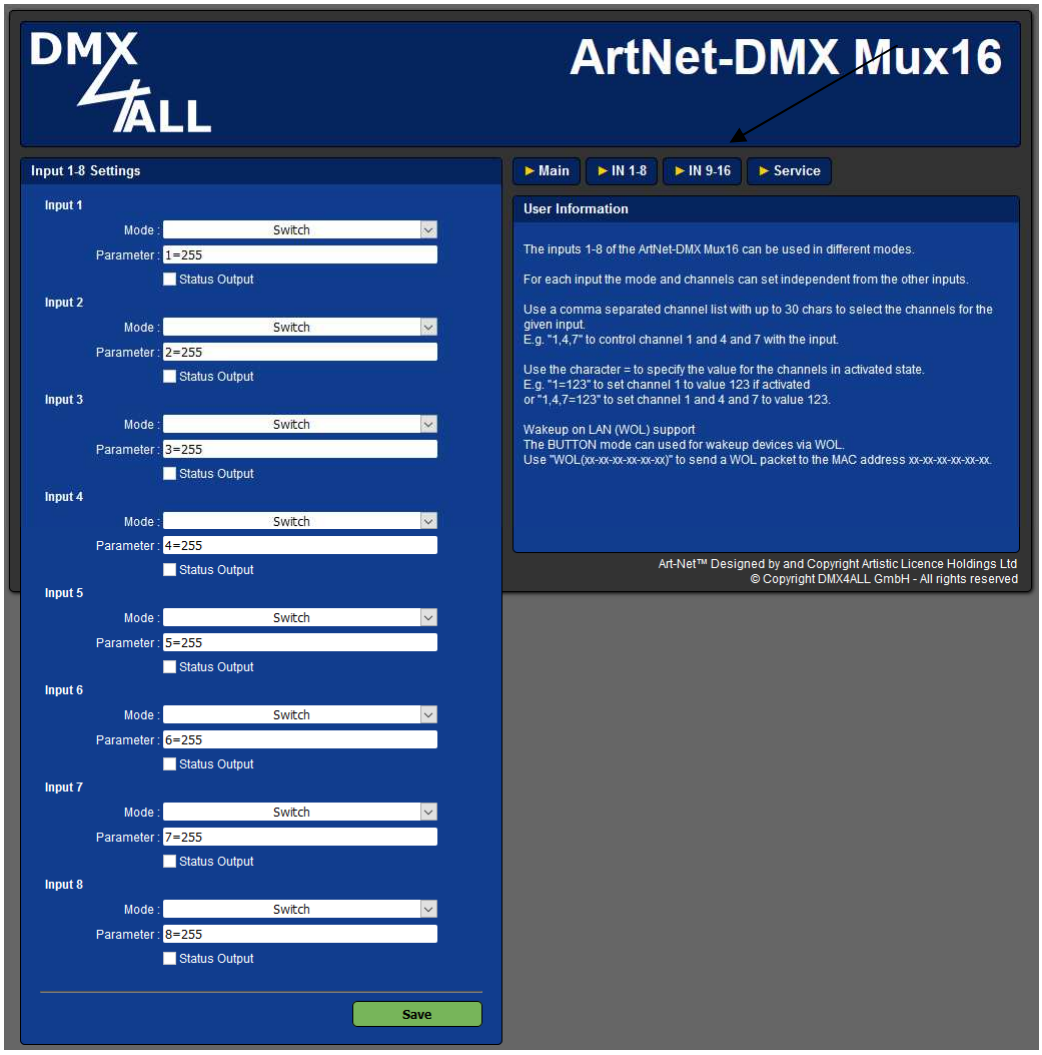
The LED is connected against +5V according to the following drawing:




For each input, the status indicator (Status Output) must be activated if it is to be used: ☑ Status Output

# Configure the inputs

The inputs are configured via web interface. Therefore, both configuration sides ***Input 1-8*** and ***Input 9-6*** are available.




Per Input (*Input*) the ***Mode*** can be selected separately.

The entering field ***Parameter*** specifies which function is to execute, e.g. which DMX channel is to set to which value. These are described on the following pages.

***Status output*** is available for the modes button (Button) and switch button (Toggle-Button). If this operation is activated an external status display shows when the specified parameters are outputted.

⚠ The processing of the input states occurs successively from input 1 to input 16. If a DMX channel is used for several inputs, it must be ensured that the DMX value is not overwritten by selecting the mode.

The entering field ***Parameter*** outputs the DMX channel as well as the DMX value

The channel input occurs as decimal value from 1 up to 512.
If several channels should be controlled via input, the single values must be entered separate and with a comma.

Example: “1” ⇨ one single DMX-Channel
„1;4;7“ ⇨ several DMX-Channels

Furthermore, it is possible to specify a value which should be outputted. In this case the channel entry needs a =*Value*. The specified value must include the range from 0 up to 255. If there is no value entered, so 255 (100%) will be outputted.

Example: „1=222“ ⇨ set a single DMX channel to value 222
„1;4;7=222“ ⇨ set several DMX channels to value 222

Several DMX channels can be set to different values in one parameter if the single information is entered separately with a semicolon.

Example: „1=16;5=32;12=64“ ⇨ DMX channel 1, 5 and 12 are set to value 16, 32 and 64.
„1;5;12=64“ ⇨ set all DMX channel 1, 5 and 12 to value 64

Successive DMX channels can be entered in short form if the DMX start channel is specified and the single DMX values are entered with a / one after the other.

Example: „1=16/32/64“ ⇨ set DMX channels 1, 2 and 3 to value 16, 32 and 64.

The following modes can be selected for each input:

**Switch** (Switch)
The mode Switch sets the DMX channels to the determined value as long as the input is controlled (activate).
If the input is not controlled (not activate), so the value is 0 (0% / OFF).

**Button** (Button)
The mode Button sets the DMX channels to the determined value if the input is controlled (activate).

**Switch button** (Toggle-Button)
The mode Toggle-Button switches the DMX channels in case of any control (Activate) between the determined value and 0 (0% / OFF).

**Dimmer UP** (Dimmer UP)
The mode Dimmer UP dims the DMX channels up as long as the input is controlled (activate). The dimming procedure ends if the value reaches 255 (100%).

**Dimmer DOWN** (Dimmer DOWN)
The mode Dimmer DOWN dims down the DMX channels as long as the input is controlled (activate). The dimming procedure ends if the value reaches 0 (0%).

**Dimmer UP/DOWN** (Dimmer UP/DOWN)
The mode Dimmer UP/DOWN dims up and down the DMX channels as long as the input is controlled (activate). The dimming procedure ends if the value reaches 255 (100%) in case of dimming up / the value 0 (0%) in case of dimming down. The dimming direction changes if the input is not controlled (release).

**Button ON + Dimmer UP** (Button ON + Dimmer UP)
The mode Button ON + Dimmer UP dims the DMX channels up as long as the input is controlled for a longer time (activate). The dimming procedure ends if the value 255 (100%) is reached.
A shorter control (activate) switches on the DMX value.

**Button OFF + Dimmer DOWN** (Button OFF + Dimmer DOWN)
The mode Button OFF + Dimmer DOWN dims the DMX channels down as long as the input is controlled for a longer time (activate). The dimming procedure ends if the value 0 (0%) is reached.
A short control (activate) switches off the DMX value.

**Button ON/OFF + Dimmer UP / DOWN** (Button ON/OFF + Dimmer UP/DOWN)
The mode Taster EIN/AUS + Dimmer AUF/AB dims up or down the DMX channels as long as the input is controlled (activate) for a longer time.
The dimming procedure ends if the value 255 (100%) is reached for dimming up /the value 0 (0%) is reached for dimming down. The dimming direction changes if the input is not controlled (release).
A short control (activate) switches off the DMX value.

## Use digital inputs as binary inputs

For the digital inputs there are the possibilities to build one output value away several inputs.

In this case the input must be configured as *Switch*.

The specification for the channels needs than a +=VALUE.
So, for the specified channels the value will be added.

A possible configuration for an 8Bit-binary input is as follows:

Input: IN1 up to IN8
Output: DMX-channel 1

| | | | |
|---|---|---|---|
| Configuration: | INPUT1: | Mode: | Switch |
| | | Parameter: | 1+=1 |
| | INPUT2: | Mode: | Switch |
| | | Parameter: | 1+=2 |
| | INPUT3: | Mode: | Switch |
| | | Parameter: | 1+=4 |
| | INPUT4: | Mode: | Switch |
| | | Parameter: | 1+=8 |
| | INPUT5: | Mode: | Switch |
| | | Parameter: | 1+=16 |
| | INPUT6: | Mode: | Switch |
| | | Parameter: | 1+=32 |
| | INPUT7: | Mode: | Switch |
| | | Parameter: | 1+=64 |
| | INPUT8: | Mode: | Switch |
| | | Parameter: | 1+=128 |

## Send Wakeup On Lan (WOL)

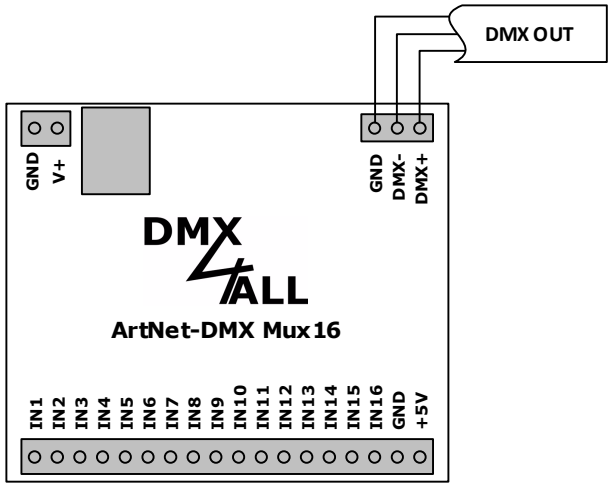
The ArtNet-DMX Mux 16 can send a Wakeup On Lan (WOL) message via ethernet in case of activate (press) an input

For this the mode Button (Button) is to select and as parameter „WOL (xx-xx-xx-xx-xx-xx).

xx-xx-xx-xx-xx-xx has to be replaced by the MAC-ID of the target device.

# DMX-Output

The **ArtNet-DMX Mux 16** has a DMX-Output which can be used to connect DMX able devices directly.




At the DMX-Output a DMX-Signal with 512 DMX channels will be outputted.
The values of the DMX-Channels will be determined via the digital inputs and the configuration.

The configuration must occur via the web interface.

# Factory Reset

The **ArtNet-DMX Mux 16** can be set into the delivery status via the button.

Please proceed as follows:

- Turn off the device
- Push button and hold
- Turn on the device
- The yellow LED flashes
- Release button
- Push button again and hold
- The green and yellow LED flashes now for ca. 10 seconds alternately
- Release button meanwhile
- Now the Reset is in progress and both LEDs flashes 3x simultaneously as confirmation

Alternatively, you can restore the delivery status via the web browser:

- Open Global Settings into web-browser
- Enter the code „7319“ within the input field under Factory Defaults
- Click *Save*
- Then wait minimum 10 seconds

# Execute an Update

The **ArtNet-DMX Mux16** has an **Update-Function** which allows transferring prospective Firmware-versions.

Please proceed as follows:

- Turn off the device
- Push button and hold
- Turn on the device
- The yellow LED flashes
- Loose button
- Generate a net-work connection to the PC
- Start the Update-Software **DMX4ALL LAN-Updater**
- Select the ArtNet-DMX Mux16 from the list
- Click *Firmware-Update*
- Select Firmware-file (.bin) and confirm
- Please wait until the Update has finished

If an error occurs during the Update, you can start from the beginning any time.

Alternatively, you can activate the Firmware-Update via the web browser:

- Open the Update into the web-browser
- Enter the displayed code „1379“ into the input field and click *Send*.
- Start the Update-Software **DMX4ALL LAN-Updater**
- Select the ArtNet-DMX Mux16 from the list
- Click *Firmware-Update*
- Select Firmware-file (.bin) and confirm
- Please wait until the Update has
- Click in the web-browser to *Back to Mainpage*

# Accessory

### Top-hat rail housing 1050

### Wall bracket for top hat rail housing

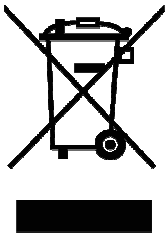
### Power supply 12V / 20W

### Net work cable

## CE-Conformity

This assembly (board) is controlled by a microprocessor and uses high frequency. In order to maintain the properties of the module with regard to CE conformity, installation into a closed metal housing in accordance with the EMC directive 2014/30/EU is necessary.

## Disposal



Electronical and electronic products must not be disposed in domestic waste. Dispose the product at the end of its service life in accordance with applicable legal regulations. Information on this can be obtained from your local waste disposal company.

## Warning


This device is no toy. Keep out of the reach of children. Parents are liable for consequential damages caused by nonobservance for their children.

# Risk-Notes

You purchased a technical product. Conformable to the best available technology the following risks should not excluded:

**Failure risk:**
The device can drop out partially or completely at any time without warning. To reduce the probability of a failure a redundant system structure is necessary.

**Initiation risk:**
For the installation of the board, the board must be connected and adjusted to foreign components according to the device paperwork. This work can only be done by qualified personnel, which read the full device paperwork and understand it.

**Operating risk:**
The Change or the operation under special conditions of the installed systems/components could as well as hidden defects cause to breakdown within the running time.

**Misusage risk:**
Any nonstandard use could cause incalculable risks and is not allowed.

**Warning:** It is not allowed to use the device in an operation, where the safety of persons depend on this device.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