Show tec ®
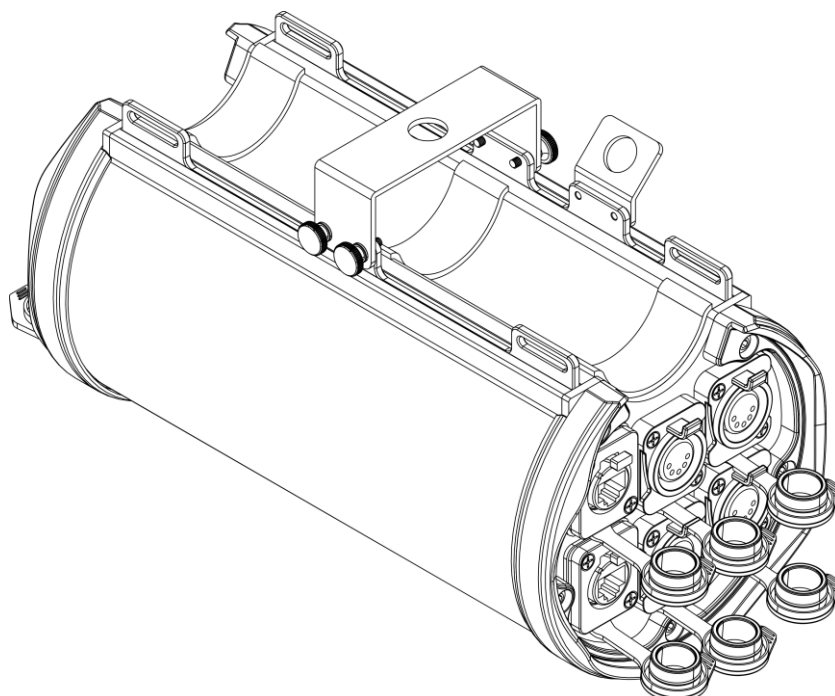
NET-4/5 IP   V1

Product code: 50818

Preface

Thank you for purchasing this Showtec product.

The purpose of this user manual is to provide instructions for the correct and safe use of this product.

Keep the user manual for future reference as it is an integral part of the product. The user manual shall be stored at an easily accessible location.

This user manual contains information concerning:

- Safety instructions
- Installation and operation of the device
- Intended and non-intended use of the device
- Maintenance procedures
- Troubleshooting
- Transport, storage and disposal of the device

Non-observance of the instructions in this user manual may result in serious injuries and damage of property.

Table of contents

Show tec

1. Introduction

1.1. Before Using the Product

> **Important**
> **Read and follow the instructions in this user manual before installing, operating or servicing this product.**

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

After unpacking, check the contents of the box. If any parts are missing or damaged, contact your Highlite International dealer.

Your shipment includes:

- Showtec NET-4/5 IP
- Schuko to power pro cable (1,5 m)
- Mounting bracket (attached)
- 2 x hook-and-loop strap
- User manual
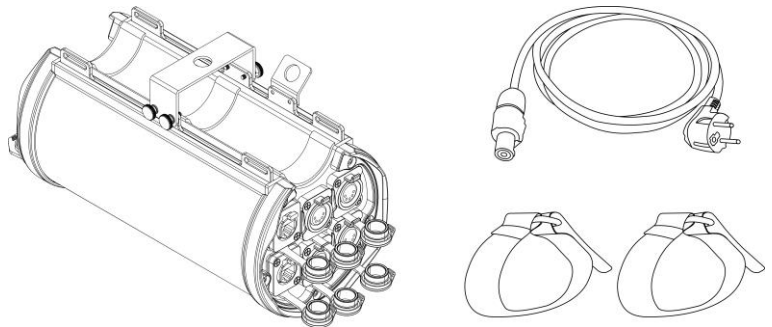
Fig. 01

1.2. Intended Use

This device is intended for use as a signal converter. It is suitable for use indoors and outdoors. It is not suitable for households.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

1.3. Product Lifespan

This device is not designed for permanent operation. Disconnect the device from the electrical power supply when the device is not in use. This will reduce wear and improve the device's lifespan.

1.4. Text Conventions

Throughout the user manual the following text conventions are used:

- Buttons: All buttons are in bold lettering, for example "Press the **UP/DOWN** buttons"
- References: References to chapters and parts of the device are in bold lettering, for example: "Refer to **2. Safety**", "into the **DMX signal connector (08)**"
- 0–255:   Defines a range of values
- Notes: **Note:** (in bold lettering) is followed by useful information or tips

Show tec

1.5.   Symbols and Signal Words

Safety notes and warnings are indicated throughout the user manual by safety signs.

Always follow the instructions provided in this user manual.

⚠️	**DANGER**	Indicates an imminently hazardous situation which, if not avoided, will result in serious injury or death.
⚠️	**WARNING**	Indicates an imminently hazardous situation which, if not avoided, could result in serious injury or death.
⚠️	**CAUTION**	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
❗	**Attention**	Indicates important information for the correct operation and use of the product.
📖	**Important**	Read and observe the instructions in this document.
🗑️		Provides important information about the disposal of this product.

1.6.   Symbols on the Information Label

This product is provided with an information label. The information label is located on the bottom plate of the device.

The information label contains the following symbols:

🏠	This device is designed for indoor use.
⏚	This device falls under IEC protection class I.
🗑️	This device shall not be treated as household waste.

*Show*tec

2. Safety

	Important **Read and follow the instructions in this user manual before installing, operating or servicing this product.**

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual.

2.1. Warnings and Safety Instructions

	DANGER **Danger for children**

For adult use only. The device must be installed beyond the reach of children.

● Do not leave various parts of the packaging (plastic bags, polystyrene foam, nails, etc.) within children's reach. Packaging material is a potential source of danger for children.

	DANGER **Electric shock caused by dangerous voltage inside**

There are areas within the device where dangerous touch voltage (> 120 V DC) may be present.

● Do not open the device or remove any covers.
● Do not operate the device if the covers or the housing are open. Before operation, check if the housing is firmly closed and all screws are tightly fastened.
● Disconnect the device from electrical power supply before service and maintenance, and when the device is not in use.

> ⚠️ **DANGER**
> **Electric shock caused by short-circuit**

This device falls under IEC protection Class I.

- Make sure that the device is electrically connected to ground (earth). Connect the device only to a socket-outlet with ground (earth) connection.
- Do not cover the ground (earth) connection.
- Do not bypass the thermostatic switch or fuses.
- For replacement use fuses of the same type and rating only.
- Do not let the power cable come into contact with other cables. Handle the power cable and all connections with the mains with caution.
- Do not modify, bend, mechanically strain, put pressure on, pull or heat up the power cable.
- Make sure that the power cable is not crimped or damaged. Examine the power cable periodically for any defects.
- Do not immerse the device in water or other liquids. Do not install the device in a location where flooding may occur.
- Do not use the device during thunderstorms. Disconnect the device from the electrical power supply immediately.
- Keep the connectors sealed with the rubber caps when the connectors are not in use.
- Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.

> ❗ **Attention**
> **Power supply**

- Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.
- Make sure that the cross-sectional area of the extension cords and power cables is sufficient for the required power consumption of the device.

> ❗ **Attention**
> **For professional use only**
> **This device shall be used only for the purposes it is designed for.**

This device is designed to be used as a signal converter. Any incorrect use may lead to hazardous situations and result in injuries and material damage.

- This device is not suitable for households.
- This device is not designed for permanent operation.
- This device does not contain user-serviceable parts. Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

> **Attention**
> **Before each use, examine the device visually for any defects.**

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixations and installation points.
- The power cables are not damaged and do not show any material fatigue.

> **Attention**
> **Do not expose the device to conditions that exceed the rated IP class conditions.**

This device is IP65 rated. IP (Ingress Protection) 65 class means that the device is dust-tight and protected against harmful effect of water jets.

Keep the connectors sealed with the rubber caps when the connectors are not in use.

2.2. Requirements for the User

This product may be used by ordinary persons. Installation, service and maintenance shall be carried out only by instructed or skilled persons. Contact your Highlite International dealer for more information.

Instructed persons have been instructed and trained by a skilled person, or are supervised by a skilled person, for specific tasks and work activities associated with the service of this product, so that they can identify risks and take precautions to avoid them.

Skilled persons have training or experience, which enables them to recognize risks and to avoid hazards associated with the installation, service and maintenance of this product.

Ordinary persons are all persons other than instructed persons and skilled persons. Ordinary persons include not only users of the product but also any other persons that may have access to the device or who may be in the vicinity of the device.

3. Description of the Device

The Showtec NET-4/5 IP is a device that converts Art-Net or sACN signals to DMX and vice versa. The housing and connectors have an IP65 rating, which also makes this device suitable for outdoor use.

3.1. Front View
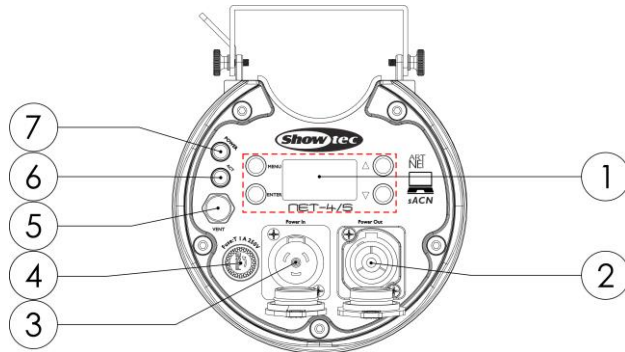
01) Control panel
02) Power Pro True connector OUT 100–230 V 50/60 Hz
03) Power Pro True connector IN 100–230 V 50/60 Hz
04) Fuse T1 A, 250 V
05) Protective vent
06) Ethernet LED indicator
07) Power LED indicator

Fig. 02

3.2. Back View
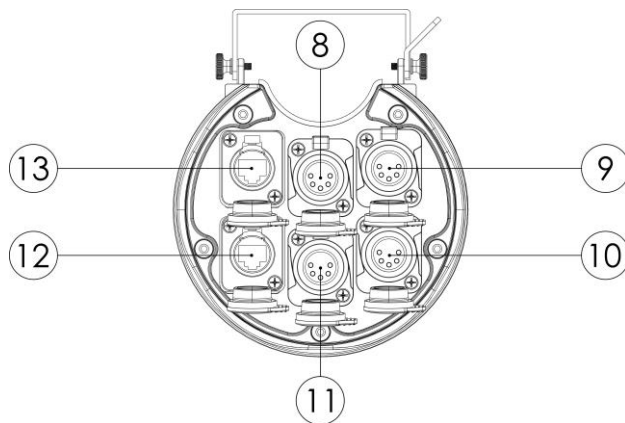
08) 5-pin DMX signal connector
09) 5-pin DMX signal connector
10) 5-pin DMX signal connector
11) 5-pin DMX signal connector
12) Ethernet connector IN
13) Ethernet connector THRU

Fig. 03

3.3. Side View
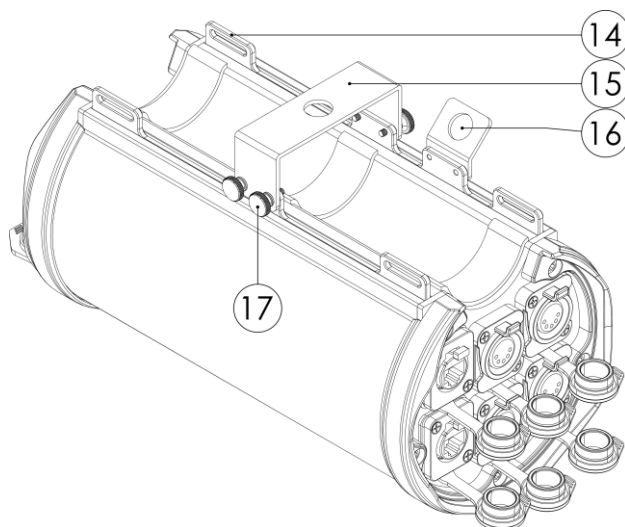
14) 4 x strap slot
15) Mounting bracket
16) Safety eye
17) 4 x Mounting bracket thumbscrew

Fig. 04

3.4. Product Specifications

Model:	NET-4/5 IP, 5-pin

Electrical:	
Input voltage:	100–230 V AC, 50/60 Hz
Power consumption:	5 W
Fuse:	T 1 A, 250 V

Physical:	
Dimensions:	245 x 125 x 150 mm (L x W x H)
Weight:	2,5 kg

Operation and control:	
Control protocols:	DMX, RDM, Art-Net, sACN
LED indicators:	Power & Ethernet
Display:	OLED

Connections:	
Power connections:	Power Pro True connectors IN/OUT
Input connections:	2 x RJ45
Output connections:	4 x 5-pin DMX connector

Construction:	
Housing:	Aluminium
Color:	Black
IP rating:	IP65
Cooling:	Natural heat dissipation

Thermal:	
Maximum ambient temperature t_a:	40 °C
Minimum ambient temperature t_a:	-5 °C

3.5. Dimensions
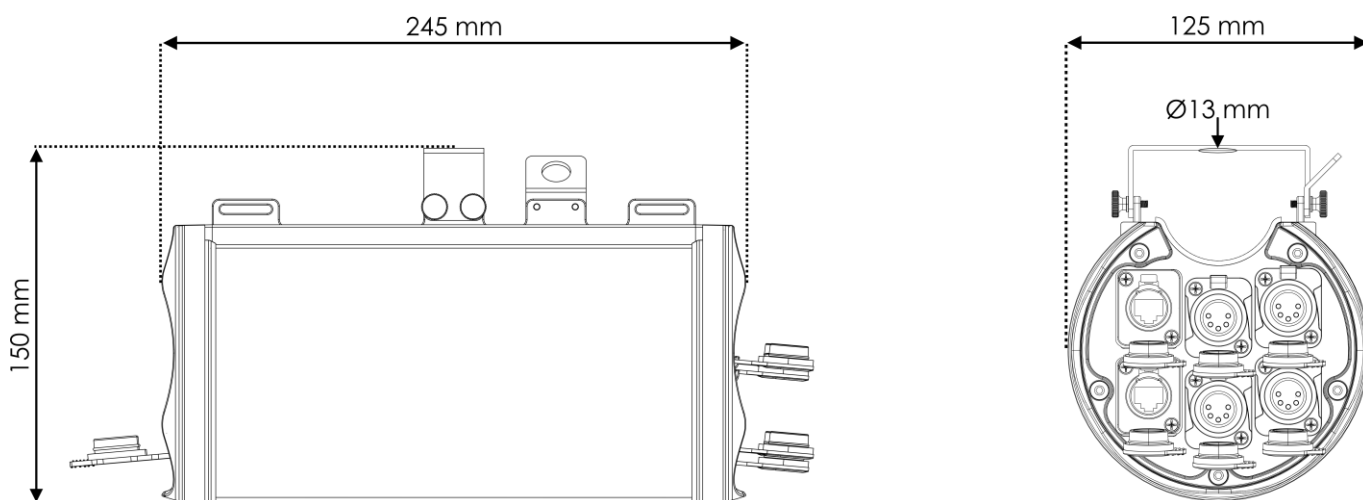
Fig. 05

4. Installation

4.1. Safety Instructions for Installation

> ⚠ **WARNING**
> **Incorrect installation can cause serious injuries and damage of property.**

If trussing systems are used, installation must be carried out only by instructed or skilled persons.

Follow all applicable European, national and local safety regulations concerning rigging and trussing.

4.2. Installation Site Requirements

- The device can be mounted to a truss or another rigging structure in any orientation.
- The minimum distance to other objects must be bigger than 0,5 m.
- The maximum ambient temperature t_a = 40 °C must never be exceeded.
- The relative humidity must not exceed 50 % with an ambient temperature of 40 °C.

4.3. Rigging

The device can be mounted to a truss or other rigging structure in any orientation. It can be mounted using a clamp or the included hook-and-loop straps. Make sure that all loads are within the pre-determined limits of the supporting structure.

> ⚠ **CAUTION**
> **Restrict the access under the work area during rigging and/or derigging.**

To mount the device using a clamp, follow the steps below:

01) Use a clamp to attach the device to the supporting structure, as shown in Fig. 06. Make sure that the device cannot move freely.
02) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through the **safety eye (16)**, as shown in Fig. 06.

Clamp

Safety cable
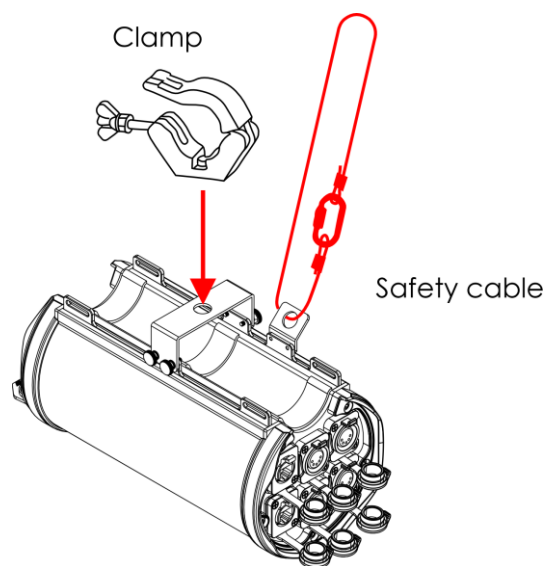
Fig. 06

To mount the device using the included hook-and-loop straps, follow the steps below:

01) Loosen the **mounting bracket thumbscrews (17)** and remove the **mounting bracket (15)**, as shown in Fig. 07.
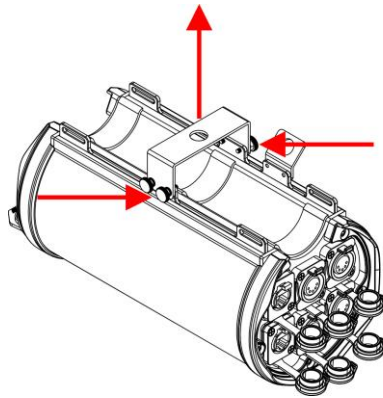
Fig. 07

02) Thread the hook-and-loop straps through the **strap slots (14)** to attach the device to the supporting structure, as shown in Fig. 08. Make sure that the device cannot move freely.
03) Secure the device with a secondary suspension, for example a safety cable. Make sure that the secondary suspension can hold 10 times the weight of the device. If possible, the secondary suspension should be attached to a supporting structure independent of the primary suspension. Put the safety cable through the **safety eye (16)**, as shown in Fig. 08

Hook-and-loop strap

Safety cable

Hook-and-loop strap
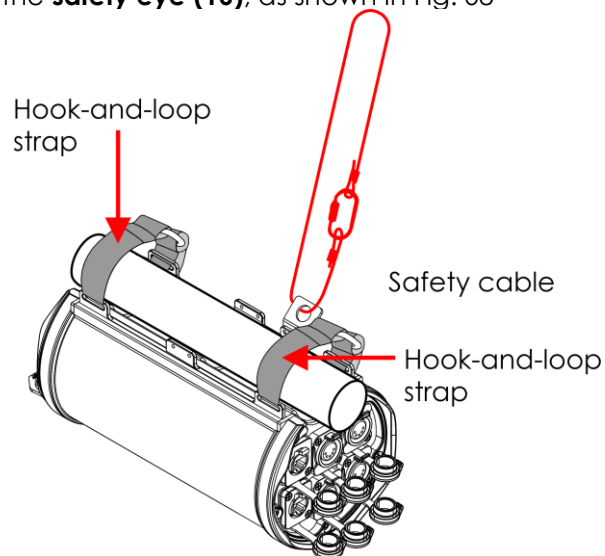
Fig. 08

4.4. Connecting to Power Supply

⚠	**DANGER** **Electric shock caused by short-circuit**

The device can be powered by 100–230 V 50/60 Hz AC mains power. Do not supply power at any other voltage or frequency to the device.

This device falls under IEC protection class I. Make sure that the device is always electrically connected to the ground (earth).

Before connecting the device to the socket-outlet:
● Make sure that the power supply matches the input voltage specified on the information label on the device.
● Make sure that the socket-outlet has ground (earth) connection.

Connect the device to the socket-outlet with the power plug.

This device is IP65 rated.

● Do not expose the device to conditions that exceed the rated IP class conditions.
● Keep the connectors sealed with the rubber caps when the connectors are not in use.
● Do not connect the cables from above the connectors, if the device is installed outdoors. Make a 'drip loop' in the cable so that rain water cannot enter the device.
● Make sure that the cable run is not too heavy. A heavy cable run can cause damage to the connectors. If the connectors are damaged, their ingress protection (IP) can deteriorate.

4.4.1. Power over Ethernet (PoE)

The NET 4/5 IP can also be powered from the Ethernet connection, using Power-over-Ethernet (PoE) technology. If the network switch does not support PoE, you can use a PoE injector or a PoE hub.

4.5. Power Linking of Multiple Devices

This device supports power linking. Power can be relayed to another device via the power OUT connector. Note that the input and the output connectors have different designs: one type cannot be connected to the other.

Power linking of multiple devices must be carried out only by instructed or skilled persons.

⚠	**WARNING** **Incorrect power linking may lead to overload of the electrical circuit and result in serious injuries and damage of property.**

To prevent overload of the electrical circuit, when power linking multiple devices:

● Use cables with sufficient current-carrying capacity. The power cable supplied with the device is not suitable for power linking of multiple devices.
● Make sure that the total current draw of the device and all connected devices does not exceed the rated capacity of the power cables and the circuit breaker.
● Do not link more devices on one power link than the maximum recommended number.

Maximum recommended number of devices:
● at 100–230 V: 15 devices NET-4/5 IP, 5-pin

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5. Setup

5.1. Warnings and Precautions

> **Attention**
> **Connect all data cables before supplying power.**
> **Disconnect power supply before connecting or disconnecting data cables.**

5.2. DMX Connection

5.2.1. DMX-512 Protocol

DMX-512 is a communication protocol used to control stage lighting and effects.

Devices on a serial data link must be daisy-chained in a single line. To comply with the TIA-485 standard, no more than 32 devices should be connected on one data link.

In order to connect more than 32 devices on one data link, you can use a DMX optically isolated splitter/booster. If no splitter/booster is used, this may result in deterioration of the DMX signal.

5.2.2. DMX Cables

Shielded twisted-pair cables with 5-pin XLR connectors must be used for a reliable DMX connection.
You can purchase DMX cables directly from your Highlite International dealer or make your own cables.

If you use XLR audio cables for DMX data transmission, this may lead to signal degradation and unreliable operation of the DMX network.

When you make your own DMX cables, make sure that you connect the pins and wires correctly as shown in Fig. 09.

Pin 1: GND (screen)
Pin 2: Signal (-)
Pin 3: Signal (+)
Pin 4: N/C
Pin 5: N/C

Pin 1: GND (screen)
Pin 2: Signal (-)
Pin 3: Signal (+)

Pin 1: GND (screen)
Pin 2: Signal (-)
Pin 3: Signal (+)

Pin 1: GND (screen)
Pin 2: Signal (-)
Pin 3: Signal (+)
Pin 4: N/C
Pin 5: N/C
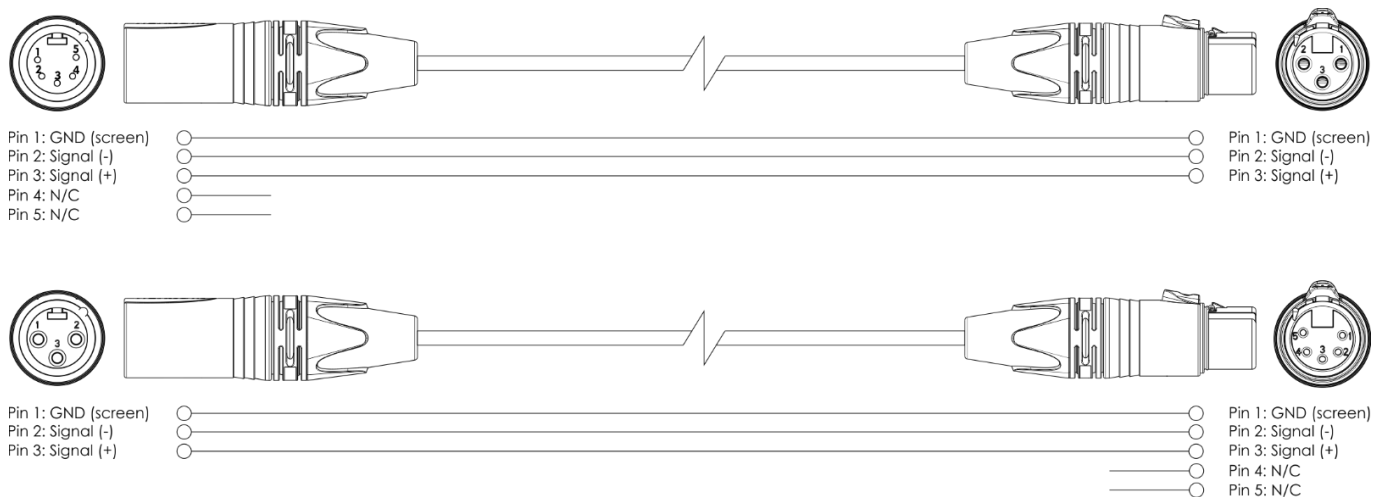
Fig. 09

5.3. Ethernet Connection

The Showtec NET-4/5 IP is a device that converts Art-Net or sACN signals to DMX and vice versa. It can be powered by the included power cable or via PoE (Power over Ethernet).

5.3.1. Art-Net/sACN Protocol

Art-Net is a protocol that uses TCP/IP to transfer a large amount of DMX-512 data over an Ethernet network. Art-Net 4 can support up to 32768 universes. Art-Net™ is designed by and copyright of Artistic Licence Holdings Ltd.

sACN (streaming Architecture for Control Networks), also known as ANSI E1.31, is a protocol developed by ESTA (Entertainment Services and Technology Association) for sending DMX-512 data over IP networks. It supports up to 63999 universes and uses multicasting.

5.3.2. Network Cables

Standard twisted-pair Ethernet cables (CAT-5/CAT-5E/CAT-6) can be used to connect the device to a computer or to a lighting controller that supports Art-Net or sACN.

If you make your own network cables, make sure that you connect the pins and wires correctly as shown in Fig. 10. Use RJ45 (8P8C) connectors and patch the cables according to the T568B color standard.
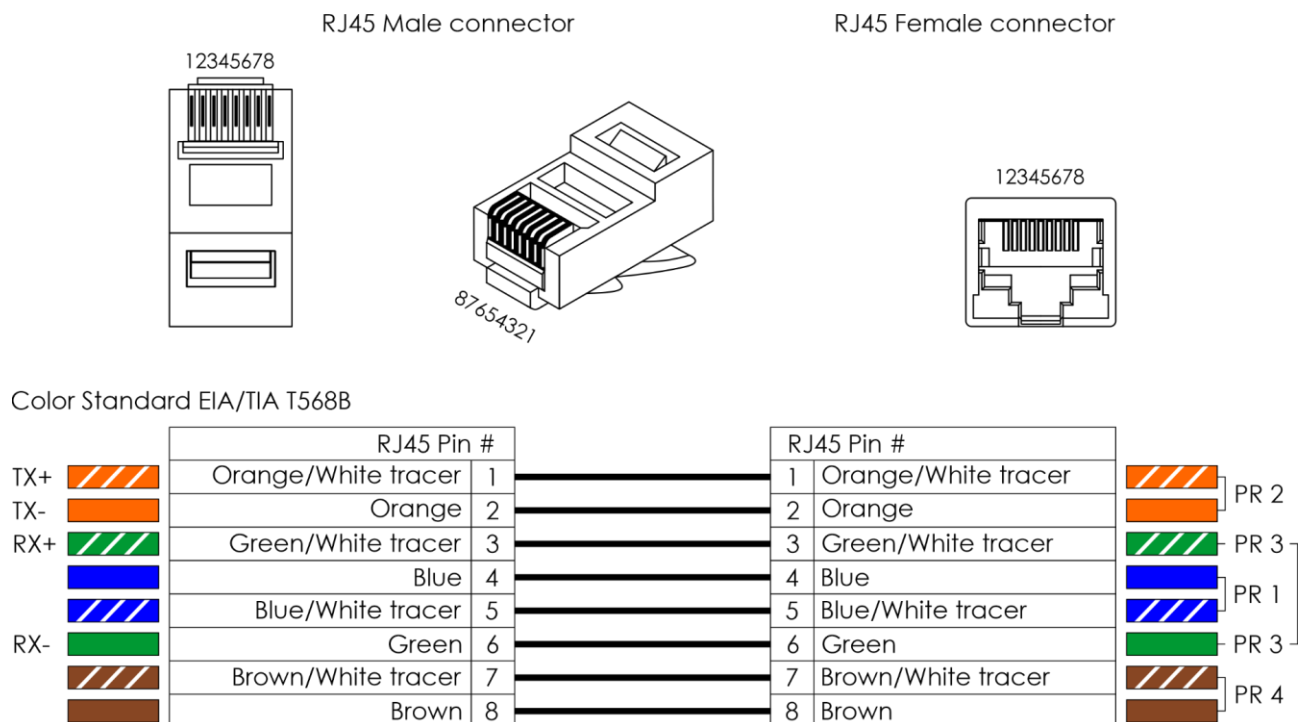
Fig. 10

5.3.3. Supported Pinout Modes

The Net-4/5 IP supports the following 2 pinout modes: 1000 mode A and 1000 mode B.

RJ45 Female connector

12345678

	1000 mode A		1000 mode B	
RJ45 Pin #				
1 Orange/White tracer	TXRX A +	DC+	TXRX A +	
2 Orange	TXRX A -	DC+	TXRX A -	
3 Green/White tracer	TXRX B +	DC-	TXRX B +	
4 Blue	TXRX C +		TXRX C +	DC+
5 Blue/White tracer	TXRX C -		TXRX C -	DC+
6 Green	TXRX B -	DC-	TXRX B -	
7 Brown/White tracer	TXRX D +		TXRX D +	DC-
8 Brown	TXRX D -		TXRX D -	DC-

Color Standard EIA/TIA T568B
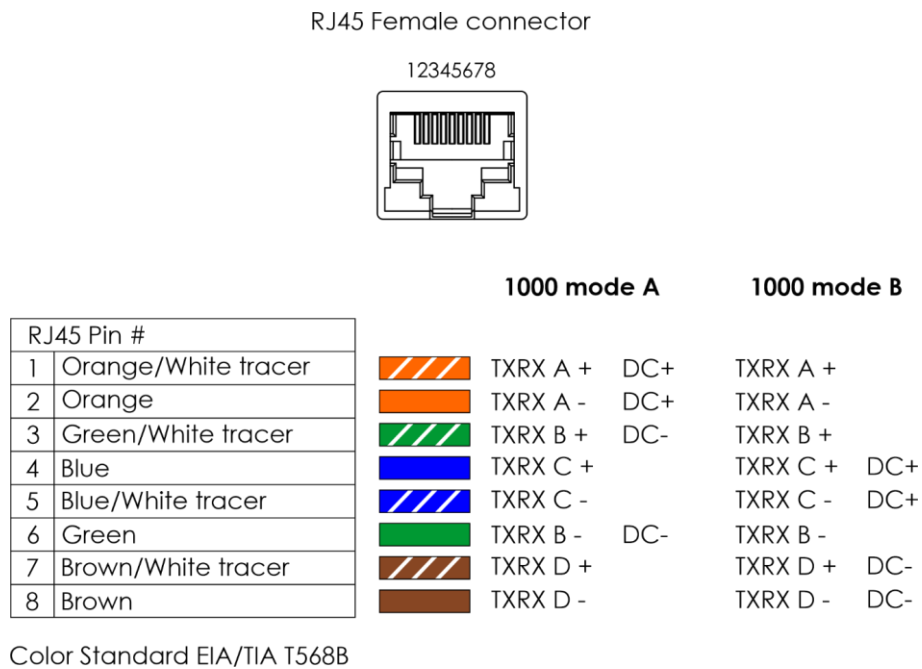
Fig. 11

5.4. Setup Examples

Fig. 12 shows a typical setup example without PoE.

DMX   DMX   DMX

CAT-5/CAT-5E/CAT-6
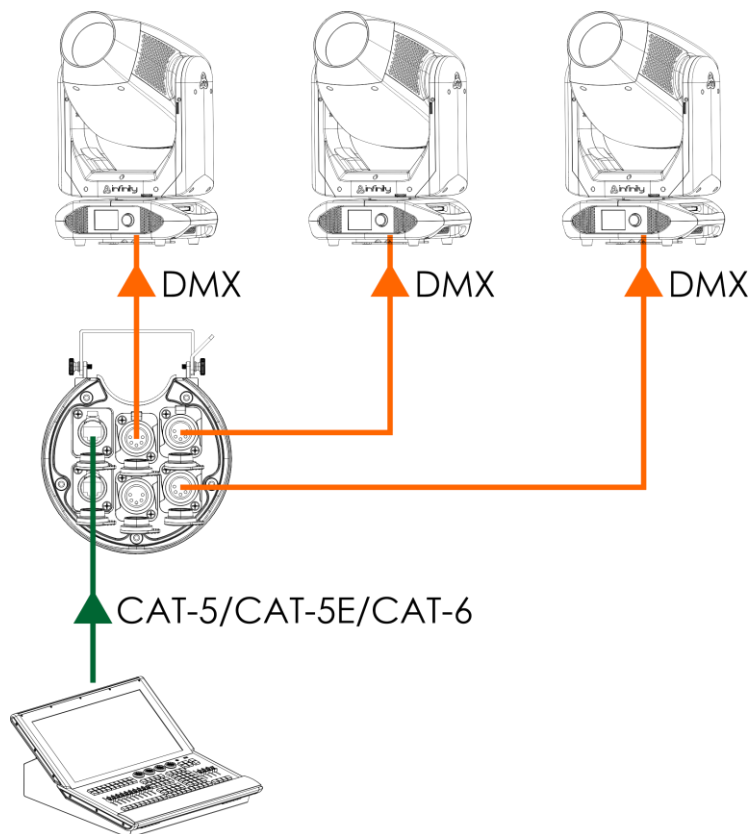
Fig. 12

Fig. 13 shows a typical setup example with power supplied over Ethernet (PoE) by power sourcing equipment (PSE). (e.g. 50811 - Net-5 PoE)

DMX   DMX   DMX

PoE / CAT-5/CAT-5E/CAT-6

CAT-5/CAT-5E/CAT-6
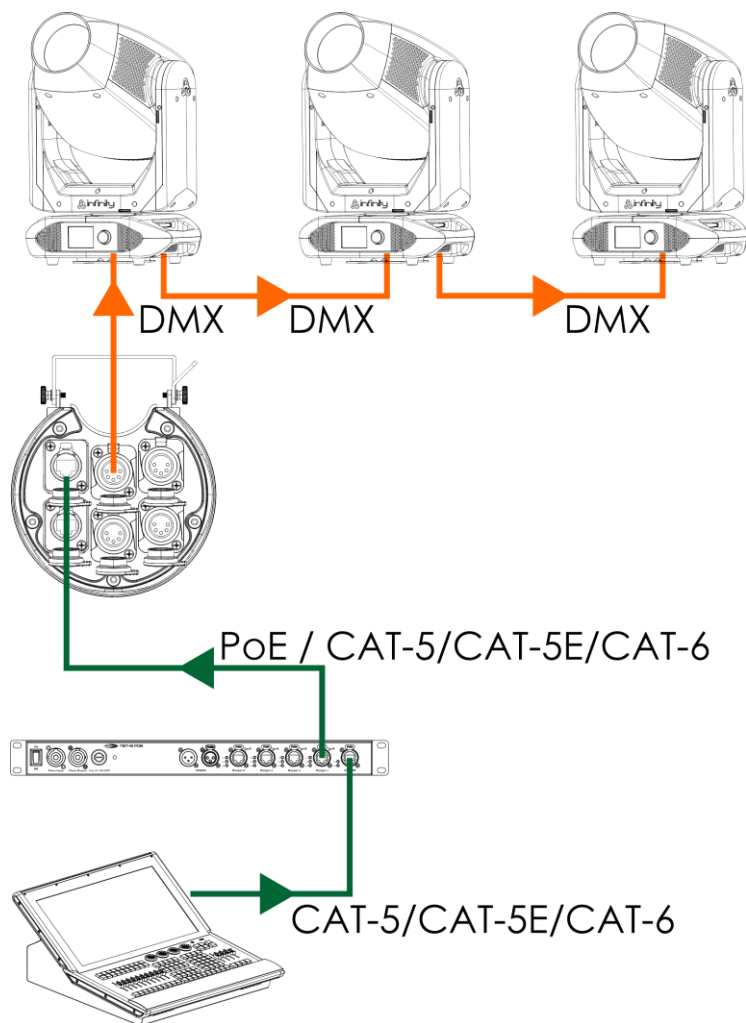
Fig. 13

6. Operation

6.1. Safety Instructions for Operation

> **Attention**
> **This device must be used only for the purposes it is designed for.**

This device is intended for use as a signal converter. It is suitable for use indoors and outdoors. It is not suitable for households.

Any other use, not mentioned under intended use, is regarded as non-intended and incorrect use.

> **Attention**
> **Power supply**

Before connecting the device to the power supply, make sure that the current, voltage and frequency match the input voltage, current and frequency specified on the information label on the device.

6.2. Configuration Options

The NET-4/5 IP can be configured to convert DMX signals into Art-Net or sACN and vice versa. The following configuration options are possible:

- Convert Art-Net/sACN to 4 x DMX outputs
- Convert 4 x DMX inputs to Art-Net/sACN
- Clone 4 x DMX input to 2 x DMX output and 2 x Art-Net/sACN
- HTP/LTP Merge 2 x Art-Net/sACN universes into 1 x DMX output
- HTP/LTP Merge 1 x DMX input and 1 x Art-Net/sACN into 1 x DMX output

When configured as output, each DMX port can merge up to 2 network sources. Merged data is sent to the DMX ports or looped back to Ethernet as a new universe. On each DMX port there can be 2 different network universes enabled: primary universe (main), and secondary universe (additional). Primary and secondary universes may have different protocols (Art-Net or sACN).

When configured as input, the DMX port can convert DMX-512 signal to Art-Net or sACN. The universe type and protocol for the input port is always taken from the primary universe. The NET-4/5 IP also supports a BACKUP function. In case of a failure, or when there are no DMX values on the primary Art-Net/sACN universe for more than 3 seconds, the NET-4/5 IP starts sending the DMX values from the backup port.

You can configure the device and the ports via the control panel (see **6.8. Main Menu Options** on page 23) and via a web browser (see **6.9. Configuration via Web Browser** on page 28).

6.3. Merging Modes

The device supports the following merging modes:

- SINGLE: Merging is disabled. The DMX signal is sent to the DMX port from the primary Art-Net or sACN universe.
- HTP (Highest Takes Precedence): The device will compare the values of the primary and secondary universes on the inputs and will send the highest value to the DMX port for each DMX channel in both universes.
- LTP (Latest Takes Precedence): The device will compare the values of the primary and secondary universes on the inputs and will send the last changed value to the DMX port for each DMX channel in both universes.

6.4. Control Panel

A) MENU button
B) OLED display
C) UP button
D) DOWN button
E) ENTER button

Fig. 14
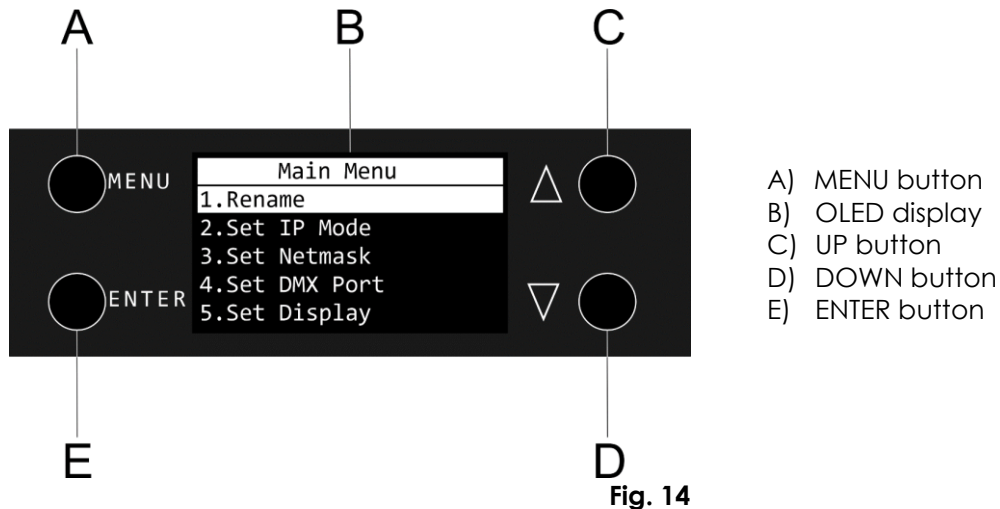
- Use the **MENU** button to open the main menu or to exit the current submenu and return to the previous menu.
- Use the **UP/DOWN** buttons to navigate through the menus or to increase/decrease numeric values.
- Use the **ENTER** button to open the desired menu, to confirm your choice or to set the currently selected value.

6.5. LED Statuses

There are 2 LED indicators on the device (**Ethernet LED indicator (06)** and **power LED indicator (07)**). The LED indicators have the following functions:

- ETHERNET: If the light is blinking, the device is receiving an Ethernet signal. The faster the flash, the faster the signal.
- POWER: If the light is on, the device is powered.

In the event that the **Ethernet LED indicator (06)** or **power LED indicator (07)** does not light up, see **7. Troubleshooting** on page 31 for more information.

6.6. Start-up

Upon start-up the display shows the start screen, which provides information about the device and the ports. Press the **UP/DOWN** buttons to navigate between the start screens.

Device Info
NET-4/5 IP
IP:2:0:0:1
Mask:255.0.0.0

DEVICE INFO
- Name of the device. To change the name, see **6.8.1. Rename** on page 23.
- IP address of the device. To set the IP address, see **6.8.2.1. Manual IP** on page 24.
- Netmask of the device. To set the Netmask, see **6.8.3. Set Netmask** on page 24.

DMX Port Status1		
N-S	1	2
Signal	√	x
Port	Out	In
Protoc	ArtNet	sACN
Univer	010	010

DMX PORT STATUS1
- N-S: Network Status of Port 1 and Port 2
- Signal: (✓) the port is connected; (x) the port is not connected; (---) the port is disabled
- Port: In – the port is input; Out – the port is output
- Protoc: ArtNet or sACN protocol
- Univer: Art-Net/sACN universe

DMX Port Status2		
N-S	3	4
Signal	√	x
Port	In	Out
Protoc	ArtNet	sACN
Univer	010	010

DMX PORT STATUS2
- N-S: Network Status of Port 3 and Port 4
- Signal: (✓) the port is connected; (x) the port is not connected; (---) the port is disabled
- Port: In – the port is input; Out – the port is output
- Protoc: ArtNet or sACN protocol
- Univer: Art-Net/sACN universe

Net Port Status		
Net	A	B
Link	x	√
Speed	0000	0000
Humid	053	
Temp	024	

NET PORT STATUS
- Net: Network Status of Port A and Port B
- Link: (✓) the port is connected; (x) the port is not connected; (---) the port is disabled
- Speed: the network speed
- Humid: the humidity of the device
- Temp: the temperature of the device

Note:

If no button is pressed, the display will stay on, or turn off after 10 or 30 seconds of inactivity depending on the display setting. See **6.8.5. Set Display** on page 27 for more information.

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6.7. Menu Overview

Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display

ENTER →

Rename
NET-4 IP........
Cancel   Enter

ENTER →

Rename
NET-. N ....
Cancel   Enter

Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display

ENTER →

IP Mode
1.DHCP IP
2.Manual IP

UP/DOWN

IP Mode
1.DHCP IP
2.Manual IP

ENTER →

IP Address
002.099.237.199
Cancel   Enter

ENTER →

IP Address
002. 002 .199
Cancel   Enter

Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display

ENTER →

Netmask
A. 255.000.000.000
B. 255.255.000.000
C. 255.255.255.000

UP/DOWN

Netmask
A. 255.000.000.000
B. 255.255.000.000
C. 255.255.255.000

UP/DOWN

Netmask
A. 255.000.000.000
B. 255.255.000.000
C. 255.255.255.000

Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display

ENTER →

DMX Port
1.DMX PORT 1
2.DMX PORT 2
3.DMX PORT 3
4.DMX PORT 4

ENTER →

DMX Port 1
1.DMX Status: Output
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 35Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Output
2.DM Output ingle
3.Pro   sACN
4.Frame Rate: 35Hz
5.RDM: Enable

ENTER → *

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM Input ingle
3.Pro   sACN
4.Frame Rate: 35Hz
5.RDM: Enable

ENTER → **

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM Disable ingle
3.Pro   sACN
4.Frame Rate: 35Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Disable

---

*

DMX Port 1
1.DMX Status: Output
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Output
2.DM Single ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM LTP ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM HTP ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Output
2.DM sACN ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM ArtNet ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

DMX Port 1
1.DMX Status: Output
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Output
2.DM 10Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 15Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 20Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 25Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 30Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 35Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM 40Hz ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable

ENTER →

DMX Port 1
1.DMX Status: Output
2.DM Enable ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

UP/DOWN

DMX Port 1
1.DMX Status: Output
2.DM Disable ingle
3.Pro   sACN
4.Frame Rate: 10Hz
5.RDM: Enable

DMX Port 1
2.DMX Mode: Single
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable
6.Network: 000

ENTER →

DMX Port 1
2.DMX Mode: Single
3.Pro 000 sACN
4.Fra   10Hz
5.RDM: Enable
6.Network: 000

UP/DOWN

DMX Port 1
2.DMX Mode: Single
3.Pro 255 sACN
4.Fra   10Hz
5.RDM: Enable
6.Network: 000

DMX Port 1
3.Protocol: sACN
4.Frame Rate: 10Hz
5.RDM: Enable
6.Network: 000
7.Primary: 010

ENTER →

DMX Port 1
3.Protocol: sACN
4.Fra 001 10Hz
5.RDM   nable
6.Network: 000
7.Primary: 010

UP/DOWN

DMX Port 1
3.Protocol: sACN
4.Fra 255 10Hz
5.RDM   nable
6.Network: 000
7.Primary: 010

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**

DMX Port 1
1.DMX Status: Input
2.DMX Mode: Normal
3.Protocol: sACN
4.Network: 000
5.Primary: 010

ENTER →

DMX Port 1
1.DMX Status: Input
2.DM[Normal]ormal
3.Pr[ ] sACN
4.Net[ ] 000
5.Primary: 010

UP/DOWN

DMX Port 1
1.DMX Status: Input
2.DM[ ]ormal
3.Pr[Backup] sACN
4.Net[ ] 000
5.Primary: 010

DMX Port 1
1.DMX Status: Input
2.DMX Mode: Normal
3.Protocol: sACN
4.Network: 000
5.Primary: 010

ENTER →

DMX Port 1
1.DMX Status: Input
2.DM[ ]ormal
3.Pr[sACN] sACN
4.Net[ ] 000
5.Primary: 010

UP/DOWN

DMX Port 1
1.DMX Status: Input
2.DM[ ]ormal
3.Pr[ArtNet] sACN
4.Net[ ] 000
5.Primary: 010

DMX Port 1
1.DMX Status: Input
2.DMX Mode: Normal
3.Protocol: sACN
4.Network: 000
5.Primary: 010

ENTER →

DMX Port 1
1.DMX Status: Input
2.DM[ ]ormal
3.Pr[000] sACN
4.Network: 000
5.Primary: 010

UP/DOWN

DMX Port 1
1.DMX Status: Input
2.DM[ ]ormal
3.Pr[255] sACN
4.Network: 000
5.Primary: 010

DMX Port 1
1.DMX Status: Input
2.DMX Mode: Normal
3.Protocol: sACN
4.Network: 000
5.Primary: 010

ENTER →

DMX Port 1
1.DMX Status: Input
2.DM[001]ormal
3.Pr[ ] sACN
4.Network: 000
5.Primary: 010

UP/DOWN

DMX Port 1
1.DMX Status: Input
2.DM[255]ormal
3.Pr[ ] sACN
4.Network: 000
5.Primary: 010

DMX Port 1
2.DMX Mode: Normal
3.Protocol: sACN
4.Network: 000
5.Primary: 010
6.Priority: 100

ENTER →

DMX Port 1
2.DMX Mode: Normal
3.Pr[000] sACN
4.Net[ ] 000
5.Prim[ ] 010
6.Priority: 100

UP/DOWN

DMX Port 1
2.DMX Mode: Normal
3.Pr[200] sACN
4.Net[ ] 000
5.Prim[ ] 010
6.Priority: 100

UP/DOWN (left vertical arrow)

Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display

ENTER →

OLED Display
1.Mode: Normal
2.BackLight(s): On

ENTER →

OLED Display
1.Mode: Normal
2.Ba[Normal] On

UP/DOWN

OLED Display
1.Mode: Normal
2.Ba[Inverse] On

UP/DOWN

OLED Display
1.Mode: Normal
2.BackLight(s): On

ENTER →

OLED Display
1.Mode: Normal
2.Ba[On] On

UP/DOWN

OLED Display
1.Mode: Normal
2.Ba[10] On

UP/DOWN

OLED Display
1.Mode: Normal
2.Ba[30] On

Main Menu
3.Set Netmask
4.Set DMX Port
5.Set Display
6.Set Default
7.Firmware Version

ENTER →

Factory Reset
Restore All Settings

Yes   No

ENTER →

Factory Reset
Restore successfully

Return

Main Menu
3.Set Netmask
4.Set DMX Port
5.Set Display
6.Set Default
7.Firmware Version

ENTER →

Firmware Version

CPU:B1.4 V0.3

6.8. Main Menu Options

The main menu has the following options:

```
        Main Menu
1.Rename
2.Set IP Mode
3.Set Netmask
4.Set DMX Port
5.Set Display
6.Set Default
7.Firmware Version
```

01) Press the **UP/DOWN** buttons to navigate through the main menu.
02) Press the **ENTER** button to open the submenus.

6.8.1. Rename
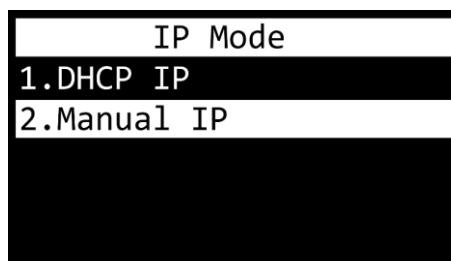
In this menu, you can rename the device.

```
        Rename

NET-4 IP_____


  Cancel    Enter
```

01) Press the **UP/DOWN** buttons to position the cursor on the character you want to change. The available characters are lowercase and uppercase letters, digits, punctuation marks and symbols.
02) Press the **ENTER** button to confirm the selection.
03) Press the **UP/DOWN** buttons to select the desired character.
04) Press the **ENTER** button to confirm the selection.
05) Repeat steps 1–4 as required.
06) Press the **UP/DOWN** buttons to position the cursor on Cancel or Enter.
07) Press the **ENTER** button to cancel or confirm the changes.

6.8.2. Set IP Mode

In this menu, you can set the IP mode of the device.

01) Press the **UP/DOWN** buttons to select one of the following 2 options:

```
        IP Mode
1.DHCP IP
2.Manual IP
```

- DHCP IP: The IP address will be configured automatically
- Manual IP: The IP address will be configured manually. See **6.8.2.1. Manual IP** for more information
02) Press the **ENTER** button to confirm the selection.

6.8.2.1. Manual IP

In this submenu, you can configure the IP address manually:

```
    IP Address                          IP Address

    002.099.237.199                     002. 002 .199


  Cancel    Enter                     Cancel    Enter
```

01) Press the **UP/DOWN** buttons to position the cursor on the number you want to change. The adjustment range for each number is 0–255.
02) Press the **ENTER** button to confirm the selection.
03) Press the **UP/DOWN** buttons to select the desired value.
04) Press the **ENTER** button to confirm the selection.
05) Repeat step 1–4 as required.
06) Press the **UP/DOWN** buttons to position the cursor on Cancel or Enter.
07) Press the **ENTER** button to cancel or confirm the changes.

6.8.3. Set Netmask

In this menu, you can set the netmask of the IP address to one of the following three options.

01) Press the **UP/DOWN** buttons to select the netmask.
02) Press the **ENTER** button to confirm the selection.

```
              Netmask
  A.  255.000.000.000
  B.  255.255.000.000
  C.  255.255.255.000
```

6.8.4. Set DMX Port

In this menu, you can configure the DMX port settings.

01) Press the **UP/DOWN** buttons to select one of the 4 DMX ports.
02) Press the **ENTER** button to confirm the selection.

```
             DMX Port
  1.DMX PORT 1
  2.DMX PORT 2
  3.DMX PORT 3
  4.DMX PORT 4
```

Note:

The submenu that opens depends on the configuration of the port (DMX status: Output, Input or Disable).

● See **6.8.4.1. DMX Status: Output** for more information.
● See **6.8.4.2. DMX Status: Input** for more information.
● See **6.8.4.3. DMX Status: Disable** for more information.

6.8.4.1. DMX Status: Output

In this submenu, you can configure the DMX port settings.

01) Press the **UP/DOWN** buttons to select one the following 7 options:

```
        DMX Port 1
1.DMX Status:   Output
2.DMX Mode:        LTP
3.Protocol:     ArtNet
4.Frame Rate:     40Hz
5.RDM:          Enable
6.Network:         000
7.Primary:         010
8.Secondary:       002
9.Resend:          004
```

- DMX Status: Set the DMX status. The available options are Output, Input and Disable.
- DMX Mode: Set the DMX mode. The available options are Single, LTP and HTP.
- Protocol: Set the protocol. The available options are sACN or ArtNet.
- Frame Rate: Set the DMX data refresh rate. The available options are 10 Hz, 15 Hz, 20 Hz, 25 Hz, 30 Hz, 35 Hz and 40 Hz.
- RDM: Set the RDM. The available options are Enable or Disable.
- Network: Set the ArtNet/sACN network number. The adjustment range is 0–255.
- Primary: Set the primary ArtNet/sACN number. The adjustment range is 1–255.

Note:

Secondary and Resend settings are only available when the DMX mode is set to LTP or HTP.

- Secondary: Set the secondary Art-Net/sACN universe number. The adjustment range is 1–255.
- Resend: Set the resend universe number. The adjustment range is 1–255. This setting determines which universe to rebroadcast onto the network. This function is only available when the network port is set between 0–127. For the 128–255 network range, the resend function is disabled.

02) Press the **ENTER** button to confirm the selection.
03) Press the **UP/DOWN** buttons to select the required setting.
04) Press the **ENTER** button to confirm the selection.

6.8.4.2. DMX Status: Input

In this submenu, you can adjust the DMX port settings.

01) Press the **UP/DOWN** buttons to select one the following 6 options:

```
┌──────────────────────────┐
│        DMX Port 1        │
│ 1.DMX Status:     Input  │
│ 2.DMX Mode:      Normal  │
│ 3.Protocol:        sACN  │
│ 4.Network:          000  │
│ 5.Primary:          010  │
│ 6.Priority:         100  │
└──────────────────────────┘
```

- DMX Status: Set the DMX status. The available options are Output, Input and Disable.
- DMX Mode: Set the DMX mode. The available options are Normal or Backup. In normal DMX mode, the input port acts as a primary controller. In backup DMX mode, the input port acts as a backup controller.
- Protocol: Set the protocol. The available options are sACN or ArtNet.
- Network: Set the network number. The adjustment range is 0–255.
- Primary: Set the primary number. The adjustment range is 1–255.
- Priority: Set the priority. The adjustment range is 0–200.

Note:

Priority is only available with the sACN protocol.

02) Press the **ENTER** button to confirm the selection.
03) Press the **UP/DOWN** buttons to select the required setting.
04) Press the **ENTER** button to confirm the selection.

6.8.4.3. DMX Status: Disable

In this submenu, the port is disabled.

```
┌──────────────────────────┐
│        DMX Port 1        │
│ 1.DMX Status:   Disable  │
│                          │
│                          │
│                          │
│                          │
│                          │
└──────────────────────────┘
```

6.8.5. Set Display

In this menu, you can adjust the settings of the OLED display.

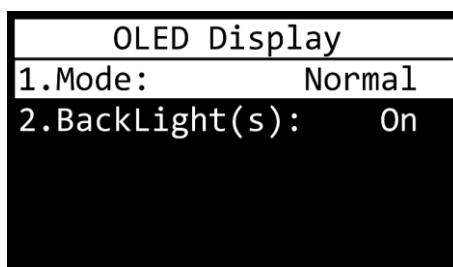01) Press the **UP/DOWN** buttons to select one of the following 2 options:
- Mode: Set the orientation of the OLED display. The available options are Normal or Inverse. If Inverse is selected the OLED display will be rotated by 180°.

Note:

If the display is rotated by 180°, the function of the buttons on the control panel will also be reversed. The **MENU** button will function as the **ENTER** button and vice versa. The **UP** button will function as the **DOWN** button and vice versa.

- Backlight(s):   Set the backlight of the OLED display. The available options are On, 10 and 30. Depending on the setting, the display will stay on or turn off after 10 or 30 seconds.

02) Press the **ENTER** button to confirm the selection.

```
      OLED Display
1.Mode:          Normal
2.BackLight(s):      On


```

6.8.6. Set Default

In this menu, you can reset the settings of the device to the default factory settings.

```
     Factory Reset

Restore All Settings


  Yes           No
```
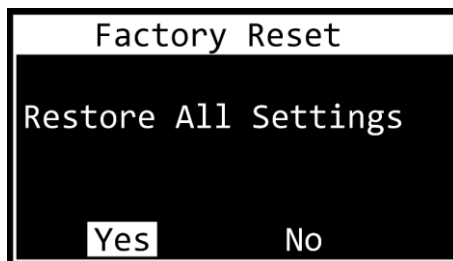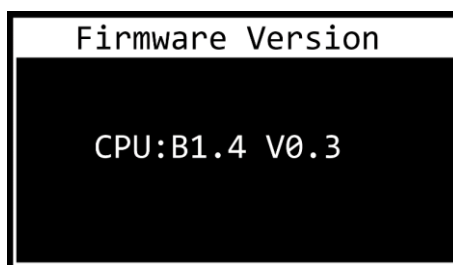
01) Press the **UP/DOWN** buttons to select Yes or No.
02) Press the **ENTER** button to confirm the selection.

6.8.7. Firmware Version

In this menu, you can view the firmware version of the device.

```
    Firmware Version


     CPU:B1.4 V0.3


```

6.9.   Configuration via Web Browser

The NET-4/5 IP can be configured remotely via a web interface by following the steps below:

01) Insert a CAT5/CAT6 cable into the **Ethernet connector IN (12)** on the device and into the network port on a laptop/computer.
02) Configure the network address of the computer or laptop in the correct range (IP 2.x.x.x or 10.x.x.x and Subnet 255.0.0.0).
03) Open a web browser and enter the IP address of the NET-4/5 IP in the address bar. For the current IP address of the device, check the information on the start screen during start-up (see **6.6. Start-up** on page 20).
04) Press Enter on the computer or laptop keyboard.
05) Enter the log-in details when prompted:
● Log-in account: Admin
● Password: Admin (You can change the password after you log in.)

The web interface offers the same configuration settings as the control panel. For the available configuration options, refer to the respective sections in **6.8. Main Menu Options** on pages 23–27.

Note:

If you change a setting via the control panel, you need to refresh the web browser to see the new setting in the browser window.

Show tec · NET-4 IP
4 Port DMX Ethernet Node

Device Settings

Device Name	NET-4/5 IP	New Password	
DHCP Mode	Manual IP	LCD Backlight	On
IP Address	2.0.0.1	Display Direction	Normal
Net Mask	255.0.0.0	Factory Reset	No
Firmware Version	B1.4 V0.3		

Port Settings

DMX Port 01		DMX Port 02	
DMX Status	Input	DMX Status	Input
DMX Mode	Normal	DMX Mode	Normal
Protocol	ArtNet	Protocol	sACN
Network	10	Network	10
Primary	20	Primary	20
		Priority	1

DMX Port 03		DMX Port 04	
DMX Status	Output	DMX Status	Output
DMX Mode	HTP	DMX Mode	Single
Protocol	sACN	Protocol	sACN
Frame Rate	35Hz	Frame Rate	35Hz
RDM	Enable	RDM	Enable
Network	30	Network	70
Primary	40	Primary	80
Secondary	50		
Resend	60 ☑		

Apply   Cancel

Firmware Upgrade

Please select a firmware file.

File Path: Choose File No file chosen   Upload File

Tips: If no activity after 20 seconds,please re-upload.Do not attempt to re-upload prior to the 20 seconds.

- Use the drop-down menus or enter the respective values to configure the settings of the device and the 4 DMX ports.
- Click **Apply** to save the changes.
- Click **Cancel** to discard the changes.

6.9.1. Changing the Password

To change the password, follow the steps below:

01) Log in with your current password.
02) Enter the new password in the New Password field.
03) Click **Apply** to save the changes.

6.9.2. Updating the Firmware

You can update the firmware of the NET-4/5 IP via the web interface. If an update is available for this device, you can download it from the product's page on www.highlite.com.

01) Scroll to the Downloads section and click on Product files and software.
02) Select the file and download it.
03) Click Open on the dialog box to confirm the selection.
04) Click **Upload File** to start the firmware update process.
05) Follow the instructions on the browser to complete the update.

Note:

It can take up to 20 seconds to update the firmware. Do not click any buttons before the update is complete.

06) After completion of the firmware update, reset the NET-4/5 IP to the default factory settings. See **6.8.6. Set Default** on page 27.

Note:

When you update the firmware, all previously configured settings will be lost.

7. Troubleshooting

This troubleshooting guide contains solutions to problems which can be carried out by an ordinary person. The device does not contain user-serviceable parts.

Unauthorized modifications to the device will render the warranty void. Such modifications may result in injuries and material damage.

Refer servicing to instructed or skilled persons. Contact your Highlite International dealer in case the solution is not described in the table.

Problem	Probable cause(s)	Solution
The device does not function at all	No power to the device	● Check if power is switched on and cables are plugged in
	Main fuse is blown	● Replace the fuse. See **8.3.1. Replacing the Fuse** on page 33
No DMX data transfer	Bad data link connection	● Examine connections and cables. Correct poor connections. Repair or replace damaged cables
	The signal is reversed. The 3-pin DMX OUT of the controller does not match the DMX IN of the device	● Install a phase-reversing cable between the controller and the device
	The last device on the data link before the input is defective	● Remove or replace the last device on the data link before the input and check if normal operation is restored

8. Maintenance

8.1. Safety Instructions for Maintenance

> **DANGER**
> **Electric shock caused by dangerous voltage inside**

Disconnect power supply before servicing or cleaning.

8.2. Preventive Maintenance

> **Attention**
> **Before each use, examine the device visually for any defects.**

Make sure that:

- All screws used for installing the device or parts of the device are tightly fastened and are not corroded.
- The safety devices are not damaged.
- There are no deformations on housings, fixations and installation points.
- The power cables are not damaged and do not show any material fatigue.

8.2.1. Basic Cleaning Instructions

To clean the device, follow the steps below:

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for 5 minutes.
03) Clean the device with a soft, lint-free cloth.

> **Attention**

- Do not immerse the device in liquid.
- Do not use alcohol or solvents.
- Make sure that the connections are fully dry before connecting the device to the power supply and to other devices.

8.3. Corrective Maintenance

The device does not contain user-serviceable parts. Do not open the device and do not modify the device.

Refer repairs and servicing to instructed or skilled persons. Contact your Highlite International dealer for more information.

8.3.1. Replacing the Fuse

> ⚠ **DANGER**
> **Electric shock caused by short-circuit**

- Do not bypass the thermostatic switch or fuses.
- For replacement use fuses of the same type and rating only.

Power surges, short-circuit or incorrect electrical power supply may cause a fuse to burn out. If the fuse burns out, the device will not function anymore. If this happens, follow the steps below:

01) Disconnect the device from the electrical power supply.
02) Allow the device to cool down for at least 5 minutes.
03) Loosen the fuse cover by hand and remove the fuse holder.
04) If the fuse is brown or unclear, it is burned out. Remove the old fuse.
05) Insert a new fuse in the fuse holder. Make sure that the type and the rating of the replacement fuse are the same as the ones specified on the information label of the product.
06) Replace the fuse holder in the opening and tighten the fuse cover.

9. Deinstallation, Transportation and Storage

9.1. Instructions for Transportation

⚠️ **WARNING**
Incorrect deinstallation can cause serious injuries and damage of property.

- Let the device cool down before dismounting.
- Disconnect power supply before deinstallation.
- Always observe the national and site-specific regulations during deinstallation and derigging of the device.
- Wear personal protective equipment in compliance with the national and site-specific regulations.

9.2. Instructions for Deinstallation

- Use the original packaging to transport the device, if possible.
- Always observe the handling instructions printed on the outer carton box, for example: "Handle with care", "This side up", "Fragile".

9.3. Storage

- Clean the device before storing. Follow the cleaning instructions in chapter **8.2.1. Basic Cleaning Instructions** on page 32.
- Store the device in the original packaging, if possible.

10. Disposal

Correct disposal of this product

Disposal of Old Electrical and Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product, its packaging or documents indicates that the product shall not be treated as household waste. Dispose of this product by handing it to the applicable collection point for the recycling of electrical and electronic equipment. This is to avoid environmental damage or personal injury due to uncontrolled waste disposal. For more detailed information about recycling of this product contact the local authorities or the authorized dealer.

11. Approval

$C\epsilon$ UK CA

Check the respective product page on the website of Highlite International (www.highlite.com) for an available declaration of conformity.