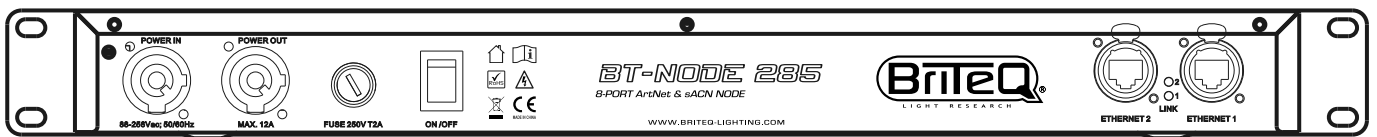
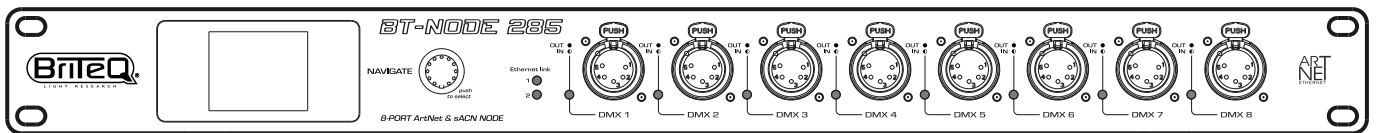
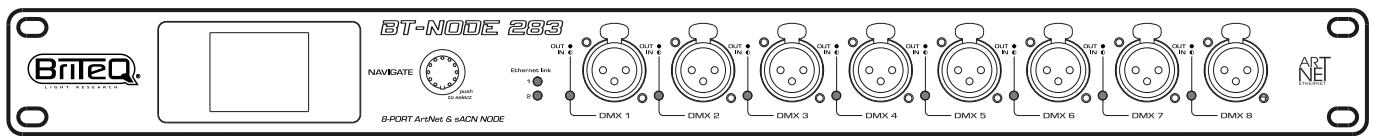


# BT-NODE 283

# BT-NODE 285

8-PORT ArtNet & sACN NODE



# ENGLISH

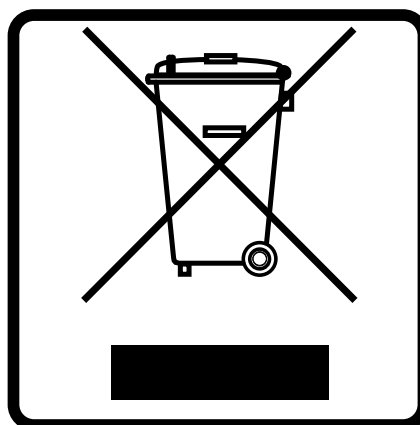
## Operation Manual

Other languages can be downloaded from:  
[WWW.BRITEQ-LIGHTING.COM](http://WWW.BRITEQ-LIGHTING.COM)



Version: 1.1





### **EN - DISPOSAL OF THE DEVICE**

Dispose of the unit and used batteries in an environment friendly manner according to your country regulations.

### **FR - DÉCLASSER L'APPAREIL**

Débarrassez-vous de l'appareil et des piles usagées de manière écologique conformément aux dispositions légales de votre pays.

### **NL - VERWIJDEREN VAN HET APPARAAT**

Verwijder het toestel en de gebruikte batterijen op een milieuvriendelijke manier conform de in uw land geldende voorschriften.

### **DU - ENTSORGUNG DES GERÄTS**

Entsorgen Sie das Gerät und die Batterien auf umweltfreundliche Art und Weise gemäß den Vorschriften Ihres Landes.

### **ES - DESHACERSE DEL APARATO**

Reciclar el aparato y pilas usadas de forma ecologica conforme a las disposiciones legales de su pais.

### **IT - SMALTIMENTO DEL DISPOSITIVO**

Smaltire l'unità e le batterie esaurite in modo ecocompatibile, nel rispetto delle normative vigenti nel proprio paese.

# ***OPERATION MANUAL***

Thank you for buying this Briteq® product. To take full advantage of all possibilities and for your own safety, please read these operating instructions very carefully before you start using this unit.

## **FEATURES**

- High speed Art-Net and sACN Node with 8 highly configurable DMX ports.
- Automatic Ethernet bypass in case of power failure.
- Perfect for both install and rental market with configurations over Art-Net support and DHCP.
- Versatile control options:
  - Integrated web interface: easy configuration via network PC.
  - Big graphic LCD display and rotary encoder for easy monitoring and setup.
- The 8 DMX ports can all be configured as in- or outputs:
  - Configured as input: normal mode
  - Configured as output: single, LTP, HTP mode.
- Multiple pre-defined presets available and custom presets.
- Easy IP merging of universes
- RDM over Art-Net compatible.
- All DMX ports are equipped with 3 or 5-pin XLR-connectors (both versions available)
- 100-240Vac 50/60Hz PowerCon® compatible in- and output for daisy chaining.
- Housing 1U 19" housing

## **BEFORE USE**

- Before you start using this unit, please check if there's no transportation damage. Should there be any, do not use the device and consult your dealer first.
- Important: This device left our factory in perfect condition and well packaged. It is absolutely necessary for the user to strictly follow the safety instructions and warnings in this user manual. Any damage caused by mishandling is not subject to warranty. The dealer will not accept responsibility for any resulting defects or problems caused by disregarding this user manual.
- Keep this booklet in a safe place for future consultation. If you sell the fixture, be sure to add this user manual.
- To protect the environment, please try to recycle the packing material as much as possible.

### **Check the contents:**

Check that the carton contains the following items:

- BT-NODE283 (XLR 3pin) or BT-NODE285 (XLR 5pin)
- Operating instructions
- Power cable
- 4 small feet to optionally install on the housing.

## SAFETY INSTRUCTIONS:



**CAUTION:** To reduce the risk of electric shock, do not remove the top cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user or the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.



This symbol means: indoor use only



This symbol means: Read instructions

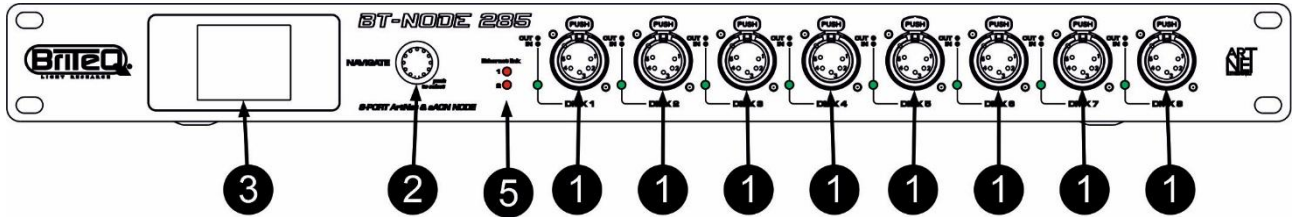
- To avoid condensation forming inside, allow the unit to adapt to the surrounding temperatures when bringing it into a warm room after transport. Condense sometimes prevents the unit from working at full performance or may even cause damage.
- To prevent fire or shock hazard, do not expose this appliance to rain or moisture.
- This unit is for indoor use only.
- Don't place metal objects or spill liquid inside the unit. No objects filled with liquids, such as vases, shall be placed on this appliance. Electric shock or malfunction may result. If a foreign object enters the unit, immediately disconnect the mains power.
- No naked flame sources, such as lighted candles, should be placed on the appliance.
- Don't cover any ventilation openings as this may result in overheating.
- Prevent use in dusty environments and clean the unit regularly.
- Keep the unit away from children.
- Inexperienced persons should not operate this device.
- Maximum ambient temperature is 40°C. Don't use this unit at higher ambient temperatures.
- Always unplug the unit when it is not used for a longer time or before you start servicing.
- The electrical installation should be carried out by qualified personnel only, according to the regulations for electrical and mechanical safety in your country.
- Check that the available voltage is not higher than the one stated on the rear panel of the unit.
- The socket inlet shall remain operable for disconnection from the mains.
- The power cord should always be in perfect condition: switch the unit immediately off when the power cord is squashed or damaged. It must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard
- Never let the power cord come into contact with other cables!
- This appliance must be grounded to in order comply with electrical safety regulations.
- In order to prevent electric shock, do not open the cover. Apart from the mains fuse there are no user serviceable parts inside.
- **Never** repair a fuse or bypass the fuse holder. **Always** replace a damaged fuse with a fuse of the same type and electrical specifications!
- In the event of serious operating problems, stop using the appliance and contact your dealer immediately.
- Please use the original packaging when the device is to be transported.
- Due to safety reasons, it is prohibited to make unauthorized modifications to the unit.

## MAINTENANCE

Clean by wiping with a polished cloth slightly dipped with water. Avoid getting water inside the unit. Do not use volatile liquids such as benzene or thinner which will damage the unit.

# DESCRIPTION

## FRONT PANEL



1. **8x XLR female connectors:** DMX-in/outputs with XLR-3pin or XLR-5pin, depending on the version.
  - LED on: port configured as output
  - LED off: port not used (off state)
  - LED blinking: port configured as input

**IMPORTANT NOTE:** All XLR-connectors are female, which is the standard “DMX-output” connector. So if you configure a DMX-port as a “DMX-input”: don’t forget to add an XLR male/male-adapter!



2. **NAVIGATION ENCODER:** used to navigate the display
3. **DISPLAY:** shows the following information (also see chapter “DEVICE INTERFACE”)
  - IP address
  - Port universe
  - Port direction
  - Port protocol
  - No DMX mode

## REAR PANEL



4. **2x RJ45 Ethercon:** with power loss bypass
5. **Ethernet Link LED:** Blinks when packets are received or sent.
6. **PowerCon compatible power connector in /out:** 100V – 240V 50/60Hz. (16A linking capacity)

## ABOUT ART-NET

Art-Net is an Ethernet protocol based on the TCP/IP protocol suite. Its purpose is to allow transfer of large amounts of DMX512 data over a wide area using standard networking technology.

**Credits:** Art-Net™ Designed by and Copyright Artistic License Holdings Ltd

## ABOUT sACN

Architecture for Control Networks (ACN) is a suite of network protocols for control of entertainment technology equipment, particularly as used in live performance or large-scale installations. ACN was initially designed to be layered on top of UDP/IP and therefore will run over most IP transports including standard, inexpensive Ethernet and 802.11 (Wi-Fi) networks.

**Credits:** Entertainment Services and Technology Association

## DEVICE INTERFACE

The complete device can be configured using the screen on the front panel or via an intuitive Web interface on a network PC. You just have to login on the IP address of the unit. If you do not know the IP address:

- Check the IP-address on the LCD-display of the unit.
- Or use Art-Net poll software like “DMX-Workshop” (<https://singularity-uk.com/product/dmx-workshop/>).

### Menu map

Level 0	Level 1	Level 2	Level 3	Defaults
<b>Network</b>	IP mode	Custom/2.x.x.x/10.x.x.x		2.x.x.x
	IP address			
	Subnetmask			
	Gateway			
	Back			
<b>Ports</b>	Port 1	Direction	Disabled/Out/in	Out
		Protocol	Art-Net/sACN	Art-Net
		Mode	Single/HTP/LTP	Single
		Frame Rate	1-40	40
		Universe	0-32767	
		No DMX	Hold/Zero/Off	Hold
		RDM Period	0-999	0
		Back		
	...			
	Port 8			
Back				
<b>Presets</b>	Artnet-DMX 1-8			Art-Net - DMX 1-8
	DMX-Artnet 1-8			
	sACN-DMX 1-8			
	DMX-sACN 1-8			
	1 DMX Splitter			
	2 DMX splitter			
	Artnet-DMX 9-16			
	sACN-DMX 9-16			
	User preset 1	Load		
		Save current		
	back			
...				
User preset 8				
<b>DMX out</b>	DMX Break	92-999		176
	DMX MAB	12-999		24
	Back			
<b>Display</b>	Screen mode	On/ Off/ Status		Status
	Screen time	3-255		10
	Version			
	Lock	On/Off		
	Back			
<b>Load defaults</b>	Port reset	Yes/No		
	Factory reset	Yes/No		
	Back			
<b>Back</b>				

**NETWORK****Used to set the network related settings**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **Network** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **IP mode:** Select IP mode of the network module
    - **Custom:** Custom IP address
    - **2xx:** Random 2.x.x.x IP address
    - **10xx:** Random 10.x.x.x IP address
  - **IP address:** Set custom IP address
  - **Subnet Mask:** Set Subnet mask
  - **Gateway:** Set network gateway address

**PORTS****Used to configure the XLR-ports**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **Ports** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **Direction:** Set port direction
    - **Disable:** Disables the port
    - **Out:** Set the port as an output
    - **In:** Set the port as an input
  - **Protocol:** Set port network protocol
    - **Art-Net:** Set the used protocol to Art-Net
    - **sACN:** Set the used protocol to sACN
  - **Mode:** Set port merge mode (only applicable when port is set as output)
    - **Single:** Disables merging
    - **HTP:** Set merging to HTP (Highest Takes Precedence)
    - **LTP:** Set merging to LTP (Latest Takes Precedence)
  - **Frame Rate:** Set input/output frame rate
  - **Universe:** Set universe to convert to input/output
  - **No DMX:** Set behavior when DMX signal is lost
    - **Hold:** Hold the latest transmitted value
    - **Zero:** Transmit zero on all channels
    - **Off:** Stop transmitting DMX
  - **RDM Period:** Set time frame where RDM can be communicated

**PRESETS****Select or create predefined presets**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **Presets** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **Artnet->DMX 1-8:** Set ports 1-8 to receive Art-Net universes 1-8
  - **DMX->Artnet 1-8:** Set ports 1-8 to input DMX to Art-Net universes 1-8
  - **sACN->DMX 1-8:** Set ports 1-8 to receive sACN universes 1-8
  - **DMX->sACN 1-8:** Set ports 1-8 to input DMX to sACN universes 1-8
  - **DMX Split 1->7:** Duplicate DMX input on port 1 to ports 2-8
  - **DMX split 2x 1->3:** Duplicate DMX input on port 1 to ports 2-4 and duplicate DMX input on port 5 to ports 6-8
  - **Artnet->DMX 9-16:** Set ports 1-8 to receive Art-Net universes 9-16
  - **sACN->DMX 9-16:** Set ports 1-8 to receive sACN universes 9-16
  - **User preset 1:**
    - **Load:** Load the saved preset
    - **Save current:** Save current settings into the user preset
  - ...
  - **User preset 8**

**DMX OUT**

**Adjust DMX output settings**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **DMX Out** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **DMX Break:** Determines the pause between generated DMX packets
  - **DMX MAB:** Adjusts the length of the “Mark After Break” of the generated DMX signal.

**DISPLAY**

**Used to set display related settings**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **Display** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **Screen mode:** Set screen behavior
    - **Status:** after [screen time] show the **Status screen**
    - **On:** Display will stay on
    - **Off:** Display will turn off after [screen time]
  - **Screen time:** Set the time before the display will turn to it’s second function
  - **Version:** Displays the current firmware version
  - **Lock:** Enables the lock function. When enabled, turning the knob Right, Left, Right, Left will unlock the fixture.

**LOAD DEFAULTS**

**Used to reset the device**

- Press the Navigate encoder.
- Turn the Navigate encoder clockwise until **Load Defaults** is selected on the display.
- Press the Navigate encoder to select.
- Turn the Navigate encoder to select one of the available options and confirm with a press:
  - **Port reset:** Reset port configurations
  - **Factory reset:** Reset everything (including IP-related settings) to factory default

**Status screen on the front panel**

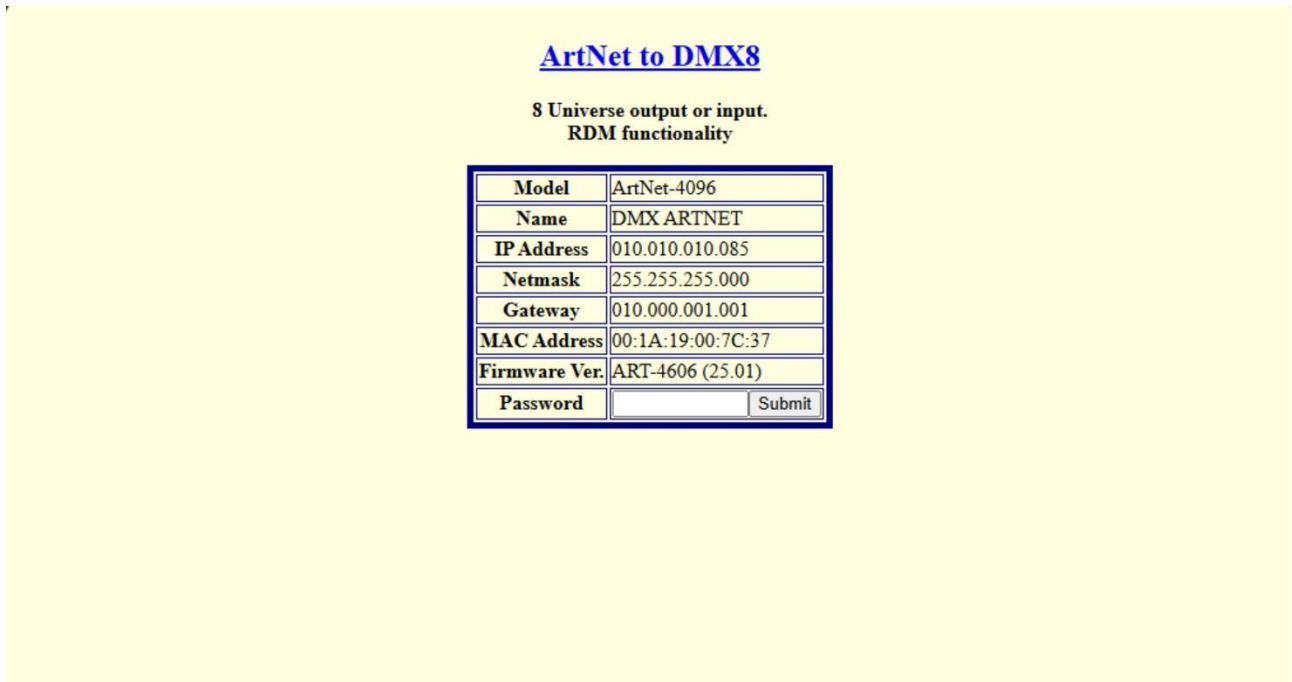
IP Addr: 002.052.124.055								
Univ	1	2	3	4	5	6	7	8
Dir	O	O	O	O	O	O	O	I
Prot	A	A	A	A	A	A	A	S
Lost	H	H	H	H	0	-	-	-

On the main screen you have an overview of the:

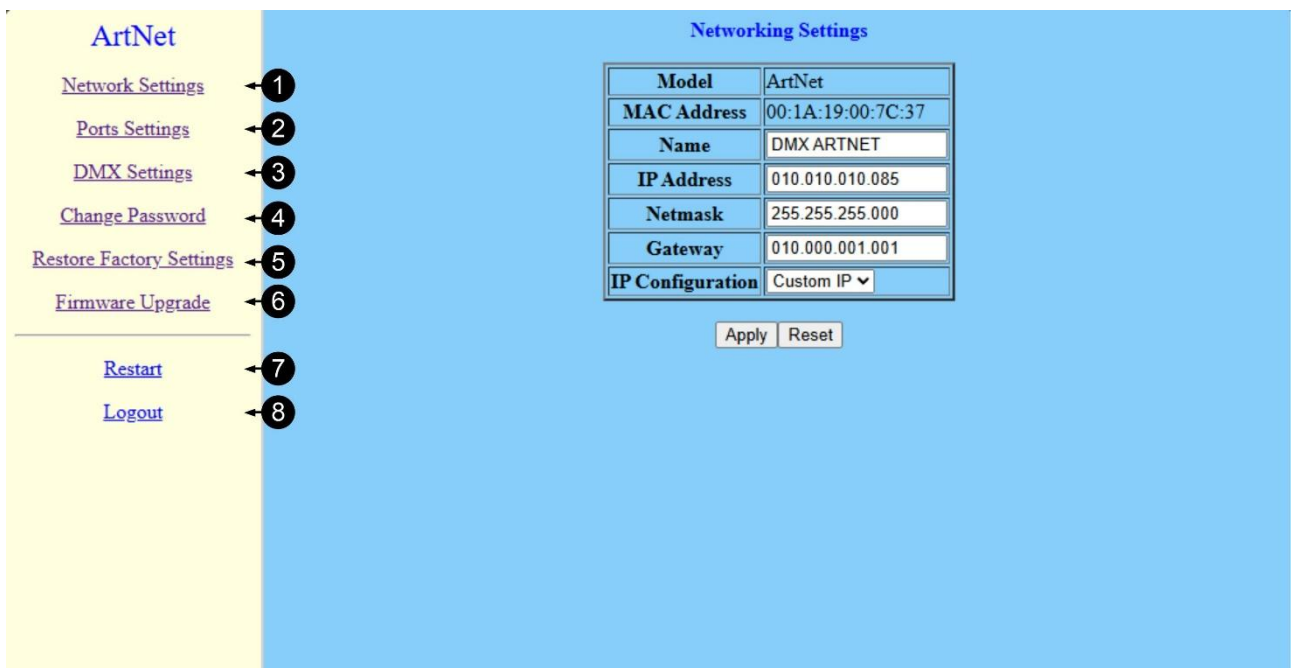
- **IP address**
- Port **universe**
- Port **direction**
  - O : Output
  - I : Input
  - E : Error
- Port **protocol**
  - A : Art-Net
  - S : sACN
- Port DMX **lost** setting
  - H : Hold
  - 0 : Zero
  - - : Off

## WEBPAGE INTERFACE

After all connections and setup on the computer are completed, open your favorite web browser (we recommend **Firefox**) and enter the IP address you want to reach in the URL field: [Http://2.x.x.x](http://2.x.x.x) or the custom IP address set by the user. The IP-address is indicated on the Display of the node.

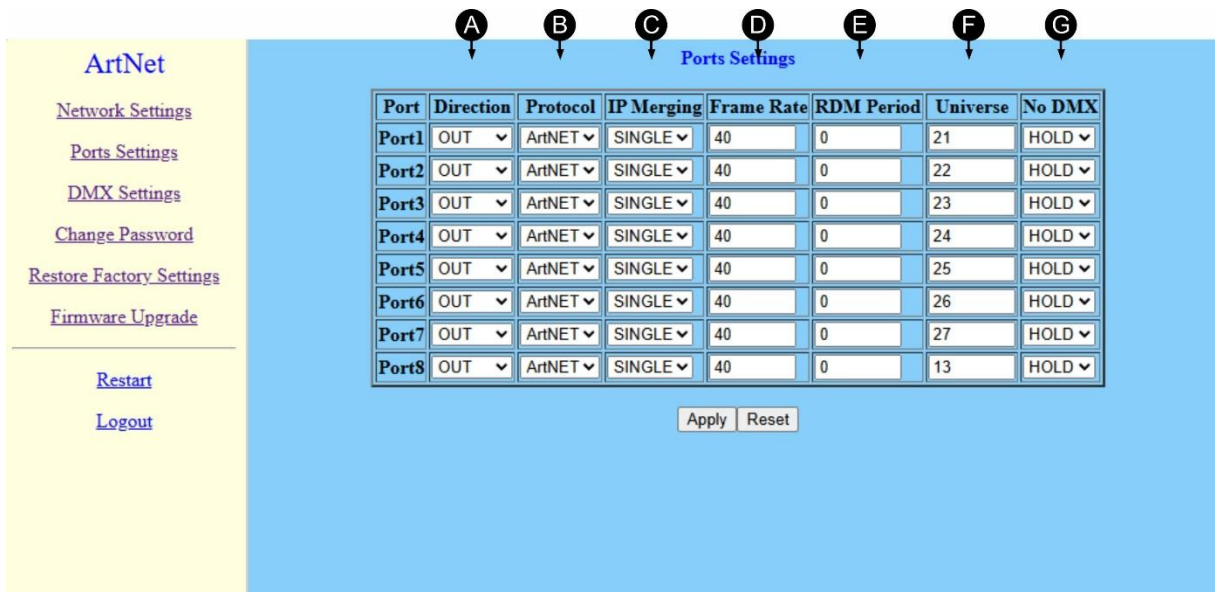


The login page of the BT-NODE283/285 opens. The default password is "admin"



The SIDE of the main screen contains 8 tabs:

1. **Network Settings tab:** To adjust the network related settings. Parameters to edit: **A.**
  - Name
  - IP Address
  - Netmask
  - Gateway
  - IP configuration



2. **Ports Settings tab** used to configure all port settings.

**Visual representation of the 8 I/O ports.**

**A. Port direction:** Input, output or off.

- **Input:** Port used to inject DMX-in the port (male/male XLR-adapter needed)
- **Output:** port sends DMX-signals to the connected devices.
- **Off:** port not used

**B. Protocol:** Art-Net or sACN.

**C. Merging mode:**

**PORT DIRECTION = OUTPUT:** the following modes are available:

- **SINGLE:** the DMX-signal is sent to the DMX Port from the selected Art-Net or sACN universe in "Universe Number".
- **HTP:** The DMX-signal is sent to the DMX Port from the IP merging of the selected Art-Net universe in "Universe Number". The BT-NODE24 Mk2 compares the values on the inputs and sends the highest value to the DMX Port for each DMX channel.
- **LTP:** The DMX-signal is sent to the DMX Port from the merging of the selected Art-Net universe in "Universe Number". The BT-NODE24 Mk2 compares the values on the inputs and sends the last changed value to the DMX Port for each DMX channel.

**PORT DIRECTION = INPUT:** the following modes are available:

- **NORMAL:** the DMX Port receives the DMX-signal and sends it to the selected Art-Net or sACN universe in the "Universe Number" section.

**D. Frame Rate:** When the port direction is set to output you can define the number of DMX frames sent per second. The default setting is: 40 frames/second. But you can also select: 10, 15, 20, 25, 30 or 35 frames/second.

**E. RDM period:** Set time frame where RDM can be communicated

**F. Universe Number:** The used universe. **Note.** on some consoles like MA the universe 0 on this device corresponds to the universe 1 on the MA.

**G. No DMX behavior:** when no new DMX-signal is available for 4s, the output can be set to Freeze or Blackout.

**Note:** Use Blackout if effects like flamethrowers are connected.

3. **DMX Settings tab:** used to adjust DMX timing settings

4. **Change Password tab:** used to adjust DMX timing settings

5. **Restore Factory Settings tab:** used to restore factory settings

6. **Firmware Upgrade tab:** used to update the firmware

7. **Restart tab:** used to restart the BT-NODE283/285

8. **Logout tab:** used to logout of the web interface

## MERGING FUNCTION

To use the BT-NODE24 Mk2 as a DMX merger we need two different sources. You must configure an output to merge the signal of the two sources. The output merging option can be **LTP** (Last Takes Precedence) or **HTP** (Highest Takes Precedence). The merging function on the BT-NODE283/285 is different from that on our previous BT-NODE28. BT-NODE283/285 uses "IP merging" instead of "Universe merging" on our BT-NODE8. Meaning the BT-NODE283/285 will merge packets that have the same universe but a different source IP address. Hence the setup is easier and better for back-up consoles:

1. Select **LTP** or **HTP** merge on one of the ports.
2. Connect 2 consoles on the network of the node.
3. Send on both consoles the same universe
4. The node checks the source IP address of both consoles and merges the universe automatically.

## FIRMWARE UPGRADE

To update the firmware of the BT-NODE283/285 the following steps should be followed:

1. Change the network settings of the node to: IP address 192.168.1.7 and subnet mask 255.255.255.0
2. Connect to the web interface of the node via a computer
3. Go to the **Firmware Upgrade** tab and enter the node's bootloader. The following image appears on the node's display:



4. After some time, the webpage disconnects.
5. Reconnect by entering the IP address in the search bar of your internet browser and login using the password.  
*Note: The IP address when the bootloader is active will be 192.168.1.7.*
6. Go back to the **Firmware Upgrade** tab and select the upgrade file.
7. After selecting the upgrade file, press upload to upload the firmware upgrade to the node.
8. After the upload is done, restart the node.  
*Note: The IP address will be in the 2.x.x.x range by default.*

## TROUBLESHOOTING

### I CAN'T REACH THE WEB INTERFACE

Check if the link and/or activity leds are on. If so, make sure the IP range of the BT-NODE283/285 is the same as on your computer or console. Try to ping the BT-NODE283/285 with a dedicated application, such as a DOS session on Windows, or a terminal session on MAC. If this is not working, contact your local dealer.

## SPECIFICATIONS

### ENGLISH

BRITEQ® hereby declares that the equipment described in this manual complies with Directives 2014/35/EU (LVD) and 2014/30/EU (EMC). The full text of the EU Declaration of Conformity, as well as the latest version of the manual and technical specifications, are available at the following internet address (under Manual and downloads): <https://briteq-lighting.com/bt-node283>  
<https://briteq-lighting.com/bt-node285>

### NEDERLANDS

Hierbij verklaart BRITEQ® dat de apparatuur beschreven in deze handleiding voldoet aan de richtlijnen 2014/35/EU (LVD) en 2014/30/EU (EMC). De volledige tekst van de EU-conformiteitsverklaring, alsook de laatste versie van de handleiding en technische specificaties zijn beschikbaar op het volgende internetadres (onder Handleiding en downloads): <https://briteq-lighting.com/nl/bt-node283>  
<https://briteq-lighting.com/nl/bt-node285>

### FRANCAIS

BRITEQ® déclare par la présente que l'équipement décrit dans ce manuel est conforme à la 2014/35/EU (LVD) et 2014/30/EU (EMC). Le texte complet de la déclaration de conformité UE, ainsi que la dernière version du manuel et les spécifications techniques sont disponibles à l'adresse Internet suivante (sous Manuel et téléchargements) : <https://briteq-lighting.com/fr/bt-node283>  
<https://briteq-lighting.com/fr/bt-node285>

### DEUTSCH

Hiermit erklärt BRITEQ®, dass die in dieser Anleitung beschriebene Ausrüstung den Richtlinien 2014/35/EU (LVD) und 2014/30/EU (EMC) entspricht. Der vollständige Text der EU-Konformitätserklärung sowie die neuesten Versionen der Anleitung und der technischen Spezifikationen sind unter folgender Internetadresse verfügbar (unter Anleitung und Downloads): <https://briteq-lighting.com/de/bt-node283>  
<https://briteq-lighting.com/de/bt-node285>

### ESPAÑOL

BRITEQ® Declara por la presente que el equipo descrito en este manual cumple con las Directivas 2014/35/UE (LVD) y 2014/30/UE (EMC). El texto completo de la Declaración de conformidad de la UE, así como la última versión del manual y las especificaciones técnicas, están disponibles en la siguiente dirección de Internet (en Manual y descargas): <https://briteq-lighting.com/bt-node283> \* <https://briteq-lighting.com/bt-node285>

### ITALIANO

BRITEQ® dichiara con la presente che l'apparecchiatura descritta nel presente manuale è conforme alle direttive 2014/35/UE (LVD) e 2014/30/UE (EMC). Il testo completo della Dichiarazione di conformità UE, nonché l'ultima versione del manuale e delle specifiche tecniche, sono disponibili al seguente indirizzo Internet (alla voce "Manuale e download"): <https://briteq-lighting.com/bt-node283>  
<https://briteq-lighting.com/bt-node285>

<b>Mains Input:</b>	<b>AC 100-240V, 50/60Hz</b>
<b>Power consumption:</b>	<b>7 Watt</b>
<b>Power connection:</b>	<b>PowerCon compatible input/output</b>
<b>DMX connections:</b>	<b>8x 3-pin XLR or 5-pin XLR female</b>
<b>Ethernet connections:</b>	<b>2x RJ45 Ethercon (10/100Mbit)</b>
<b>Size:</b>	<b>482 x 44 x 167 mm (19" / 1U)</b>
<b>Weight:</b>	<b>1.65 kg</b>

Every piece of information is subject to change without prior notice

You can download the latest version of this user manual on our website: [www.briteq-lighting.com](http://www.briteq-lighting.com)









**FR :** *Merci d'avoir choisi ce produit BriteQ®. Vous pouvez télécharger la version française de ce mode d'emploi de notre site Web.*

**NL:** *Hartelijk dank voor de aankoop van dit BriteQ® product. U kan de Nederlandstalige versie van deze handleiding downloaden.*

**DE:** *Vielen Dank, dass Sie sich für den Erwerb dieses BriteQ®-Produkt entschieden haben. Sie können sich die Deutsche Version dieses Benutzerhandbuches von unserer Website herunterladen.*

**ES:** *Gracias por comprar este producto BriteQ®. Puede descargar la versión en Español de este manual de usuario en nuestra página Web.*

**IT:** *Grazie mille per aver acquistato questo prodotto BriteQ®. È possibile scaricare la versione in italiano di questo manuale dal nostro sito web.*

**[WWW.BRITEQ-LIGHTING.COM](http://WWW.BRITEQ-LIGHTING.COM)**

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