# DATAPLEX® DEVICES

# NODE 1x6

MANUAL

DATAPLEX Node 1x6 User Manual

Dataplex-Node-1x6-Manual-v1.1
Effective 28 October 2020

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# LIMITED WARRANTY

Dataplex Data Distribution Devices are warranted by TMB against defective materials or workmanship for a period of two (2) years from the date of original sale by TMB.

TMB's warranty shall be restricted to the repair or replacement of any part that proves to be defective and for which a claim is submitted to TMB before the expiration of the applicable warranty periods.

This Limited Warranty is void if the defects of the Product are the result of:

- Opening the casing, repair, or adjustment by anyone other than TMB or persons specifically authorized by TMB
- Accident, physical abuse, mishandling, or misapplication of the product.
- Damage due to lightning, earthquake, flood, terrorism, war, or act of God.

TMB will not assume responsibility for any labor expended, or materials used, to replace and/or repair the Product without TMB's prior written authorization. Any repair of the Product in the field, and any associated labor charges, must be authorized in advance by TMB. Freight costs on warranty repairs are split 50/50: Customer pays to ship defective product to TMB; TMB pays to ship repaired product, ground freight, back to Customer.

This warranty does not cover consequential damages or costs of any kind.

A Return Merchandise Authorization (RMA) Number must be obtained from TMB prior to return of any defective merchandise for warranty or non-warranty repair. For all repairs please contact TMB Tech Support Repair using the contact information below or email TechSupportRepairNA@tmb.com.

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# PRODUCT OVERVIEW

Dataplex Node 1x6 is a powerful bidirectional Art-Net/sACN Ethernet-DMX Node capable of distributing up to 6 discreet universes of DMX. The RackMount units are available with a range of connector options including IDC (Insulation-Displacement Contact), PTB (Pluggable Terminal Block) and Neutrik 5-Pin XLR. Dataplex nodes feature RDM functionality and advanced management via web bowser or our ProPlex Software. Dataplex products are designed as ~~an~~ affordable, high-performance signal management solutions and ensure the safety of connected equipment. Features Include:

- High-power processor for glitch-free data processing of up to six universes
- Control and management via ProPlex Software or web browser interface
- Merge DMX, Art-Net and Streaming ACN from multiple sources
- Bi-directional RDM functionality - input or output on any DMX port
- Multiple connector configurations with IDC, PTB, or XLR
- Rugged Neutrik™ connectors
- Durable RackMount enclosure
- Front-facing LED indicators for ease of monitoring
- Black chassis with rear connectors enables a cleaner front-of-rack

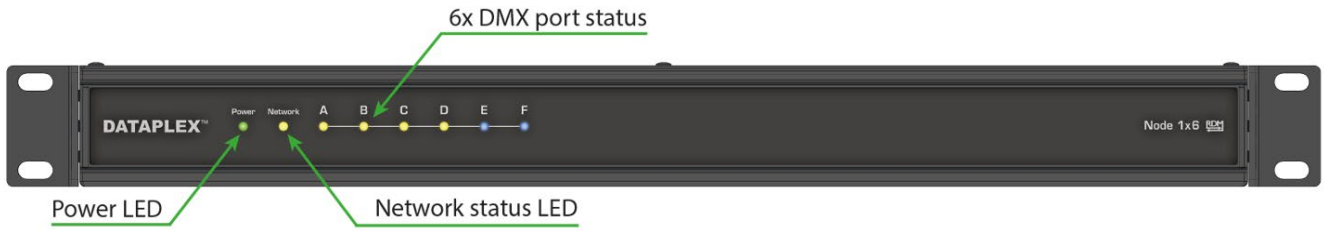
# MODEL DIFFERENCES

Dataplex Node 1x6 are available in several model configurations. The connector designation is the leading difference and will determine the connector style and rear chassis design.

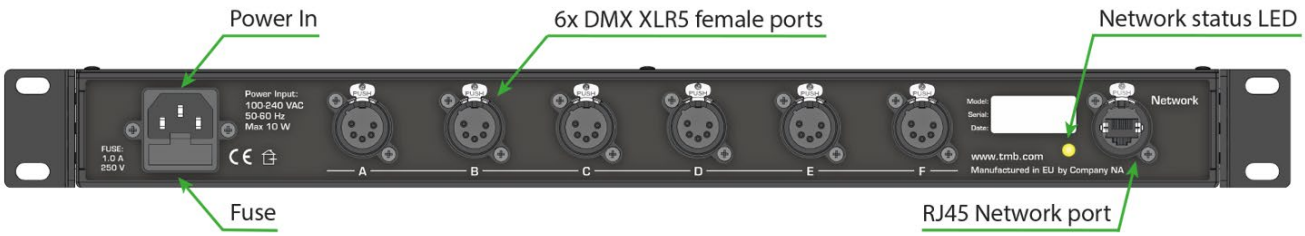
- DPNODE66IDC  Dataplex Node 6 Universe, 6 x IDC Ports
- DPNODE663PTB  Dataplex Node 6 Universe, 6 x 3 Pole PTB Ports
- DPNODE665XLR  Dataplex Node 6 Universe, 6 x 5 Pole XLR Ports

# MODEL ILLUSTRATION

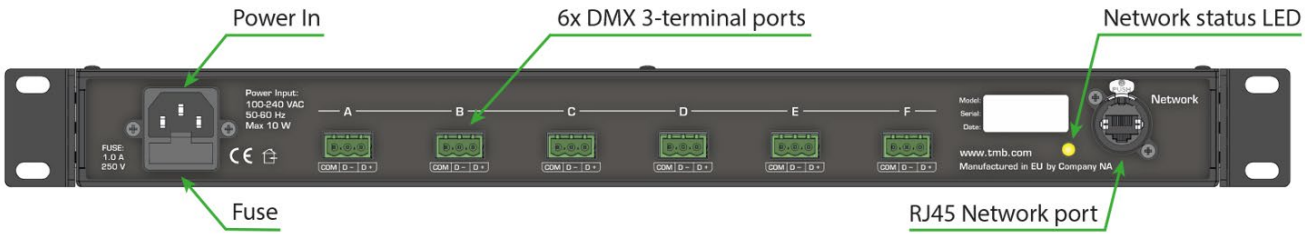
## FRONT - Node 1x6



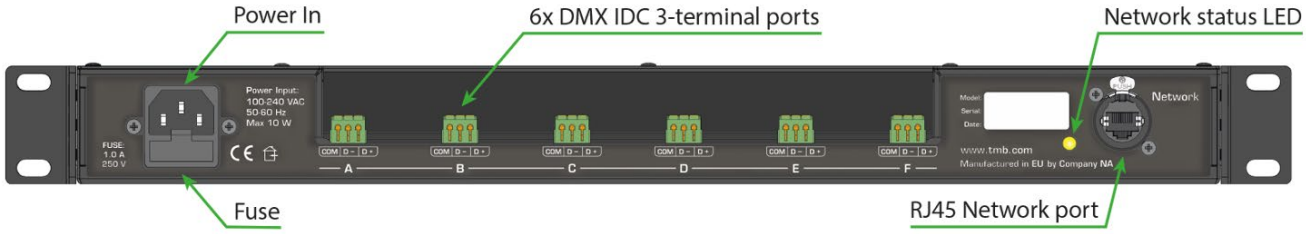

## REAR - Node 1x6 XLR




## REAR - Node 1x6 PTB

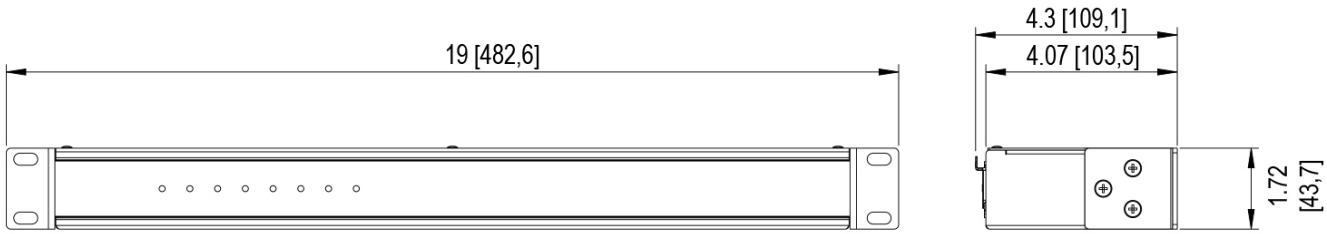


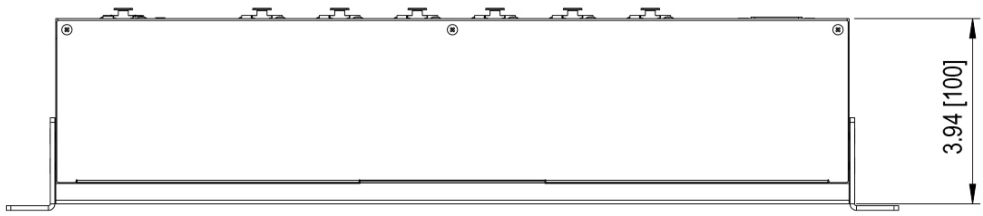

## REAR - Node 1x6 IDC



# DIMENSIONS

## NODE 1x6 XLR

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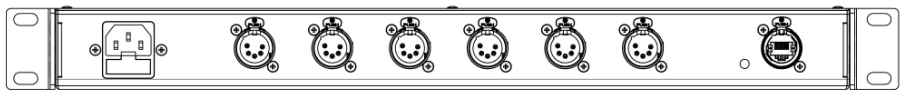
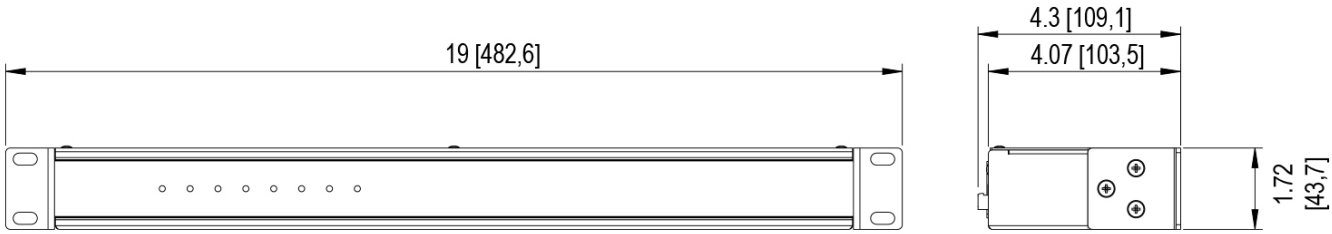
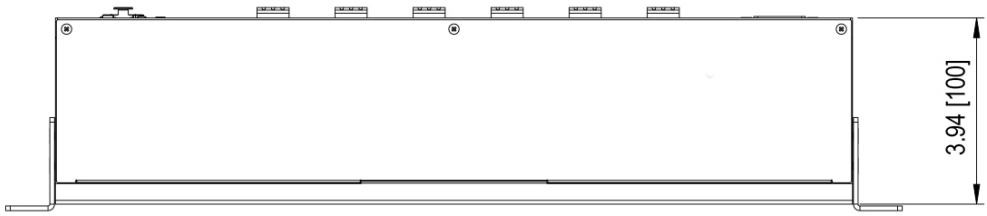


# DIMENSIONS

## NODE 1x6 PTB

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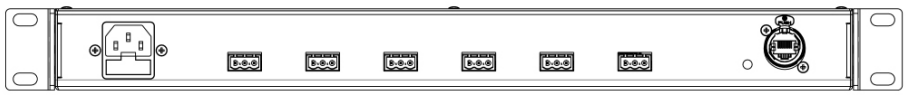
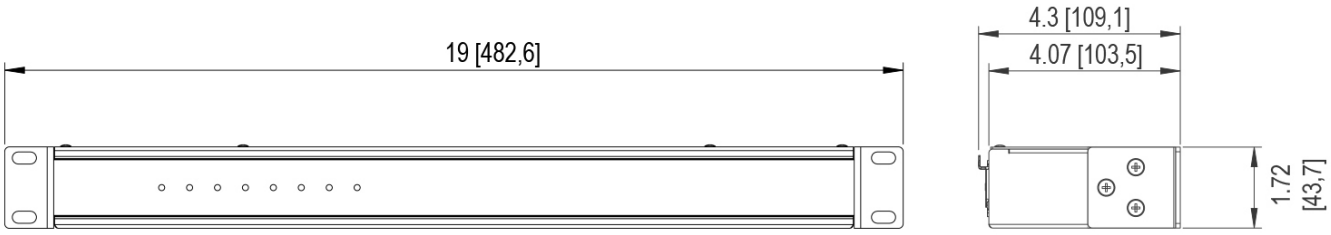
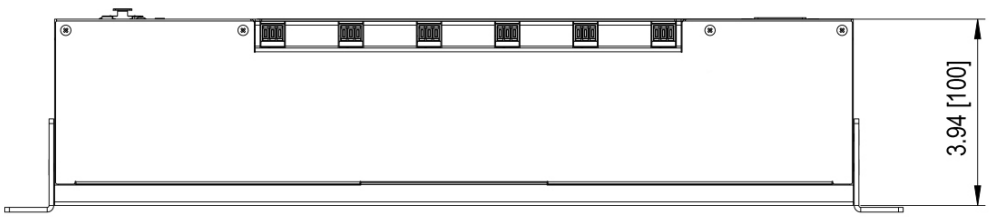


# DIMENSIONS

## NODE 1x6 IDC

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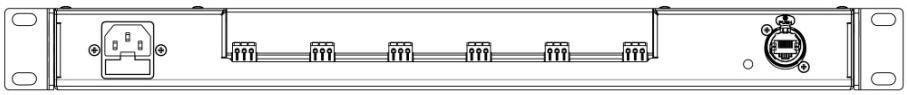


# SETUP

## UNPACKING INSTRUCTIONS

Upon receipt of the unit, carefully unpack the carton and check the contents to ensure that all parts are present and in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear to be damaged from shipping or if the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a unit must be returned to the factory, it is important that it be returned in the original factory box and packing.

## POWER REQUIREMENTS

Before powering the unit, make sure the line voltage is within the range of accepted voltages. This unit accommodates 100-240VAC, 50/60Hz. All units must be powered directly from a switched circuit and cannot be operated with a rheostat (variable resistor) or dimmer circuit, even if the rheostat or dimmer channel is used solely for a 0-100% switch.

## SAFETY INSTRUCTIONS

**Please read these instructions carefully. This user guide contains important information about the installation, usage, and maintenance of this product.**

- Keep this User Guide for future reference. If unit is sold to another user, make sure they also receive this instruction booklet.
- Ensure the unit is connected to proper voltage, and that line voltage is not higher than that stated on the device.
- Make sure there are no flammable materials close to the unit while operating.
- Always disconnect from the power source before servicing or fuse replacement. Always use the fuse specified in this manual.
- Maximum ambient temperature (Ta) is 40°C (104°F). Do not operate unit at temperatures above this rating.
- In the event of a serious operating problem, stop using the unit immediately. Repairs must be carried out by trained, authorized personnel. Contact the nearest authorized technical assistance center. Only OEM spare parts should be used.
- Do not connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.

**Caution! There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your distributor.**

## FUSE REPLACEMENT

**Disconnect the power cord before replacing a fuse and always replace with the appropriate fuse.**

Dataplex Node 1x6 uses a 1.0A 250V barrel fuse, 5x20mm (0.2x0.8 in.).

To replace fuse:

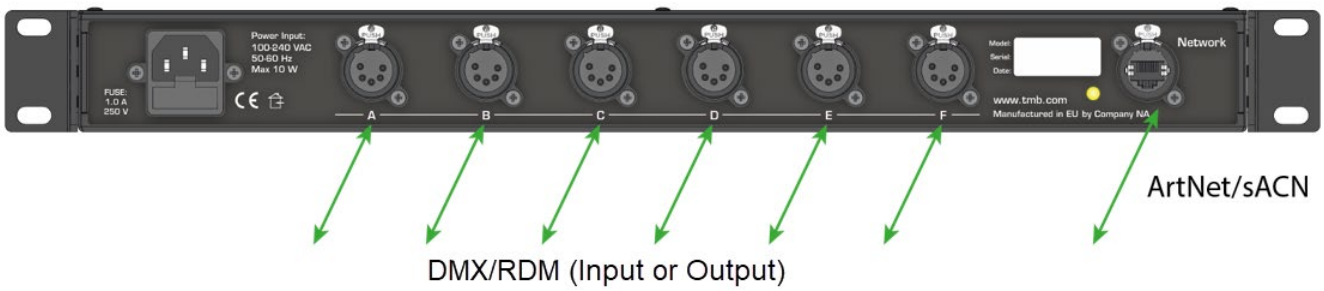
1—With a screwdriver, open the fuse drawer to access the fuse.
2—Remove old fuse and fasten new fuse securely in its place.
3—You may use the secondary pocket to store an additional new fuse for later use.
4—Reinsert fuse drawer with new fuse and push to snap closed.

# RDM / DMX SERIAL LINK

**NODE 1x6 XLR**

1—Connect an Ethernet cable from your Art-Net or sACN network to the Ethernet port on the back of the Node 1x6.

2—Connect DMX cables to the DMX ports A-F and link to fixtures, Opto-Splitters or other equipment as necessary. Each port can be configured either as DMX output or input via the Web Interface or ProPlex Software.




*Note: When enabling RDM through the Node 1x6 ports, ensure all linked devices support RDM. Some DMX receiving chips are not able to process an RDM signal, causing the device to behave erratically. If a problem occurs contact your device manufacturer.*

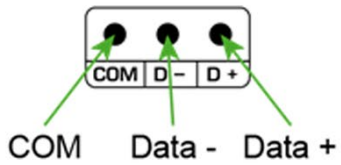
# RDM / DMX SERIAL LINK

## NODE 1x6 PTB

PTB (Pluggable Terminal Block) connectors require bare wire installation into removable, screw-type terminal connectors with tension sleeves. Depending on the application, cables can be unterminated on both ends, or have a connector on one end to interface with other equipment (e.g. 5-Pin XLR). Each output connection point follows the same diagram for common, data positive and data negative conductors.

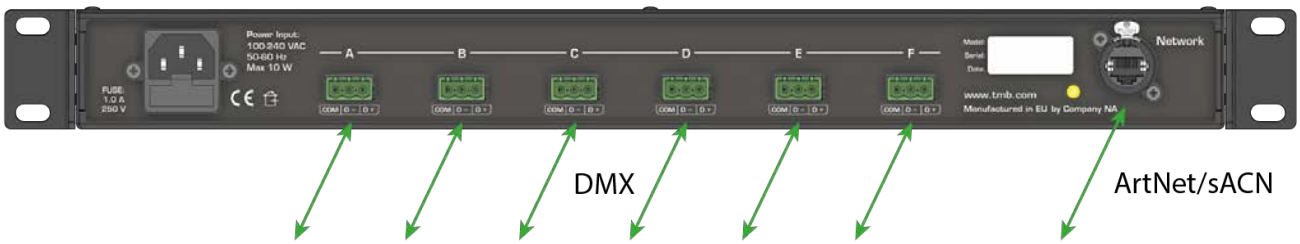
1—Strip the bare-end wire insulation back 7mm or roughly ¼ inch from cable end.

2—Insert bare wires into connector per the diagram below. Turn each connector set screw with a small flathead screwdriver until tension spring is fully tightened onto the wire.



3—Connect the terminated PTB cables to the DMX ports A-F and link to fixtures, Opto-Splitters or other equipment as necessary. Each port can be configured either as DMX output or input via the Web Interface or ProPlex Software.

4—To receive an incoming Art-Net or sACN stream, connect an Ethernet cable from your network into the Ethernet port on the back of the Node 1x6.

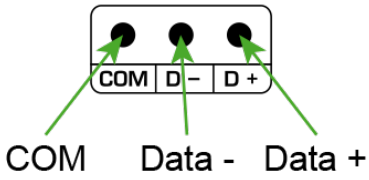


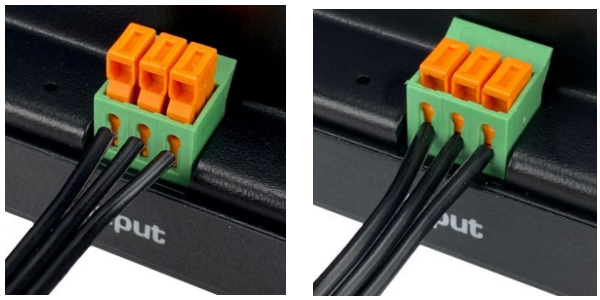
## NODE 1x6 IDC

IDC (Insulation-Displacement Contact) connectors are designed to decrease installation time as they do not require cable insulation stripping. Instead the connection is formed by forcing a sharp blade through the cable, which pierces through the insulation and into the conductor core. Depending on the application, cables can be unterminated on both ends, or have a connector on one end to interface with other equipment (e.g. 5-Pin XLR). Each output connection point follows the same diagram for common, data positive and data negative conductors.

1—Insert a small screwdriver into each of the 3 orange tabs on the IDC connector. Using gentle upwards pressure, push open the tabs to reveal the cable insertion point.

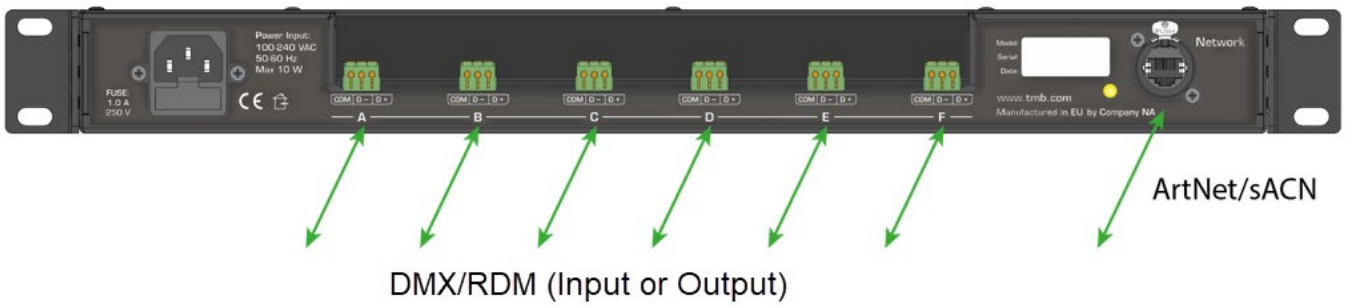
2—Fully insert unstripped wires into connector per the diagram below and push down the orange tabs. Once fully depressed, the blade should bite down on the cable and pierce through the insulation.



3—Ports A-F can be linked to fixtures, Opto-Splitters or other equipment as necessary. Each port can be configured either as DMX output or input via the Web Interface or ProPlex Software.

4—To receive an incoming Art-Net or sACN stream, connect an Ethernet cable from your network into the Ethernet port on the back of the Node 1x6.



# OPERATION

## OVERVIEW

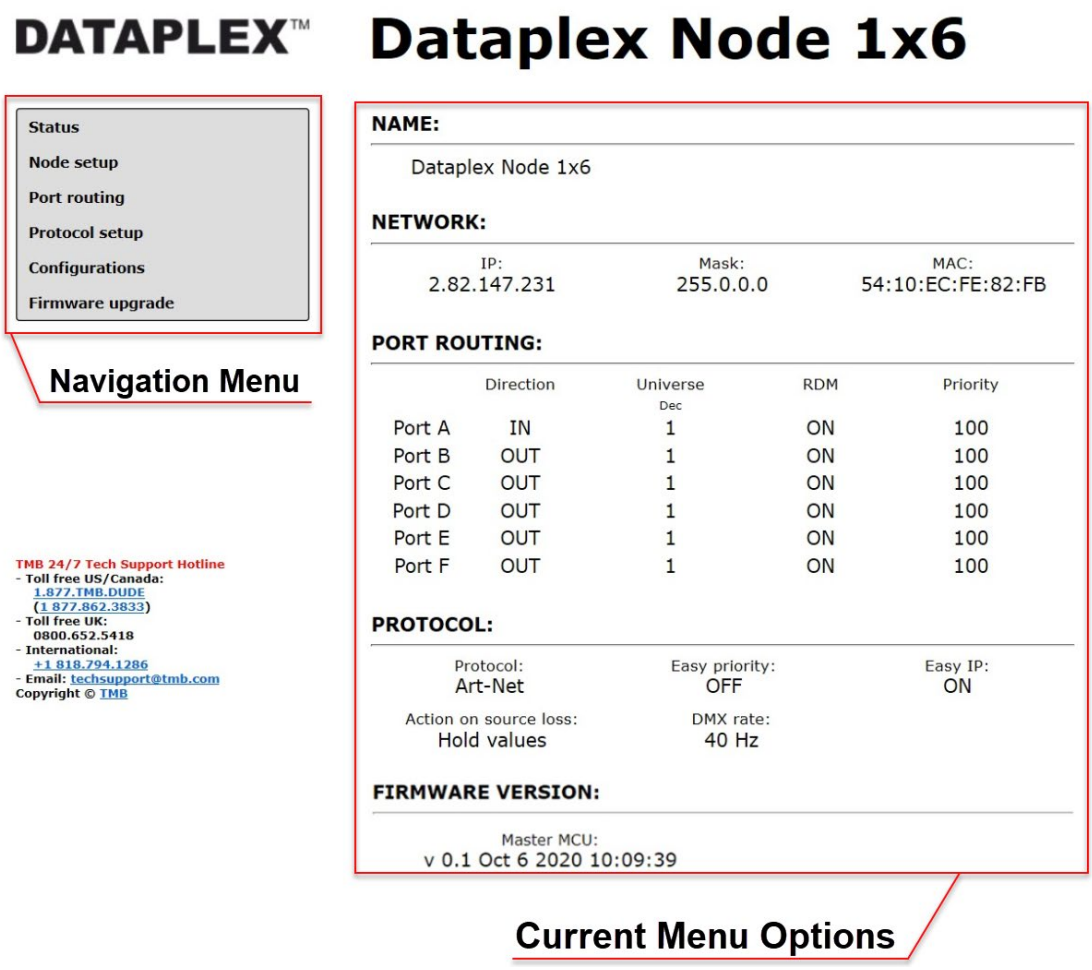
Dataplex Node 1x6 can be configured via the Browser Interface or ProPlex Software. Both methods offer the same access to user-defined settings, so you may choose which management tool best suits the installation.

The Browser Interface is the simplest form of control, allowing you to connect directly to a Dataplex Node 1x6 and configure it over multiple navigation menus. Users deploying multiple Dataplex Nodes or ProPlex IQ units may benefit from ProPlex Software which allows total visibility and management of all connected nodes in one easy-to-use program. The ProPlex Software can be downloaded for free on our website www.tmb.com.

## BROWSER INTERFACE

Connect the node to your ethernet network along with your Mac or PC. Open a preferred browser and type the current IP address into the internet address bar. Press enter to open the Browser Interface.

When first accessing the Browser Interface, you will see the Navigation Menu On the left side of the screen. These menu options will help you manage the various settings within the unit. The right side of the screen displays information from the currently chosen menu and will change depending on the menu selection.

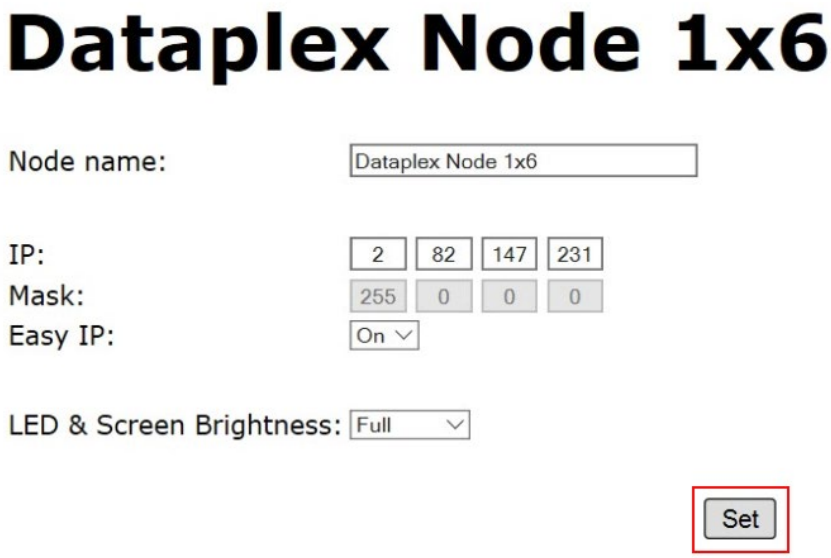


## STATUS

The default page of the Browser Interface is the STATUS page. This shows an overview of all the current settings including node name, network settings such as IP and MAC addresses, port routing information for each of the 6 DMX ports, protocol settings and current firmware version. The STATUS screen is intended to show all the pertinent operation information of the node at-a-glance and is un-editable.

## NODE SETUP

The main setup page to configure the Node IP information as well as the Node Name. All settings changed in this page are only applied after selecting the SET button at the bottom right of the screen.




**NODE NAME**—Change the name of the node to a desired name. The value in this field is directly editable and can be used to differentiate Nodes by area or placement (e.g., Truss 1, FOH 2 or Server Room East).

**IP ADDRESS**—Change the IP Address to a desired address. The value in this field is directly editable. Note: IQs that require a firmware update must be in the same subnet as ProPlex Software.

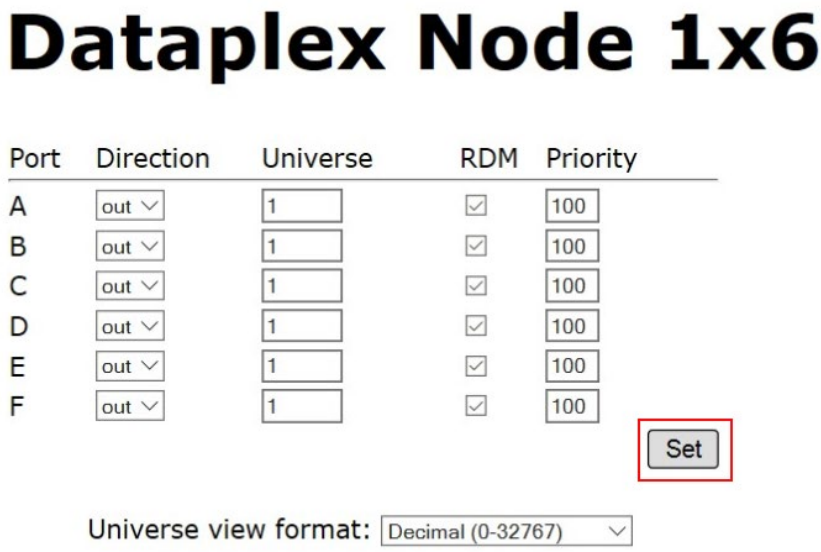
**MASK**—Commonly referred to as Subnet Mask. The value in this field is directly editable. Note: When EASY IP is ON, Mask changes are unavailable.

**EASY IP**—When EASY IP is set to ON, the Node 1x6 will automatically find Art-Net and sACN traffic by searching all masks, instead of just the current IP range. EASY IP is enabled with a dropdown menu.

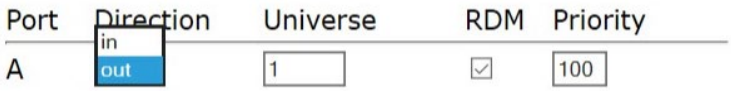
**LED BRIGHTNESS**—Control the brightness of status LEDs at three levels: Off, Dimmed and Full. LED BRIGHTNESS settings are enabled with a dropdown menu.

## PORT ROUTING

Configure each of the six output ports independently. All settings changed in this page are only applied after selecting the SET button at the bottom right of the screen.




**PORT DIRECTION**—Change the direction of the port between IN (input) and OUT (output). Port indicator LEDs will change color depending on the direction (explained below). PORT DIRECTION is changed with a dropdown menu.

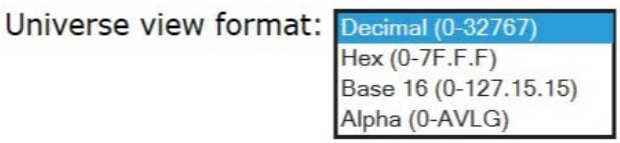



**PORT UNIVERSE**—Change the universe number for the port. The value in this field is directly editable and is displayed according to the Universe Number format. If the number entered is in a different format than the selected format, the entered number will be converted to the selected Universe Number format (e.g., Node is in Alpha-Numeric mode, and "17" typed, the field will show "P").

**PORT RDM**—Turn RDM ON or OFF by port, enabled by a checkbox on the screen. Port Indicator LEDs will change color depending on RDM status.

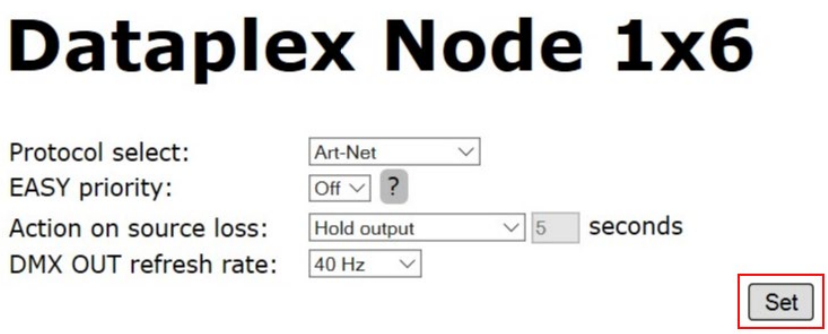
**PORT PRIORITY**—Assigns priority to ports set as an input. If two or more ports have the same priority, HTP merging will occur. Zero "0" is the lowest priority and "200" is the highest.

**UNIVERSE VIEW FORMAT**—Changes the way ProPlex Software displays universe information. Choose from the following options in the dropdown menu: DECIMAL, HEX, BASE 16 or ALPHANUMERIC.



## PROTOCOL SETUP

Set up lighting protocol information intended for the Node 1x6. All settings changed in this page are only applied after selecting the SET button at the bottom right of the screen.

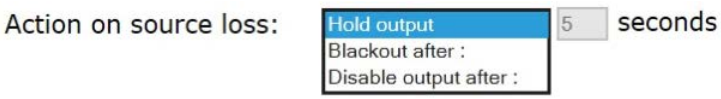



**PROTOCOL SELECT**—Choose between Art-Net, sACN or Art-Net+sACN. Protocols are changed with a dropdown menu, which applies to all ports of the node.

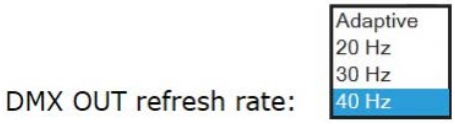
**EASY PRIORITY**—Activating Easy Priority is useful for sharing a rig between multiple consoles. When two or more of the same Art-Net/ sACN universes from different sources try to send DMX to a Node 1x6 output port, the source with the higher channel 512 value for that universe will assume control over it. Using simple submasters with channel 512 recorded to full, one console can take over control of a universe from another without any form of complex HTP/LTP merging in the system. EASY PRIORITY is enabled with a dropdown menu.

**ACTION ON SOURCE LOSS**—Determines what will happen if the Node 1x6 loses its source of Art-Net or sACN. Action is selected with a dropdown menu, and any timing is specified with the entry field.

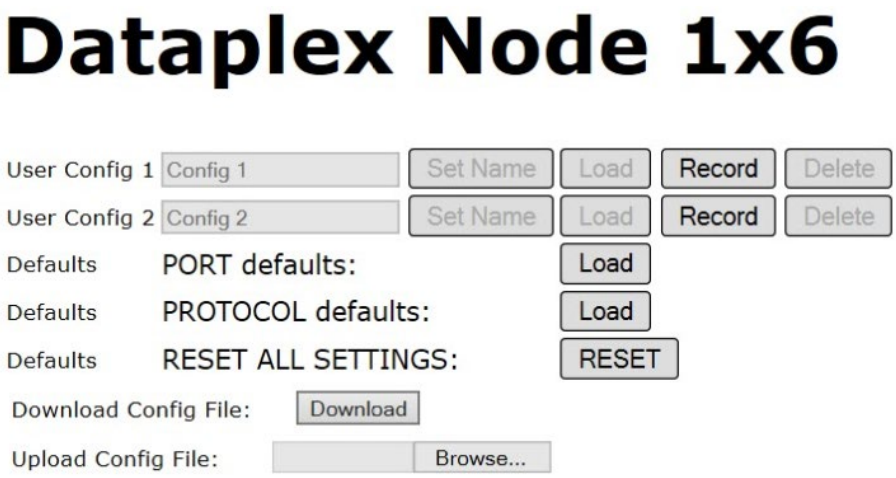
HOLD OUTPUT: holds the last DMX values the Node 1x6 received
BLACKOUT AFTER: takes all DMX channels to 0% after a set amount of time
DISABLE OUTPUT AFTER: disables the DMX output altogether after a set amount of time




**DMX OUT REFRESH RATE**—Changes the DMX out refresh rate between 20Hz, 30Hz, 40Hz, and Adaptive. Adaptive mode (High Speed Video Adaptive Mode), is best used when a media server or lighting console is sending DMX over Ethernet at a higher rate than typical, for the purposes of having DMX Fixtures (LEDs) behave like low-resolution video. Note: Some devices may not work with this setting.



## CONFIGURATIONS




**USER CONFIGURATION**—The Dataplex Node 1x6 has two internal memory locations for user configurations. If changes are mistakenly applied to any settings, it is easy to revert to a saved configuration by pressing the "Load" button. To save a configuration, make your desired settings and select the "Record" button. Once the configuration is saved, you will be able to name the configuration file in the text box and select "Set Name".

**DEFAULTS**—Clear all settings in the Node 1x6.

PORT DEFAULTS: Reset all DMX port related settings
PROTOCOL DEFAULTS: Reset all protocol related settings (sACN/Art-Net settings)
RESET ALL SETTINGS: Factory default reset and restart the system

**DOWNLOAD CONFIG FILE**—Allows you to download the current node configuration to your computer for backup purposes.

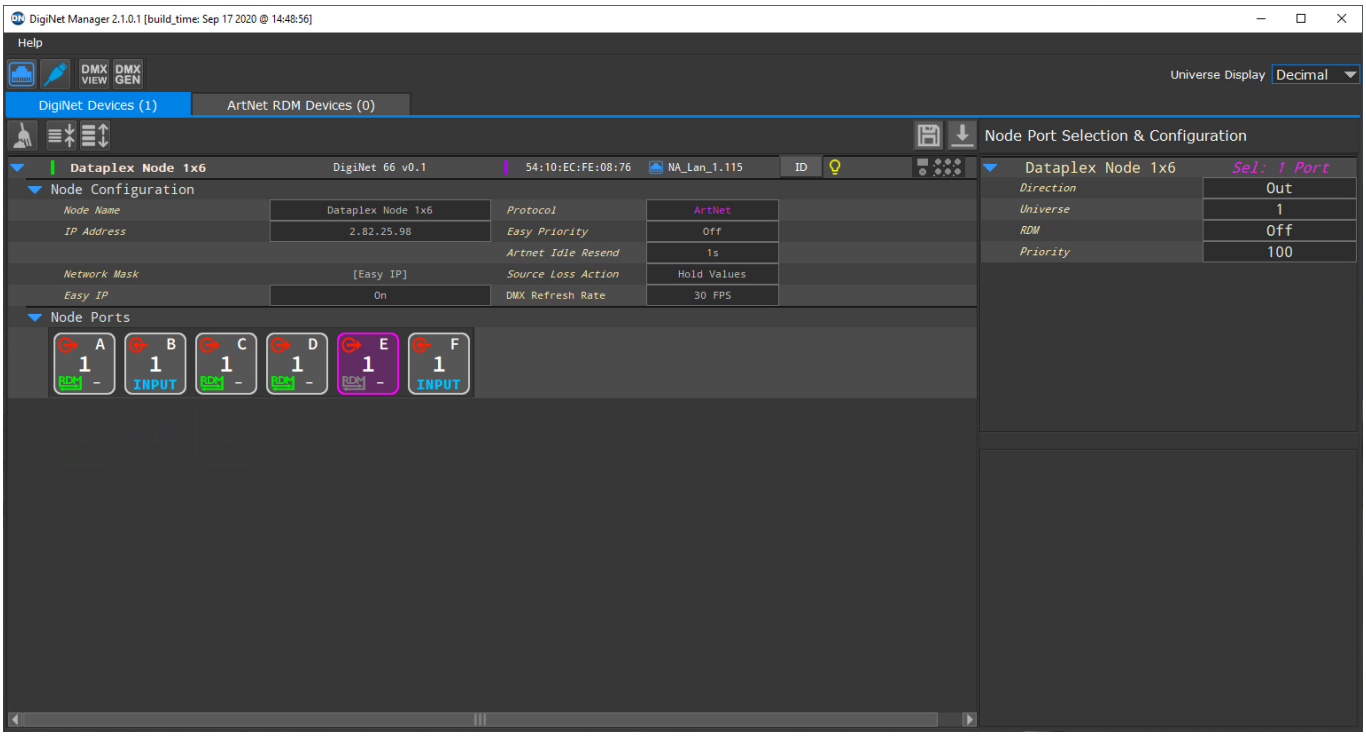
**UPLOAD CONFIG FILE**—Browse your computer for the previously saved file location. Once uploaded, the settings will automatically apply to the unit, at which point you will have the option of recording into the internal user configuration memory.

## FIRMWARE UPGRADE

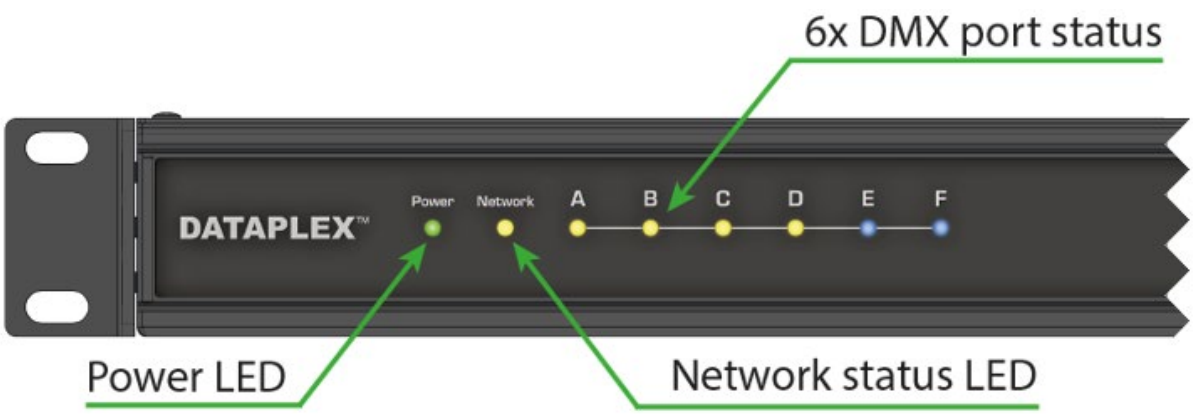
Occasionally we will publish Firmware updates for Dataplex Node 1x6. Upgrading the Dataplex Node 1x6 firmware is a simple process of browsing for the firmware file destination and selecting the “Upgrade” button. The firmware upgrade screen will indication a complete and successful firmware update. You can visit our website to check the current operating firmware and change log notes for all our products at https://tmb.com/firmware/.

## PROPLEX SOFTWARE

ProPlex Software v2 includes a full suite of configuration and monitoring features and simplifies managing multiple nodes on a network. The software is available for free on our website. Visit [https://tmb.com/proplex-software/](https://tmb.com/proplex-software/) for more information.



## FRONT PANEL LED INDICATORS




**POWER STATUS—**

- Unit is receiving power
- (Off) Unit is not receiving power

**NETWORK STATUS—**

- Ethernet link valid
- * Ethernet activity
- No Ethernet link

* Flashing

**PORT STATUS—**

The Dataplex Node 1x6 has multicolor activity LEDs for each output port on the front of the unit

DMX OUT

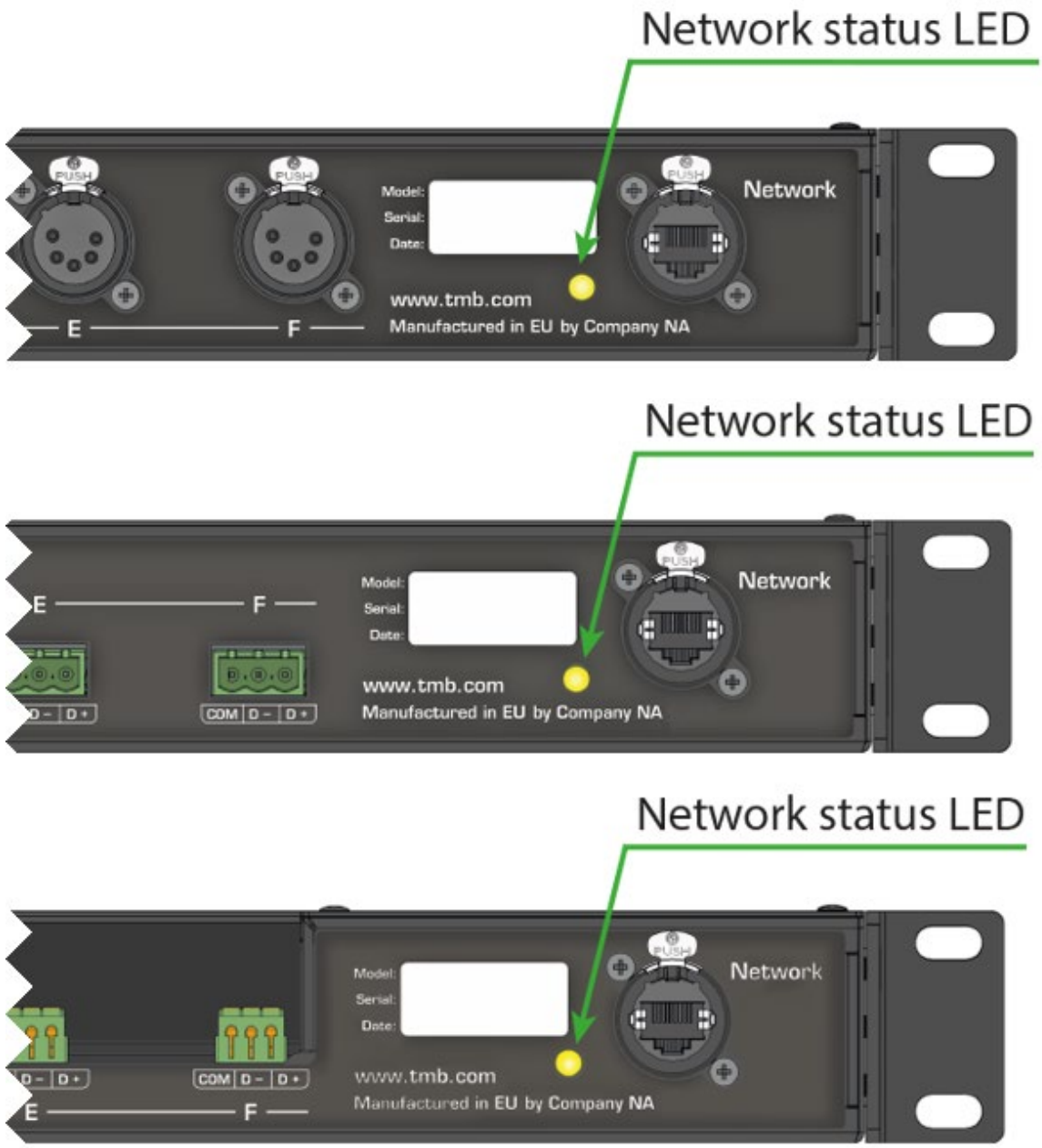
- * DMX port not active (DMX disabled)
- No data source, sending last value (DMX enabled)
- * DMX activity
- * RDM activity

DMX IN

- (Dim) no DMX signal
- * DMX input active
- RDM proxy mode

* Flashing

## REAR PANEL LED INDICATORS




**NETWORK STATUS—**

- Ethernet link valid
- * Ethernet activity
- No Ethernet link

* Flashing

# TECHNICAL SPECIFICATION

| Model | Dataplex Node 1x6 XLR | Dataplex Node 1x6 PTB | Dataplex Node 1x6 IDC |
|---|---|---|---|
| Part Number | DPNODE665XLR | DPNODE663TB | DPNODE66IDC |
| Ethernet Ports | 1 Neutrik EtherCON RJ45 | | |
| DMX Ports | 6 | | |
| DMX Connectors | 8x Neutrik XLR 5-Pin Female | 8x Pluggable Terminal Block (PTB) | 8x IDC Terminal Block |
| Network Protocol | Art-Net, sACN (E1.31) | | |
| RDM Support | Yes | | |
| DMX Isolation | Optical, up to 1000V | | |
| Power Input | 100-240 VAC, 50-60 Hz | | |
| Power Consumption | 10W | | |
| Power Connector | IEC with fuse holder, accepts IEC C13 cable (included) | | |
| Fuse | 5x20mm 1A, 250V | | |
| Cooling | Convection | | |
| Operating Temperature | -4º to +104º F (-20º to +40º C) | | |
| Unit Dimensions (WxHxD) | 19 x 1.72 x 4.3 in<br>[482.6 x 43.7 x 109.1 mm] | | |
| Shipping Dimensions (WxHxD) | 20.5 x 3.5 x 7.38 in<br>[520.7 x 88.9 x 187.5 mm] | | |
| Unit Weight | 3.3 lb [1.5 kg] | | 3.2 lb [1.45 kg] |
| Shipping Weight | 3.5 lb [1.59 kg] | | 3.4 lb [1.54 kg] |

# RETURN PROCEDURE

Please send returned merchandise prepaid and in the original packing. Freight call tags will not be issued for shipping the product to TMB, but TMB will pay the freight for return to the customer. Clearly label package with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will delay service. Please contact TMB and request an RMA # prior to shipping the unit. Be prepared to provide the model number, serial number, and a brief description of the cause for the return. Be sure to properly pack the unit; any shipping damage resulting from inadequate packaging is the customer's responsibility. TMB reserves the right to use its own discretion to repair or replace product(s). Proper UPS packing or double-boxing will better ensure product integrity when shipped.

Note: If you are given an RMA #, please include the following information on a piece of paper inside the box:

1— Your name
2—Your address
3—Your phone number
4—The RMA #
5—A brief description of the symptoms

T H I S  P A G E  I N T E N T I O N A L Y  B L A N K

T H I S  P A G E  I N T E N T I O N A L Y  B L A N K

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