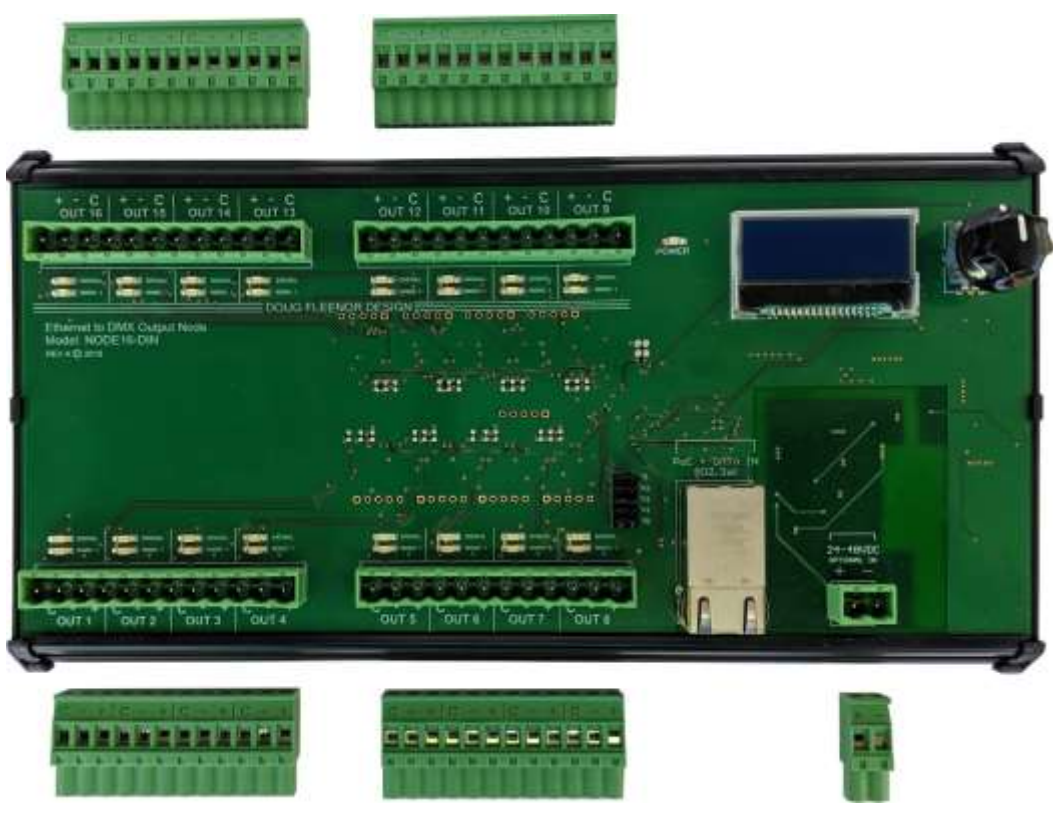


DIN-Rail Mounted Sixteen Output NODE Ethernet to DMX Interface Configuration & Owner's Manual

model: NODE16-DIN



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PRODUCT OVERVIEW

The NODE16-DIN is a DIN-rail mounted Ethernet to DMX bridging device. It accepts Artistic License's Art-Net or Streaming ACN (ANSI E1.31) protocols. There are sixteen DMX512 outputs, and each of the outputs are isolated from the Ethernet input. The Ethernet input connection is made via an RJ45 connector, and the DMX512 output connections are made via pluggable Phoenix terminal blocks. The NODE16-DIN supports Power over Ethernet (PoE – 802.3af) or a 24-48VDC power input. NODE configuration takes place with a backlit graphical LCD and an encoder wheel.

DMX PORT SPECIFICATIONS

Port circuit:	Protected EIA-485 receiver (LT1785)
	NOTE: This product uses slew-rate-limited output drivers. Slew-rate-limited drivers minimize EMI and reduce reflections.
Output signal:	1.5 Volts (minimum) into 120 Ohm Termination
Connectors:	Four 12-position pluggable Phoenix terminal blocks
Port protection:	+60V continuous, +15KV transient
Isolation:	Optically isolated to 1,500 Volts from the input. The outputs are not isolated from each other.

ETHERNET SPECIFICATIONS

Input circuit:	802.3 Ethernet compliant input (LAN8720)
Input signal:	Art-Net or sACN (ANSI E1.31) Ethernet protocols
Input connector:	Ethernet RJ-45 with 802.3af PoE (Power over Ethernet) capabilities.
MDIX:	Auto-negotiated

MAIN SPECIFICATIONS

Power input:	802.3af PoE (Power over Ethernet) or Auxiliary 24-48VDC 500mA via a 2-position pluggable Phoenix terminal block
Indicators:	Red POWER indicator 16 Green MIMIC 1 indicators mimic the level of the first channel on each output (useful in troubleshooting) 16 Green SIGNAL indicators illuminate when an input signal is present
Configuration:	Backlit graphical LCD and an encoder wheel.
Environmental:	0-40 °C (32-104 °F); 10-90% humidity, non-condensing
Cooling:	Convection cooling, no fan required
Color:	Green circuit board, black DIN tray
Size and weight:	2.75"H × 4.25"D × 9.375"W, 1 pound

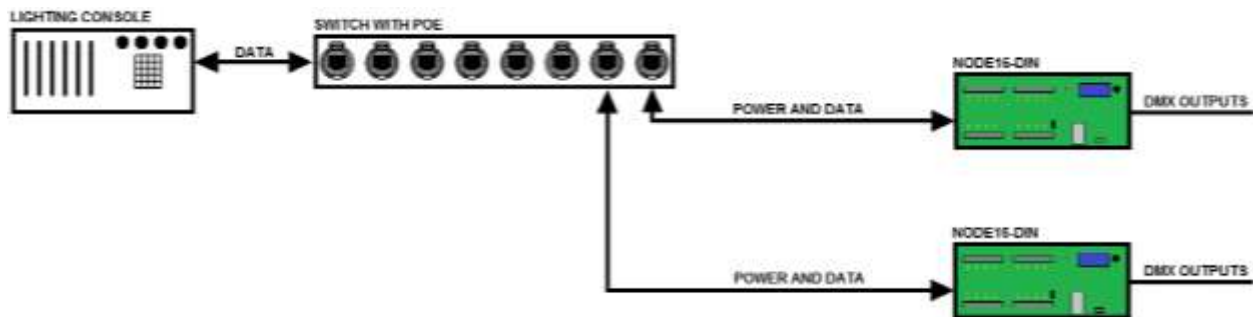
INSTALLATION

The NODE16-DIN installs onto a standard DIN rail. Data input takes place over the RJ45 jack. For best possible data rates, a cable capable of Fast Ethernet (100BASE-TX) is required. The cable must connect the NODE16-DIN to an Ethernet LAN that contains the console.

Power may enter the unit using the Ethernet cable when a Power over Ethernet switch or injector are used. When utilizing PoE, only one cable is required for both power and data. Installations not utilizing PoE can use the Auxiliary 24-48VDC input.

SYSTEM TOPOLOGY

A typical network system will contain at least one console, one or more NODE16-DIN's, and an Ethernet switch. In the system shown below, the console is connected by an Ethernet cable to an Ethernet switch. An Ethernet cable is connected from the switch to each NODE16-DIN. Category 5e or higher cabling is required for 100Mbps operation in an Ethernet network.



Data transport between each Art-Net or sACN capable device takes place using standard Ethernet hardware that supports multicast traffic. The diagram above utilizes a single Ethernet switch for simplicity. Any network hardware constituting a properly configured LAN may replace the Ethernet Switch blocks above.

USER INTERFACE

The NODE16-DIN has a monochrome graphical Liquid Crystal Display (LCD), and a rotary encoder with a button. The LCD displays the configuration pages which are edited by turning the encoder, and pressing the button. The configuration page changes when the page change symbol is highlighted [< >] and the encoder wheel is turned. Depressing the encoder shaft acts as a button to toggle between the editable fields on the screen. A highlight appears in the background of the editable field, at which point the wheel changes the highlighted value. All configured values are store in non-volatile memory.

Using the LCD, encoder, and jumpers, an installer can configure the NODE16-DIN. Initial configuring consists of setting the following configuration options:

DHCP

Turns Dynamic Host Configuration Protocol (DHCP) On or Off. DHCP servers, such as a router, will issue an IPv4 address to the NODE16-DIN when connected on the same Local Area Network. With a DHCP address issued, the NODE16-DIN will not be able to alter its own IPv4 address.

IPv4

The Internet Protocol Version Four (IPv4) address is edited here when DHCP is off.

SUBNET MASK

IPv4 Subnet mask bits are set here when DHCP is off.

PROTOCOL

Provides selection between sACN and Art-Net.

OUTPUTS 1-16

When sACN is selected in the “PROTOCOL” menu, an sACN universe can be selected for each of the 16 outputs. Available sACN universes range from 1 to 63,999. The default starting universe for the first output is universe 1, the second output is universe 2, etc. Each output’s universe can be altered in these menus. Up to 32 sources of sACN are supported.

When Art-Net is selected in the “PROTOCOL” menu, all Art-Net configuration bits can be selected for each of the 16 outputs. Available Art-Net universes range from 0 to 15, subnets from 0 to 15, and nets from 0 to 127. For each output, the universe is denoted as “U”, the subnet as “S”, and the net as “N”. The default configuration for each output is such that the first output is U: 0 S: 0 N: 0, the second output is U: 1 S: 0 N: 0, etc. Each output’s universe, subnet, and net configurations can be altered in these menus.

SW VERSION

Displays the current software version of the NODE16-DIN.

For a listing of each default setting, see the table below.

Option	Default Setting
DHCP	True
IPv4	10.10.10.10
Subnet Mask	255.0.0.0
Protocol	sACN

JUMPER SETTINGS

The remaining configuration options are not accessed using the LCD and encoder wheel. Instead these options are accessed by removing or applying a jumper.

JP1 - Encoder Lockout – Removal of the JP1 jumper disables the encoder wheel from being able to adjust the configuration settings. This is useful for preventing unwanted changes to the NODE16-DIN after it has been ideally configured.

JP2 - JP5 – Not used.

LIMITED MANUFACTURER'S WARRANTY

Products manufactured by Doug Fleenor Design (DFD) carry a five-year parts and labor warranty against manufacturing defects. It is the customer's responsibility to return the product to DFD at the customer's expense. If covered under warranty, DFD will repair the unit and pay for return ground shipping. If a trip is necessary to the customer's site to solve a problem, the expenses of the trip must be paid by the customer.

This warranty covers manufacturing defects. It does not cover damage due to abuse, misuse, negligence, accident, alteration, or repair by other than by Doug Fleenor Design.

Most non-warranty repairs are made for a fixed \$50.00 fee, plus shipping.

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