eDIN Model 1004 rev5 • DMX Demultiplexer Manual

OVERVIEW

Pathway eDIN Demultiplexer converts DMX512 signals into 16 channels of analog control voltage. The Demultiplexer can also control Mark 7–type fluorescent ballasts, solid state relays or LEDs. The module is RDM discoverable and configurable.

CONNECTIONS

The eDIN Demultiplexer features terminal strips that can be removed from the card to facilitate easy wiring installation or replacement. Make the following connections, ***WITH THE POWER TURNED OFF.***

POWER

The Demultiplexer will operate on a range of voltages from 9-30 volts DC. Each eDIN module requires 250mA. Observe the correct polarity when connecting to V+ and V-. A second set of terminals are provided as a thru connection to other eDIN modules. The EARTH GND terminal must be connected to the enclosure's chassis or electrical ground terminal to ensure EMC compliance.

DMX

DMX connections consist of a shield and a data pair. A optional second auxiliary data pair is also occasionally employed. DMX IN usually comes from a control console, Pathport® node, architectural controller or opto-splitter. DMX THRU provides a means to daisy-chain DMX to other eDIN modules. Connect DATA+ and DATA- to D1+ and D1-. Observe the same polarity convention throughout the system. Connect the cable shield or common to the SHLD COM terminal.

ANALOG OUTPUTS

Sixteen analog output terminals are provided in groups of four, each with a common terminal. All common terminals are internally connected, so only one needs to be tied to the device being controlled. Outputs are rated up to 15 volts DC, 10mA per channel. Maximum wire run is 150 meters (500 ft.).

STATUS INDICATORS

POWER IN *Blue*. Glowing steadily indicates power supply OK; off indicates no power.

PROCESSOR *Green*. Glowing steadily indicates processor is OK; off when POWER IN is lit indicates processor failure.

DMX INPUT *Amber*. Glowing steadily indicates data signal received; off indicates no signal present.

FUNCTION *Amber*. Indicates the menu function associated with the numeric display.

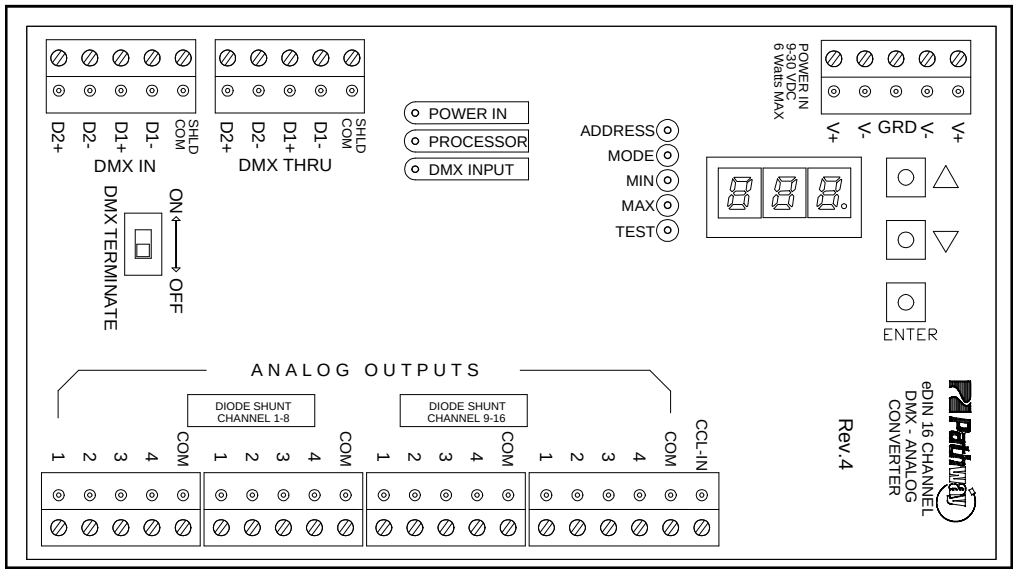
DMX TERMINATE

DMX rules require the final device in line have a terminating resistor. If no devices or modules are connected to the DMX THRU terminal, the DMX TERMINATE switch should be ON. If other devices or modules are connected to DMX THRU, the DMX TERMINATE should be OFF.

CONFIGURATION

To configure, first press the ▲ or ▼ buttons to select the desired function, as indicated by a lit LED next to ADDRESS, MODE, MIN, MAX, or TEST. Once chosen, press and hold the ENTER button until a dot appears on the right hand display. The function is now editable.

When done editing a parameter, press ENTER. The dot will disappear, the new value will be saved and the unit will be ready for operation.



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SET DMX ADDRESS

Once in ADDRESS edit mode, press ▲ or ▼ to change the start address to the desired value. Press ENTER to save the address. Valid addresses range from 1 to 512.

SET OPERATING MODE

Once in MODE edit, choose from the following:

Mode 1: 0—10VDC Output (MAX will read 158)
Mode 2: 0—5 VDC Output (MAX will read 79)
Mode 3: 0—15VDC Output (MAX will read 237)
Mode 4: 0—2.5 VDC Output (MAX will read 40)
Mode 5: Custom D-to-A (set your own voltage)
Mode 6: 8 Channel EFBC (see below)
Mode 7: Non-Dim (see below)

SET MIN AND MAX VOLTAGE OUTPUT LEVELS

To set a custom output voltage, confirm the DMX start address is set to 1. Connect a voltmeter between output 1 and COM on the card. Connect a DMX source to DMX IN. Using your source, vary the DMX level on channel 1 and confirm that the voltage output is changing. Set the DMX level to full.

Use the ▲ and ▼ buttons and ENTER to select MAX for editing. Use ▲ and ▼ while observing the output on your voltmeter. Once the voltage is at the level you desire, press ENTER to save. Repeat this process to set a MIN level. Valid MIN levels are between 0 and 254. Valid MAX levels are between 1 and 255. 255 roughly corresponds to an output of 16VDC.

Custom values are retained in Mode 5 only. Changing the output voltage in modes 1 to 4 will force the card into Mode 5. MIN and MAX are not editable in Modes 6 and 7.

ELECTRONIC FLUORESCENT BALLAST CONTROL

Mode 6 allows control of up to eight circuits of Mark 7-type ballasts, with a maximum of 20 ballasts on each circuit. Two channels on the card are required for each circuit. The channels are paired, 1 with 9, 2 with 10, and so on. The lower channel provides 0-10VDC dimming control, while the higher acts as a non-dim, switching at 10%, and should be connected to a solid state relay controlling the circuit's AC supply. All blocking diodes must be shunted (by-passed) in this mode.

NON-DIM CONTROL

Mode 7 provides non-dim control of solid state relays or LEDs. At a DMX level of 0%, each channel outputs +10VDC The output voltage drops to zero when DMX passes 50%. All blocking diodes must be shunted (bypassed) in this mode.

TEST MODE

Using the ▲ and ▼ buttons, each output will be toggled on and off. The output number is shown on the right hand display. DMX is ignored while in TEST mode.

CCL PIN (PANIC INPUT)

Shorting the CCL pin to COM will drive all outputs to full. The CCL input overrides the DMX input level.

SELF-TEST

Press the ▲ button while turning power on to enter self-test. All LEDs will flash sequentially. The display will cycle 0 through 9, then show the serial number and firmware version. Cycle power to end self-test.

E1.20 REMOTE DEVICE MANAGEMENT

The eDIN 1004 Demultiplexer is fully compliant with ANSI E.20 Remote Device Management as a responder device.

DIODE SHUNTS

The behavior of the diode shunts is dependent on the module's revision level. The revision number is shown on the product label, next to the part number.

The diodes prevent the control signal from back-feeding into the output and damaging the module. The diodes must be removed from the circuit to allow sinking control. The 16 dip switches are wired as shunts, allowing the diodes to be engaged or disengaged output-by-output.

REV 4 and below: The blocking diodes are engaged by default. With the shunt switches in the "off" position, the diodes will prevent current backflow. This is the correct arrangement for driving analog dimmers. With the shunts in the "on" position, the diodes are by-passed. This is the correct arrangement for sinking control of EFBCs and LED dimmers.

REV 5 and higher: The blocking diodes are by-passed by default. With the dip switches in the "off" position, current will backflow through the card. This is the correct arrangement to allow sinking control of EFBCs and LED dimmers. With the dip switches in the "on" position, the diodes will block backflow current. This is the correct arrangement for driving analog dimmers.

SPECIFICATIONS

POWER SUPPLY:	9-30 VDC, 2.5W
INPUT SIGNAL:	ANSI E1.11 DMX512-A, ANSI E1.20 RDM
OUTPUTS:	16 analog 0-10VDC nominal, maximum 16VDC
OUTPUT RATING:	10MA current drive per channel sourcing or sinking, diode isolated

EXCEEDING THESE RATINGS MAY RESULT IN DAMAGE TO THE DEVICE

CONNECTIONS:	Two piece compression screw terminals, 16 - 24 AWG
SIZE:	3.5" x 6.25" x 1.25" (90mm x 160mm x 35mm)

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