DMX Interface - PWINF DIN A2D
# 24-Channel Analog to DMX
Manual

OVERVIEW

The PWINF DIN A2D Analog to DMX interface converts analog 0-10VDC signals to DMX512 protocol. The analog inputs may also be used as dry contact inputs, either triggering a DMX channel to full, or to recall up to 24 presets.

The DMX input may be merged with the analog input signal or with the preset recall. The DIN form factor makes installation in your own enclosures or cabinets fast and easy.

The module is RDM discoverable and configurable.
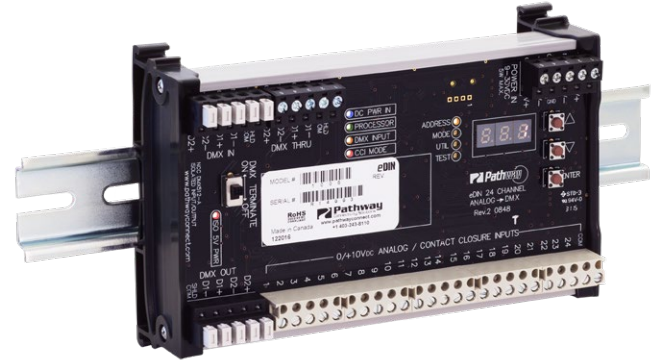
CONNECTIONS

The PWINF DIN A2D 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 module will run on a range from 9 to 30 VDC at a maximum of 5 Watts. Observe the correct polarity when connecting the V+ and V-. A second set of terminals are provided on the connector to daisy-chain power to other DIN modules. The EARTH GROUND terminal must be connected to the enclosure's chassis or electrical ground terminal to improve EMC compliance.

DMX512

DMX connections consist of a shield and data pair. Connect the DATA+ and DATA- wires to D1+ and D1- respectively for each of DMX IN, DMX OUT and DMX THRU (if applicable). Observe the same polarity convention throughout the system. Connect the cable shield to the SHLD COM terminal.

DMX OUT is the processed output of the interface. DMX IN is optional; DMX input will be merged with the analog inputs or used as a source of levels when recording presets.

DMX THRU may be daisy-chained to the DMX IN of other DIN modules.

STATUS INDICATORS

POWER IN	*Blue*. Steady glow indicates power supply OK; off indicates no power.
PROCESSOR	*Green*. Steady glow indicates processor is OK; off when POWER IN is lit indicates processor failure.
DMX INPUT	*Amber*. Steady glow indicates port latched to active DMX source; off indicates no signal present.
CCI MODE	*Red*. Steady glow indicates contact closure input mode is active.
FUNCTION	*Amber*. Indicates the function associated with the numeric display.

ANALOG / CONTACT CLOSURE INPUTS

The PWINF DIN A2D supports 24 discrete inputs that can be configured as either analog or contact closure inputs. The COM (common) terminal must be used as a signal reference, regardless of input configuration.

Analog inputs must be 0 to +10 VDC with respect to COM. Contact inputs are simply maintained or momentary dry contact closures between COM and the individual input.
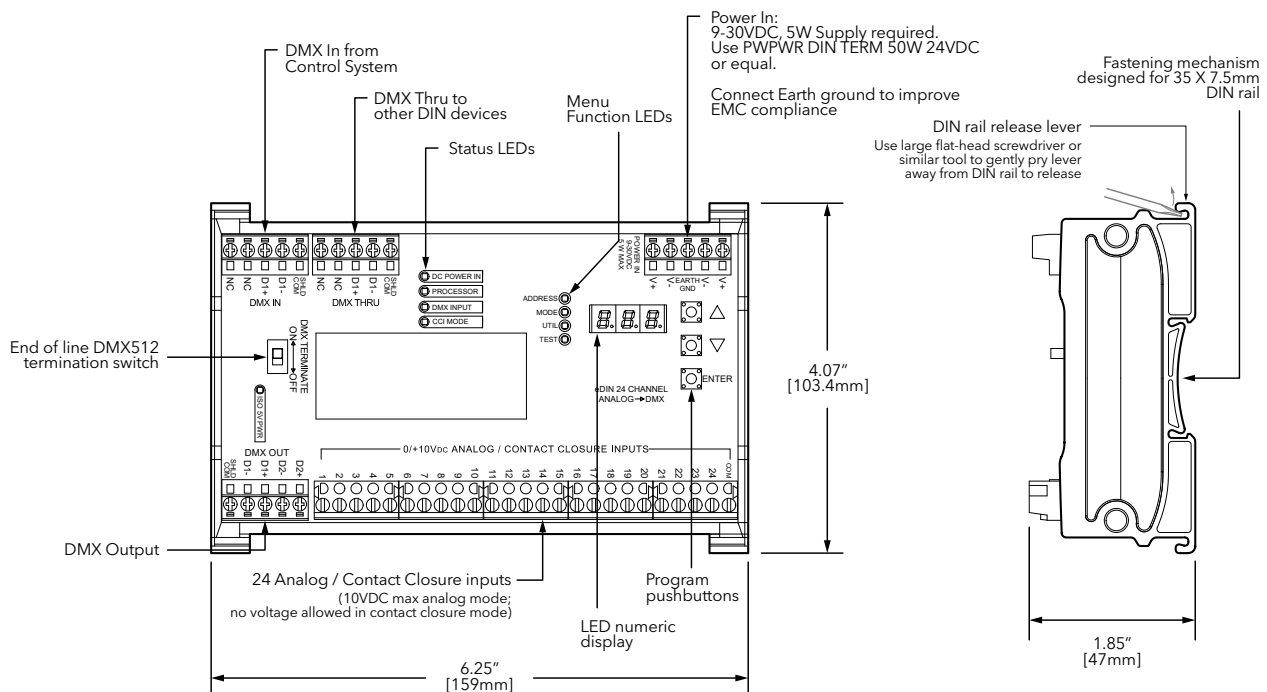
CONFIGURATION

To configure, first press the ▲ or ▼ buttons to select the desired function, indicated by the LED next to ADDRESS, MODE, UTIL, or TEST. Once selected, press and hold the ENTER button until three dots appear across the bottom of the display. The card is now in EDIT mode.

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

SET DMX ADDRESS

Once in ADDRESS edit mode, press ▲ or ▼ to change the start address to the desired value. Inputs will be numbered sequentially starting from this DMX slot. 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: HTP (Highest Takes Precedence)**
  The highest level present on the analog input OR the DMX512 input for a given control channel is the level that will be present on the DMX512 output.

- **MODE 2: Analog Takes Precedence (Analog Priority)**
  If the analog input level for a given channel is 4% or greater (8-bit value greater than 10), the DMX512 output for that channel will reflect the analog input value, and the corresponding DMX512 input value will be ignored. If the analog input value for a given channel is less than 4% (8-bit value less than 11), the DMX input level will determine the output level for that channel.

- **MODE 3: DMX Takes Precedence (DMX Priority)**
  Whenever the DMX512 input data stream is present at the DMX IN, the DMX input levels will determine the DMX512 output levels of all channels, and all analog input levels will be ignored.

- **MODE 4: Contact Closure Input**
  Whenever a given contact input is closed for a given channel (input shorted to COM), the DMX512 output for that channel will be 100% (8-bit value 255). When the contact input is open, the output for that channel will be determined by the DMX input level, if present.

- **MODE 5: Preset Recall**
  When a given contact input is closed momentarily (input shorted to COM), the corresponding recorded preset will be activated on a crossfade time of 5 seconds. All 512 possible DMX channels are stored for each preset. A recalled preset will be HTP (highest-takes-precedence) merged, on a channel-by-channel basis, with any DMX input present on the DMX IN port.

- **MODE 6: DMX Takes Precedence over Preset Recall**
  Whenever DMX512 is present at the DMX IN, the DMX input levels will determine the DMX512 output levels, and all recalled presets will be ignored.

UTIL MODE

UTIL has two settings: the first shows the input number associated with the current active preset. The second accesses preset recording - see PRESET RECORDING below.

TEST MODE

Once in TEST mode, use the ▲ or ▼ buttons to select an input from 1 to 24. Press ENTER again to display the selected input's present level (from 0 to 100%) when operating in analog input mode.

When in contact input mode, the display will show the state of the selected input (0 or 100).

TEST is operating mode dependent and will ignore DMX control while in edit mode.

PRESET RECORDING

Press the ▲ or ▼ buttons until UTIL is reached and the screen reads REC. Press ENTER until the dots appear. Use the ▲ or ▼ buttons to select the desired preset number. Connect incoming DMX to the DMX IN terminal and verify the look is correct.

Press ENTER to capture and store the incoming DMX as a preset in the chosen location. Repeat for each additional preset to be stored.

SELF-TEST

Press the ▲ button while turning power on to enter self-test mode. 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 RDM RESPONDER FEATURES

The PWINF DIN A2D is fully compliant with ANSI E1.20 Remote Device Management as a responder device. An RDM Controller can discover and set the card's DMX start address, firmware version and operating mode. The device will report input DC voltages as a sensor property.

With Pathscape software, the user can upgrade the firmware in the field. Download Pathscape from the Pathway website.

DMX TERMINATE

DMX rules require the last device on a DMX line to be terminated with a 120Ω resistor between pins 2 and 3 to prevent signal reflection. If there is no connection to the DMX THRU terminals, the DMX Terminate switch should be ON.

If there are other devices connected to the DMX THRU terminal, the DMX Terminate switch should be OFF and termination be applied to the final device in the daisy-chain.

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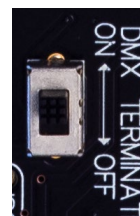
ELECTRICAL INFORMATION

- 1500V opto-isolation between DMX signal and analog/contact inputs
- 250V fault protection on DMX input port
- Input operating voltage: 9-30VDC
- 5W power consumption
- **Do not exceed 10VDC input when set as analog inputs.**
- **Do not connect voltage sources when set as contact inputs.**

  Exceeding this rating may result in personal injury and/or equipment damage to this and other connected devices.

PHYISCAL

- 0.7 lbs (0.316 kg)
- 6.25"W x 4"H x 1.85"D (159mm x 103mm x 47mm)
- Operating conditions: 14°F-113°F (-10°C-45°C), 5-95% relative humidity, non-condensing

COMPLIANCE

- ANSI E1.11 DMX512-A R2013
- ANSI E1.20 RDM - Remote Device Management
- ANSI E1.3 0-10V Analog Control
- RoHS 2011/65/EU + A1 2015/863
- CE
- Class 2 Low Voltage