

# eDIN Model 1003 Contact Closure Manual

## OVERVIEW

Pathway eDIN Contact Closure outputs provide DMX-controlled form-C relay switch closures for both power and signal level switching. The card is RDM discoverable and configurable. The DIN form factor makes installation fast and easy.

## CONNECTIONS

eDIN Contact Closures Interfaces feature terminal strips that can be removed from the card to facilitate easy wire installation or replacement. Make the following connections, **WITH THE POWER TURNED OFF**:

### POWER

This interface is designed to run on a range of voltages from 9-30 volts DC. Each module requires 400mA.

Observe the correct polarity when connecting to V+ and V-. A second set of terminals are provided to connect to other eDIN modules. The EARTH GROUND terminal must be connected to the enclosure's chassis or electrical ground terminal to ensure EMC compliance.

### DMX

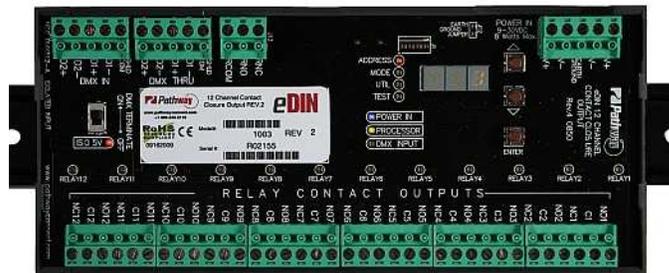
DMX connections consist of a shield and a data pair. A optional second auxiliary data pair is also occasionally employed. DMX IN usually comes from a control console, architectural controller or opto-splitter. DMX THRU provides a means to daisy-chain DMX to other eDIN modules. Connect DATA+ and DATA-,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

### DMX PRESENT RELAY CLOSURE

Starting with firmware 1.5.5, the J13 DMX present relay closure is supported. Wire RCOM to RNO or RNC for normally open or normally closed, as desired.

### CONTACT OUTPUTS

The eDIN contact closure interface can be thought of as twelve DMX controllable switch closures. As switches,



they need two connections each since the switches provide no voltage or current on their own. One connection is to the supply and one goes to the load. The switch closures are provided by twelve relays. Each relay has three sets of contacts; normally open (NO), normally closed (NC) and common (C). Generally the normally open contacts are what are used, providing an open switch that closes when the relay is energized. Normally closed contacts operate in the opposite manner, providing a closed switch that opens when the relay is energized.

All common terminals are independent of one another.

## STATUS INDICATORS

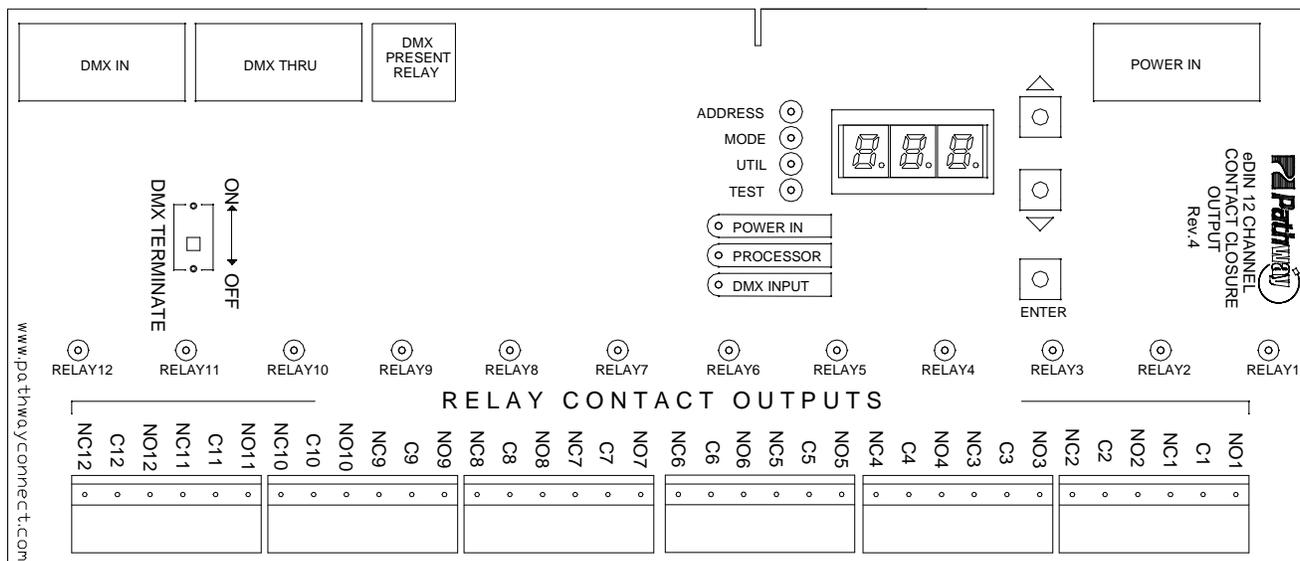
**POWER IN** Blue. Glowing steadily indicates power supply OK; off indicates no power.

**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.

**RELAY** Red. Glowing steadily indicates relay is energized. Flickers for momentary action.

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



## CONFIGURATION

The eDIN user interface has 2 operating modes: Function and Edit. Press the ▲ or ▼ buttons to select a function, as indicated by the LEDs next to ADDRESS, MODE, UTIL, and TEST. Once selected, press and hold the ENTER button until a dot appears in the lower right-hand corner of the display. The card is now in EDIT mode.

ADDRESS changes the DMX start address. MODE sets one of six different operating modes. TEST allows the user to test the contact closures using the ▲ or ▼ buttons. Test patterns differ depending on what mode the card is set for.

## SET OPERATING MODE

Once in MODE edit, choose from the following:

### Mode 1: *Maintained 12 Channel Operation*

The relay will be maintained on as long as the DMX value for the channel is above 50%.

### Mode 2: *Momentary 12 Channel Operation*

When the DMX channel for a given relay passes through the 50% threshold either increasing or decreasing, the relay will close for 250mS.

### Mode 3: *Momentary "ON" 12 Channel*

When the DMX channel for a given relay is increasing and passes through the 50% threshold, the relay will close for 250mS.

### Mode 4: *Momentary 6 Channel Split*

In 6 channel mode, adjacent relays are paired to a DMX channel (1 and 2, 3 and 4, etc), one for "ON" operation, and one for "OFF". When the DMX channel for a given relay pair passes through the 50% threshold, increasing, the lower number relay will close for 250mS. When the DMX channel for a given relay pair passes through the 50% threshold, decreasing, the higher number relay will close for 250mS.

### Mode 5: *Maintained 6 Channel Split*

In 6 channel mode, adjacent relays are paired to a DMX channel (1 and 2, 3 and 4, etc), one for "ON" operation, and one for "OFF". When the DMX channel for a given relay pair passes through the 50% threshold, increasing, the lower number relay will close and maintain state. When the DMX channel for a given relay pair passes through the 50% threshold, decreasing, the lower number relay will open and the higher number relay will close and maintain state.

### Mode 6: *Momentary Split with Secondary 'Reset'*

2 sequential DMX channels are associated with each adjacent pair of relays. When the lower DMX channel increases through 50%, the lower-numbered relay will close for 250mS. When the lower DMX channel decreases through 50%, the higher-numbered relay will close for 250mS. To provide a secondary reset, when the higher DMX channel passes through 50%, increasing, the higher relay will close for 250mS. If the higher DMX channel decreases through 50%, the relays remain unchanged.

### Mode 7: *Chase*

Each contact closure will be triggered for two seconds. This is intended as a test feature.

### Mode 8: *Single Channel Select*

Raising the DMX level of the start channel will trigger each contact closure in turn, from none up to the twelfth.

### Mode 9: *Single Channel Build*

Raising the DMX level of the start channel will trigger each contact closure additionally. At zero percent, no contact closures are trigger, while at full all twelve contact closures are triggered.

## DMX PRESENT MODE

With firmware prior to 1.5.5, when UTIL is set to mode 2, the number 12 relay will trigger whenever DMX is becomes present or is lost. Momentary or maintained behavior is governed by overall Operating Mode of the card. This mode is not in used in version 1.5.5 or higher.

## TEST AND SELF-TEST

Once in TEST mode, use the ▲ or ▼ buttons to trigger the selected relay or relay pair. The Test function is operating mode dependent and will cause the card to 'ignore' the DMX input.

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 card's serial number and firmware version. Cycle power to end self-test.

## RDM RESPONDER FEATURES

The eDIN 1003 Contact Closure output card is fully compliant with ANSI E1.20 Remote Device Management as a responder device. An RDM Controller can discover and retrieve the card's unique identifier (UID), its DMX start address, firmware version and operating mode. DMX start address and operating mode are remotely configurable by the controller. Starting with firmware 1.5.5, an RDM utility can upgrade the firmware in the field.

## DMX TERMINATE

DMX rules require the final device in-line have a terminating resistor. If there are other devices connected to the DMX THRU terminals, the DMX TERMINATE switch should be OFF. Otherwise the terminator should be ON.

## SPECIFICATIONS

POWER SUPPLY:	9-30 VDC, 400mA
INPUT SIGNAL:	ANSI E1.11 DMX512-A; ANSI E1.20 RDM
OUTPUTS:	12 normally open/normally closed, isolated contacts
CONTACT RATING:	2A at 30VDC
<b>EXCEEDING THIS RATING MAY RESULT IN PERSONAL INJURY OR DAMAGE TO THIS AND OTHER CONNECTED DEVICES.</b>	
DATA CONNECTIONS:	Pluggable screw-down connector; AWG 24 to 14

**Do not exceed relay current rating for the voltage you are switching. Permanent relay damage could result.**