

eDIN #1003 Contact Closure Module Specifications

Version 2.0

July 2013

SUBJECT TO CHANGE WITHOUT NOTICE

1.0 General

- 1.1 The eDIN Contact Closure Module shall be a DMX512-controllable, contact closure output interface.
- 1.2 Each module shall provide twelve (12) individual Form-C relay contact closures, each controlled by a discrete DMX channel.
- 1.3 The relay contacts shall be capable of switching signal level voltages and currents only.
- 1.4 The Module shall be designed to mount on 35mm DIN rail.

2.0 Features

- 2.1 The module shall have several user-selectable operating modes, including but not limited to:
 - 2.1.1 Maintained 12 channel mode. Each relay shall be maintained “on” while its associated DMX channel is above 50%.
 - 2.1.2 Momentary 12 channel mode. Each relay shall close for 100mSec when its associated DMX channel level passes through 50%, increasing or decreasing.
 - 2.1.3 Momentary ‘ON’ 12 channel mode. Each relay shall close for 100mSec when its associated DMX channel passes through 50%, increasing only.
 - 2.1.4 Momentary Split, 6 channel mode. Each adjacent pair of relays shall be associated with a single DMX control channel. The lower (odd-numbered) relay shall close for 100mSec when the associated DMX channel passes through 50%, increasing. The higher (even-numbered) relay shall close for 100mSec when the associated DMX channel passes through 50%, decreasing.
 - 2.1.5 Maintained Split, 6 channel mode. Each adjacent pair of relays shall be associated with a single DMX control channel. When the associated DMX channel passes through 50%, increasing, the lower (odd-numbered) relay shall close and be maintained while the higher (even-numbered) relay shall be open. When the associated DMX channel passes through 50%, decreasing, the lower (odd-numbered) relay shall open, while the higher (even-numbered) relay shall close and be maintained.
 - 2.1.6 Momentary Split with ‘Reset’ function. Two sequential DMX channels are associated with each adjacent pair of relays. When the lower DMX channel passes through 50%, increasing, the lower (odd-numbered) relay shall close for 100mSec. When the lower DMX channel passes through 50%, decreasing, the higher (even-numbered) relay shall close for 100mSec. The higher DMX channel shall provide secondary ‘reset’. When the higher DMX channel passes through 50%, increasing, the higher (even-numbered) relay shall close for 100mSec. When the higher DMX channel passes through 50%, decreasing, both relays shall remain unchanged.
 - 2.1.7 Chase mode. Each relay shall close for two seconds in a sequential pattern. This function is intended for system testing.
- 2.2 The Module shall provide a relay output test mode to allow the user to activate a selected relay via the onboard user interface.
- 2.3 The Module shall include one additional Form-C relay output which shall function as a DMX-present detector.
- 2.4 The Module shall have a diagnostic mode, activated by pressing a pushbutton during power-up.

3.0 User Interface

- 3.1 A three-digit LED display and three pushbuttons shall provide the user interface to set DMX start address and operating mode, and to access test functions.
- 3.2 LED indicators shall provide status reporting for power, active processor, DMX input, and relay status.
- 3.3 The module shall also be discoverable and configurable via a remote controller using RDM.
- 3.4 A DMX end-of-line termination switch shall be provided on the Module.

4.0 Electrical

- 4.1 Multiple modules, up to the RS485 limitation of 32, may be daisy-chained on the same DMX input data line.

- 4.2 The power input shall accept a range of 9 to 30 volts DC and shall consume no more than 6 watts.
- 4.3 The DMX input port shall be capable of withstanding short-term application of up to 250V without damage to internal components.
- 4.4 Input protection shall be of the self-resetting type, rated for 250V. Replaceable fuses shall not be acceptable.
- 4.5 The DMX input port shall provide 1500-volt optical isolation between the DMX signal and module electronics.
- 4.6 Each relay shall be rated for 100,000 operations at loads up to 2 amps / 30 VDC or 125 VAC. The module rating per relay shall be 1 amp @ 24V AC or DC.
- 4.7 Each relay output shall permit normally-open or normally-closed functionality.
- 4.8 All input, output and power connections shall utilize pluggable Phoenix-type screw terminal blocks, capable of accepting solid or stranded wire sizes from #26 to #16 AWG.

5.0 Protocol Compatibility

- 5.1 The input control signal shall be compatible with all variants of the lighting industry standard DMX512 control protocol.
- 5.2 One (1) DMX Pass-Thru port shall be provided. The Pass-Thru port shall be passive, that is, direct-wired from the input and not repeated, such that failure of the Module shall not adversely affect a signal being passed through to another module or device.
- 5.3 The Contact Closure module shall support RDM (Remote Device Management) for discovery and configuration.
- 5.4 It shall be possible to update the module's firmware via the DMX port. Products that provide no firmware update capability will not be acceptable.

6.0 Physical

- 6.1 The Contact Closure module shall be designed to snap on to 35mm DIN rail without the use of tools.
- 6.2 The Module shall measure 3.6"W x 8.0"L x 1.5"H (91mm x 200mm x 38mm).
- 6.3 The Module shall weigh 0.7 lb. (316g).

7.0 Environmental

- 7.1 The ambient operating temperature shall be -10° to 50°C (14° to 122°F).
- 7.2 The storage temperature shall be -40° to 70°C (-40° to 158°F).
- 7.3 The operating humidity shall be 5% - 95% non-condensing.

8.0 Compliance

- 8.1 The Contact Closure Module shall meet the requirements of USITT DMX512 (1990), ANSI E1.11 DMX512-A, and ANSI E1.20 Remote Device Management.
- 8.2 The Contact Closure Module shall be compliant with the EU RoHS (2002/95/EC) directive.
- 8.3 The Contact Closure Module shall conform to all FCC and CE requirements.
- 8.4 The Contact Closure Module shall be a Class 2 Low Voltage device.
- 8.5 The module circuit board shall be manufactured from FR-4 glass epoxy laminate with a UL 94 flammability rating of V0. The board shall be clearly marked as such.
- 8.6 The module carrier housing shall be manufactured from extruded rigid PVC with a UL 94 flammability rating of 5VA.

7.0 Acceptable Product

- 7.1 The DMX Contact Closure Module(s) shall be Pathway Connectivity eDIN model 1003.