1. DIGITAL INPUT AND OUTPUT MODULE
	1. SYSTEM OVERVIEW
2. General Description
3. The digital input and output module shall be the Vision.Net 4-Port Digital I/O Module by Strand.
4. The module shall be compatible with Strand Vision.Net Architectural Lighting Control protocols and associated Strand Vision.Net lighting control products.
	1. PHYSICAL & MECHANICAL
5. The module shall be constructed using 18-gauge cold rolled steel finished in a fine-textured black powder coating that fully encloses all the electrical components.
6. The module shall be field configured to install on either DIN rail or be surface mountable.

If DIN rail mounted the module shall be installed on type TS35/7.5 mm DIN rail.

If surface mounted the module shall be able to be orientated vertically or horizontally and be affixed to a surface using commonly available rounded head fasteners.

1. The module shall be constructed, approved and listed in accordance with UL2043 ‘Standard for Fire Test for Heat and Visible Smoke Release for Discrete Products and Their Accessories Installed in Air-Handling Spaces’, i.e., *Plenum* rated.
2. Physical measurements for the module including termination connectors shall not exceed 4.02 x 4.5 x 1.33 in. (102.1 x 114.3 x 33.8 mm). The module weight, including termination connectors shall not exceed 1.05 lb. (0.68 kg).
3. The module, if installed on standard TS35/7.5 mm shall consume no more than 6SU of DIN rail length.
4. The module shall be cooled using free-air convection.
5. The following interfaces shall be provided on the module:
6. 1x 9-position plug in PCB header

2x 5-position plug in PCB headers

4x 3-position plug in PCB headers

* 1. ELECTRICAL
1. The module shall use the 9-position plug-in PCB interface for input of 24 VDC for operating power and data input/output of the ‘Vision.Net’ lighting protocol.
2. The ‘Vision.Net’ interface shall be terminated using Belden 1583a, CAT5e, 24 AWG, solid type cable.

The module shall have an independent green LED to indicate the state of the module’s operating power.

The module shall have an independent green and red LED to indicate the receiving and transmitting state of the ‘Vision.Net’ interface.

1. The modules digital input interfaces:
2. Shall be discrete inputs.
3. Shall support wet or dry contact closure per input at 24 VDC or less.

Shall support momentary or maintained input.

Shall have an independent green LED to indicate the real-time input state per input.

Shall be terminated to the module using 16-28 AWG (1.30-0.08² mm) wire on the 5-position, screw-down, plug-in PCB connector.

1. The module’s digital output interfaces:
2. Shall be open collector outputs.
3. Shall provide momentary or maintained digital signals rated at 0.2 A.

Shall have an independent green LED to indicate the real-time state per output.

Shall be terminated to the module using 16-28 AWG (1.30-0.08² mm) wire on the 5-position, screw-down, plug-in connector.

1. The module’s relay output interfaces:
2. Shall be changeover (CO) contacts and be field configured as Normally Open (NO) or Normally Closed (NC) per output utilizing a dual in-line relay per output.

Shall provide momentary or maintained contact closure per output rated at 24 VDC, 3 A.

Shall be terminated to the module using 12-24 AWG (3.30-0.20² mm) wire on any 3-position, screw-down, plug-in connector.

* 1. FUNCTIONALITY
1. The module shall offer the ability to:
2. Receive input from third party devices and systems.

Trigger events to third party devices and systems.

Send system status updates or trigger responses in third party systems.

1. Programming of the module shall be by way of the front panel buttons in tandem with ‘Designer for Vision.Net’ PC-based software.
2. Configuration settings shall be stored on non-volatile memory within the module and settings shall be protected in the event of power loss.
3. The module shall provide the following buttons with corresponding LEDs to indicate their functionality.
4. MODE, PRM, INC, DEC
	1. DOCUMENTATION
5. A Quick Start Guide shall be included with the module at purchase and be available from the manufacturer’s website.
6. A 2D Dimensional Drawing of the module shall be available from the manufacturer’s website in .dxf and .pdf format.
7. A Building Information Modeling (BIM) file of the module shall be available from the manufacturer’s website in .rfa format.
	1. ENVIRONMENTAL SPECIFICATION
8. The acceptable ambient operating temperature of the module shall be 0 to 40° Celsius (32° to 104° Fahrenheit).
9. The acceptable operation location of the module shall be the equivalent of a good office environment, without excessive dust or rapid changes in temperature or humidity.
10. Acceptable relative humidity levels for operation of the module shall be 20-90%, non-condensing.
11. The maximum surface temperature of the module shall not exceed 25° Celsius (77° Fahrenheit).
12. The module shall not dissipate more than 6.82 BTU/hr.
	1. STANDARDS COMPLIANCE
13. The module shall be manufactured in conformity with DIN43880 and IEC 60715.
14. The module shall be in manufactured in conformity, listed, and marked against the following standards:
15. US safety: UL62368-1, UL2043

Canada safety: CSA C22.2 No. 62368-1

EU safety: EN 62368-1

EU RoHs: EN 50581

1. The manufacturer shall make available on their website certificates from an accredited testing laboratory authorizing the manufacturer to mark the product in accordance with the relevant standard.
2. The manufacturer shall upon request provide to the end-user reports attesting to the conformity of the listed and approved standards from an accredited testing laboratory.
	1. INCLUDED ITEMS
3. The module shall include as aforementioned:
4. Quick Start Guide

Surface Mount Bracket

Assorted screw-down, plug-in connectors

## END OF SPECIFICATION.