



**Description**

The Crestron® C2N-UNI8IO is a compact interface designed to allow virtually any keypad to be connected directly to a Cresnet® control network. The Cresnet network is the communications backbone for Crestron sensors, dimmers, keypads, touch panels, shade controllers, thermostats, and many other devices. This flexible 4-wire bus provides data communications and 24 Vdc power for all of the devices on the Cresnet network. The C2N-UNI8IO installs easily at the keypad location, sitting conveniently inside the electrical box behind the keypad. Wiring connections to the network are made using a detachable terminal block connector. Wiring connections to the keypad can be made using the provided connectors with flying leads, or the keypad manufacturer can choose to mate directly to the exposed connectors.

The C2N-UNI8IO is compatible with most keypads that provide contact closures as user inputs and use LEDs for feedback. Up to 1 A @ 24 Vdc power and 40 mA @ 5 Vdc is available to support a variety of keypads. The C2N-UNI8IO includes eight sensing inputs, each capable of sensing a contact closure. The C2N-UNI8IO also includes eight open-drain outputs capable of sinking up to 100 mA each (500 mA maximum total current). Also provided are eight current-limiting resistors that can be switched in series with each channel to limit the output current to 5 mA @ 5 Vdc.

Specifications for the C2N-UNI8IO are listed below.

SPECIFICATION	DETAILS
<b>Power Requirements</b>	
Cresnet Power Usage	0.5 W (0.02 A @ 24 Vdc) Does not account for LED, bulbs, or other device's power consumption.
<b>Ratings</b>	
Digital Inputs	(8) Inputs rated for 0-24 Vdc, includes 10 KΩ pull-up to 5 Vdc Logic low threshold: ≤1 V Logic high threshold: ≥3.7 V
Digital Outputs	(8) Open drain outputs rated for 100 mA @ 24 Vdc, 500 mA max (combined for all 8 outputs), when not in Current Limit mode Maximum Power Load: 1 A @ 24 Vdc and 40 mA @ 5 Vdc. Actual load capability dependent upon the amount of available Cresnet power in the system.
<b>Environmental</b>	
Temperature	32°F to 104°F (0°C to 40°C)
Humidity	10% to 95% RH (noncondensing)
<b>Dimensions</b>	
Height	2.06 in (53 mm)
Width	2.05 in (52 mm)
Depth	0.68 in (18 mm)
<b>Weight</b>	1 oz (24 g)

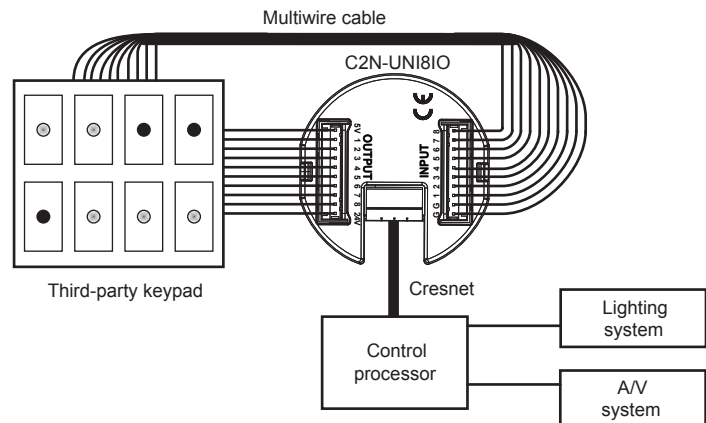
**Additional Resources**

Visit the product page on the Crestron website ([www.crestron.com](http://www.crestron.com)) for additional information and the latest firmware updates. Use a QR reader application on your mobile device to scan the QR image.



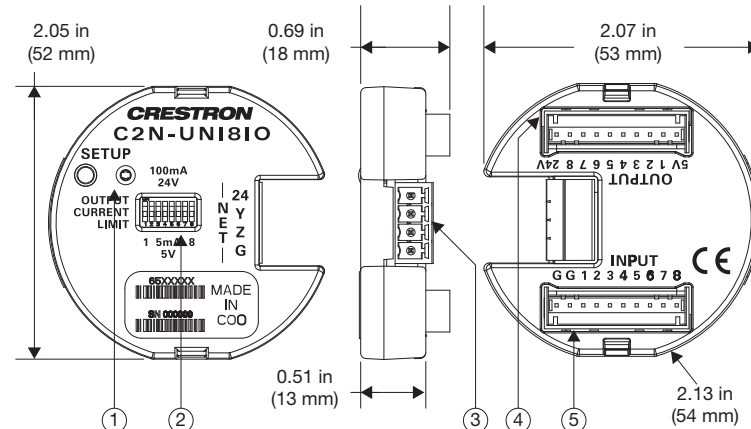
**Hardware Hookup**

The following diagram shows a C2N-UNI8IO in a lighting and AV system application.



**Connectors, Controls, and Indicators**

The following diagram shows a C2N-UNI8IO in a lighting and AV system application.



#	CONNECTORS, CONTROLS, AND INDICATORS	DESCRIPTION
1	SETUP	(1) Red LED and (1) miniature push button, used for touch-settable ID (TSID)
2	OUTPUT CURRENT LIMIT	(1) 8-position DIP switch, engages 1 K ohm current limiting resistor per output, limits each output to 5mA @ 5VDC for use with LEDs <b>NOTE:</b> When in "current limit" mode, be sure to not exceed the above rating.
3	NET	(1) 4-pin 3.5mm detachable terminal block; Cresnet slave port, connects to Cresnet control network
4	OUTPUT	(1) 10-pin 0.1" IDC connector, includes (10) single conductor 22 AWG 3" flying leads Outputs comprised of (1) 24VDC, (1) 5VDC, and (8) digital outputs (referenced to GND) Note: 24V connector is a Cresnet power pass-through.
5	INPUT	(1) 10-pin 0.1 in (3 mm) IDC connector comprised of (10) single-conductor 22 AWG 3 in (76 mm) flying leads Inputs comprised of (2) GND references and (8) digital inputs (referenced to GND)

**Installation**

**WARNING:** To avoid fire, shock, or death, turn off the power at the circuit breaker or fuse and test that the power is off before wiring!

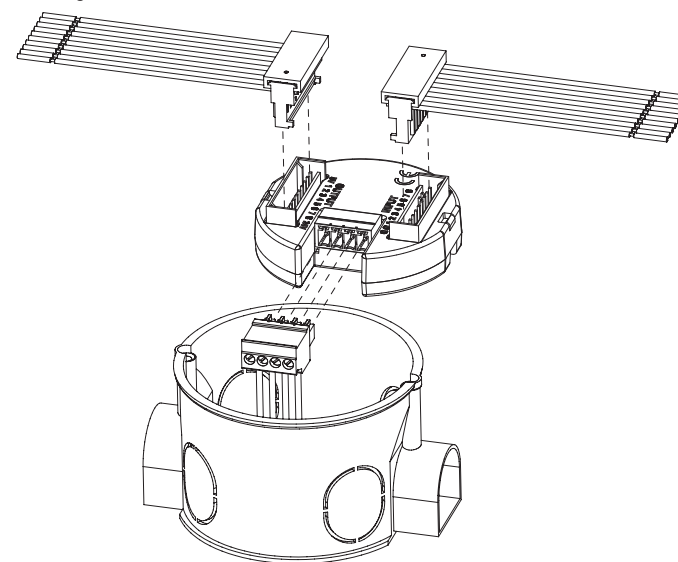
**NOTE:** Observe the following points:

- Install and use this product in accordance with appropriate electrical codes and regulations.
- A licensed electrician must install this product.

**NOTE:** Before using the C2N-UNI8IO, ensure the device is using the latest firmware. Check for the latest firmware for the C2N-UNI8IO at [www.crestron.com/firmware](http://www.crestron.com/firmware). Load the firmware onto the device using Crestron Toolbox™ software.

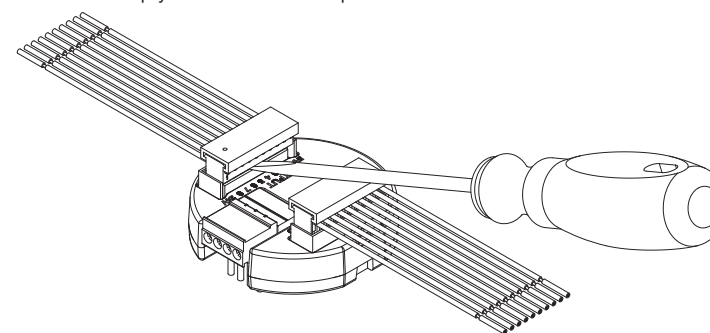
The C2N-UNI8IO can be installed inside a standard electrical box. Refer to the following illustration.

*Installing the IDC Connector and the Cresnet Connector*

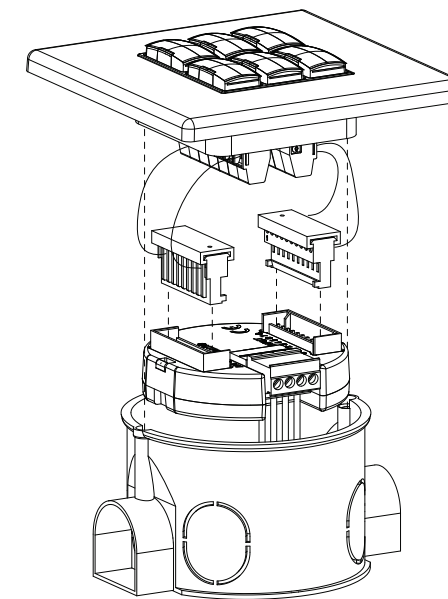


**Removing the IDC Connector**

Use a flat-blade screwdriver to loosen the IDC connector from the header. Place the flat-blade screwdriver between the header and midsection of the connector. Turn the screwdriver to pry the IDC connector up.



*Using a Third-Party Keypad*



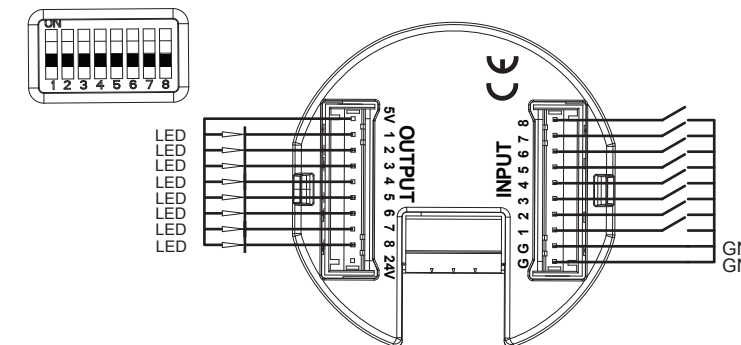
**Wiring Diagrams**

**CAUTION:** Shorting non-current limited supplies may cause damage to the outputs on the unit.

*Internal 5V LED Driver (Internal 5 mA 5 V Current Limit)*

**NOTE:** Dip switches must be in the OFF position.

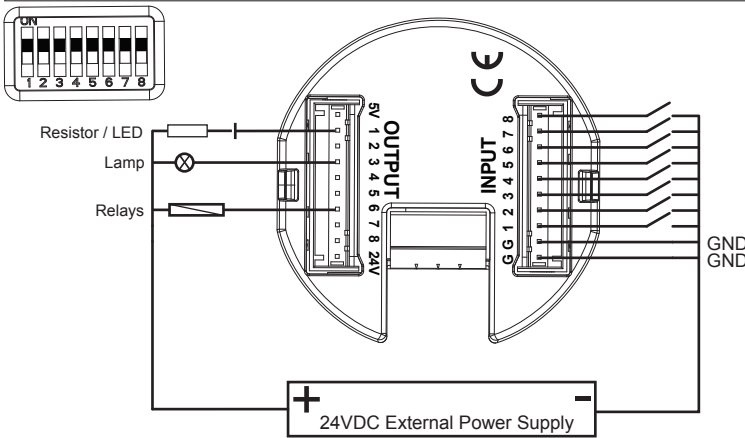
**NOTE:** Internal 5 mA 5 V current limit can be enabled or disabled on an individual basis.



External 24 V LED Driver (100 mA Open Collector Output)

**NOTE:** Dip switches must be in the ON position.

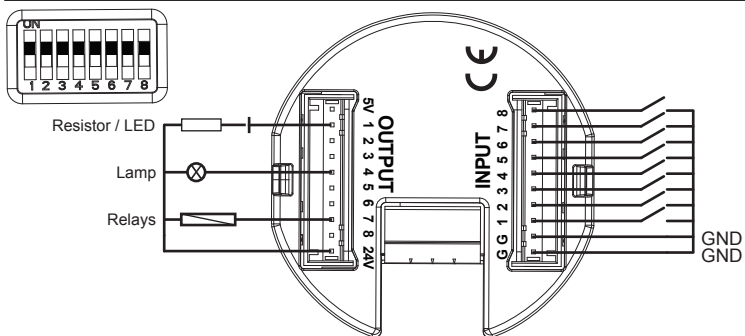
**NOTE:** Internal 5 mA 5 V current limit can be enabled or disabled on an individual basis.



Using Internal 24 Vdc Power Supply (100 mA Open Collector Output)

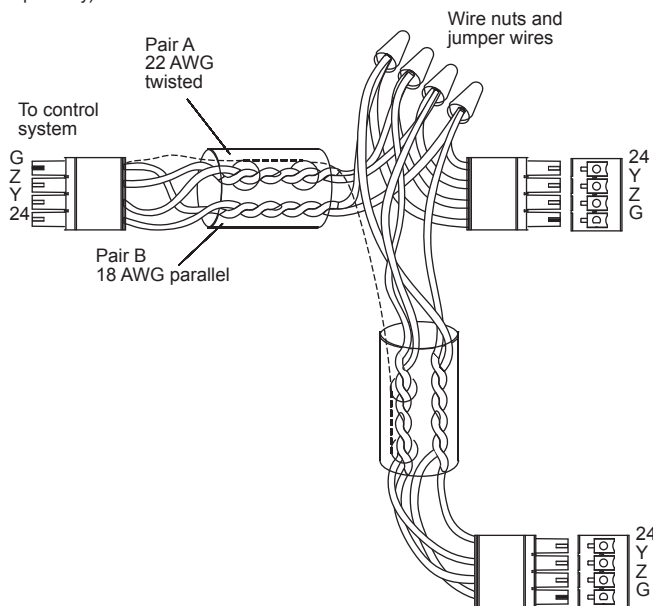
**NOTE:** Dip switches must be in the ON position.

**NOTE:** Internal 5 mA 5 V current limit can be enabled or disabled on an individual basis.



**Make Cresnet Connections**

Connect the C2N-UNI8IO to the Cresnet Network via a Cresnet network cable (sold separately).



**NOTE:** When wiring, observe the following points:

- Do not power up the system until all wiring is verified. Use care to ensure that data (Y and Z) and power (24 and G) connections are not crossed.
- Ground the Cresnet shield at the Control System end only.
- Use the Crestron CNTBLOCK network terminal expander and diagnostic tool for testing.
- Use #18 AWG jumper wires. Use a wire nut that accommodates all three wires.

This product is listed to applicable UL® Standards and requirements by Underwriters Laboratories Inc.

Ce produit est homologué selon les normes et les exigences UL applicables par Underwriters Laboratories Inc.

UL us  
As of the date of manufacture, the device has been tested and found to comply with specifications for CE marking.

**CE**  
**Federal Communications Commission (FCC) Compliance Statement**

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for

compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Industry Canada (IC) Compliance Statement**

CAN ICES-3(B)/NMB-3(B)

The product warranty can be found at [www.crestron.com/warranty](http://www.crestron.com/warranty).

The specific patents that cover Crestron products are listed at [patents.crestron.com](http://patents.crestron.com).

Certain Crestron products contain open source software. For specific information, please visit [www.crestron.com/opensource](http://www.crestron.com/opensource).

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This document was written by the Technical Publications department at Crestron.

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**Installation & Operation Guide - DOC. 6956C (2027241)**

11.16  
Specifications subject to change without notice.