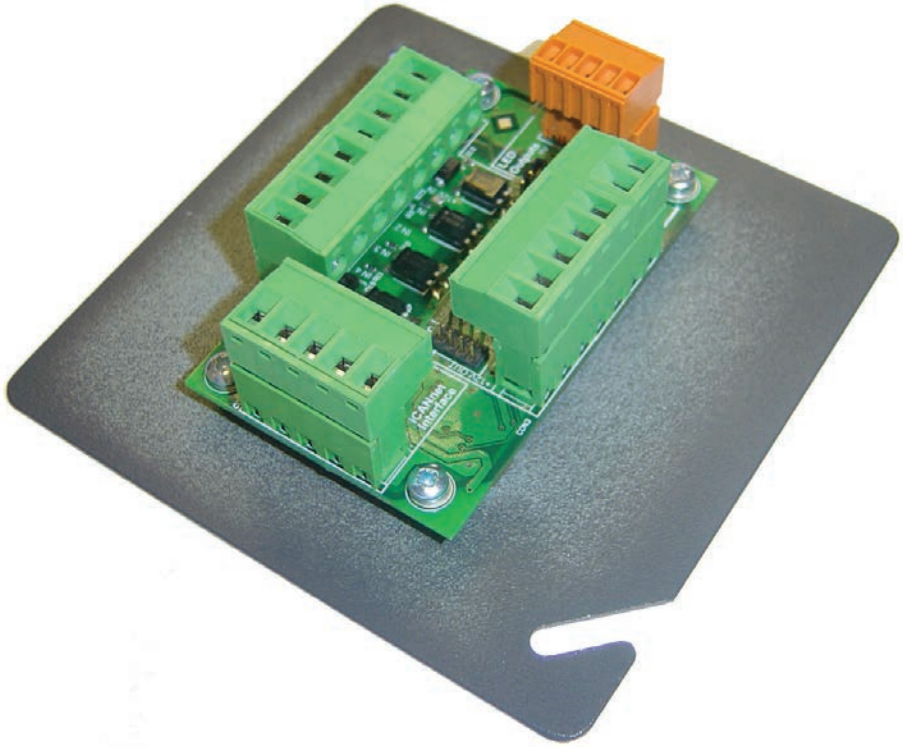
Installation Instructions Model # UIG-2-NA **iLumin**

UIG-2-NA Universal Interface



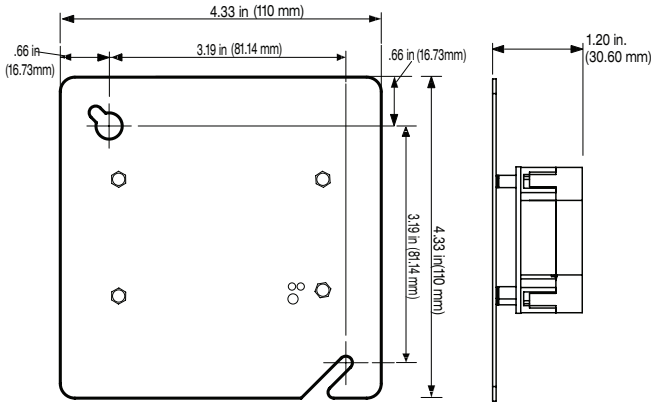
COOPER Lighting Solutions

Introduction

The Universal Interface (UIG-2-NA) provides a cost effective interface between an iCANnet system and other control systems. Fitting in a standard 4" x 4" junction box and powered through the iCAN network, this compact versatile unit can be mounted virtually anywhere. It has four optically-isolated digital inputs and a further four inputs configurable for either digital or analog use. All inputs are programmable as to their function. In addition to the inputs there are four LED output drives for visual feedback of switch activity.

The unit enables input controls such as partition switches and faders to be used with iCANnet systems. With configurable room join functions, just moving room partitions can open or close contacts to enable individual or combined room control.

Dimensions



Specifications

Inputs

4 Optically-isolated digital inputs

A. Requires 5-24 Vdc supplied from +12V_opto to 0V_opto terminals

B. Optical isolation offers improved performance in electrically noise environments

C. Internal 12 Vdc current limited (50 mA) supply available where an external supply is not required; using this supply requires by-passing the optical isolation of these inputs

D. Opto-isolated digital inputs work with:

1. Switch closure from the IN_opto to 0V_opto
   - For use with both momentary and maintained inputs
   - Minimum momentary input pulse duration 20 msec
   - Switch will see up to 16 mA when closed
2. Open collector NPN active low circuit
   - On-state voltage ≤ 1 volt and capable of sinking 16 mA
   - Collector-emitter leakage current ≤ 500 nA
   - Collector-emitter voltage ≥ supply voltage
3. Actively driven circuit
   - Active low voltage ≤ 1 volt and capable of sinking 16 mA
   - Active high voltage ≥ supply – 0.25 volts

E. All opto-isolated digital inputs wire with 2 part connectors with screw terminals. Wire sizes 12 AWG ($4mm^2$) to 24 AWG ($0.25mm^2$).

4 Analog/digital inputs

A. Individually programmable as analog or digital inputs

B. 5 Vdc & 12 Vdc current limited (50 mA total) regulated supplies available for analog / digital input devices

C. Analog input mode:

1. Suitable for use with rotary and linear variable resistors
2. Reads input voltages from 0–10 Vdc
3. Inputs protected for use up to 12 Vdc

D. Digital input mode works with:

1. Switch closure from the IN_A/D to 0V_A/D

- For use with both momentary and maintained inputs
- Minimum momentary input pulse duration 20 msec
- Switch will see up to 60 uA when closed

2. Open collector NPN active low circuit
   - On-state voltage ≤ 500 mV and capable of sinking 60 uA
   - Collector-emitter leakage current ≤ 10 uA
   - Collector-emitter voltage ≥ supply voltage
3. Actively driven circuit
   - Active low voltage ≤ 500 mV and capable of sinking 60 uA
   - Active high voltage ≥ supply – 1 volt
4. All analog / digital inputs wire with 2 part connectors with screw terminals. Wire sizes 12 AWG (4mm^2) to 24 AWG (0.25mm^2).

LED Outputs

4 LED Outputs

A. LED outputs drive remote indicators

B. Each output provides a 10 mA supply capable of driving LED's up to a forward drop of 6.7 V.

C. Indicates input status when opto-isolated input are configured for scene selection

D. Can also be configured for indication of other functions

E. All LED outputs wire with two part connectors with screw terminals. Wire sizes 12 AWG (4mm^2) to 24 AWG (0.25mm^2).

Functions

A. 16 sequences of up to 128 steps each

B. 4 room joins with up to 3 partitions each

Electrical and network

A. Supply: 12 Vdc from the iCANnet network.

B. Counts as one device load when used with four LED outputs or with one sensor.

C. Every additional two sensors increases the supply load by one device.

D. Will operate from 12 Vdc to 18 Vdc.

E. iCANnet network connection: 2 part connector with screw terminals. Wire sizes from 12 AWG (4mm^2) – 24 AWG (0.25mm^2).

F. Maximum wiring distance of inputs should not exceed 32 ft. (10m).

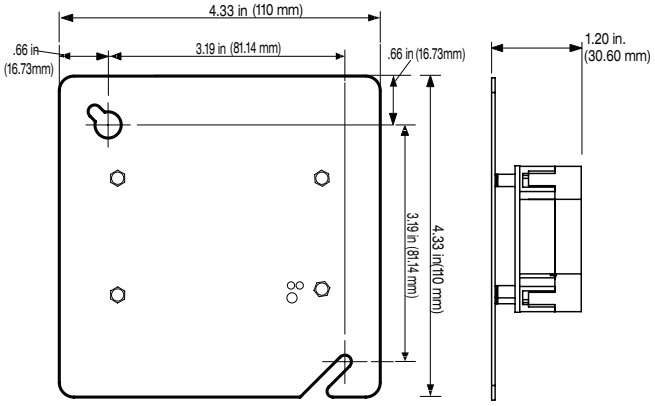
Installation

Supplied Parts

The universal interface is supplied complete with a mounting plate for easy attachment to a standard 4 in x 4 in (100mm x 100mm) electrical wall box (not included).

Mounting

The mounting plate can be removed if it is not required, allowing the universal interface to be mounted in any convenient location. If doing so, you must ensure that the universal interface is supported such that it is electrically isolated from any electrically conductive material in that location. The unit must be installed in a dry, ventilated location where ambient temperature and humidity are within the operating limits of the product.



Ambient atmosphere requirements

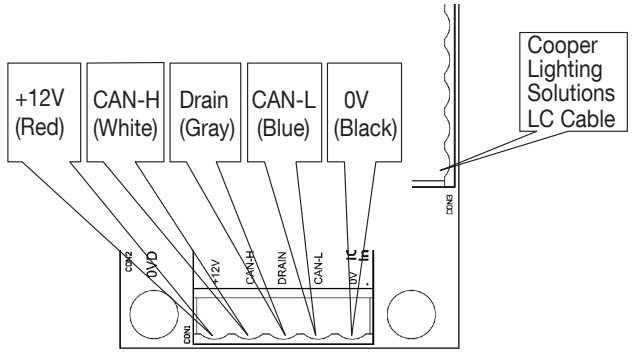
Temperature: 32° F to 104° F (0° C to +40° C)

Humidity: 0 to 95% non-condensing.

Network Connections

iCANnet wiring

Cable connections to the iCANnet network are made to a removable 5-way connector block:



Cable type: Cooper Lighting Solutions LC or Belden 1502R or 1502P

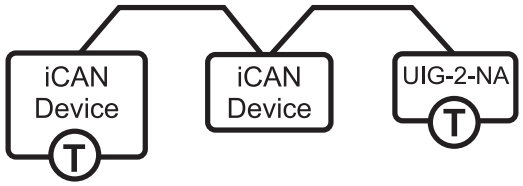
Maximum cable length: 1000 ft. (305 m)*

Devices per segment: 100 (without bridge or repeater)

The iCANnet connection also provides power for the UIG-2.

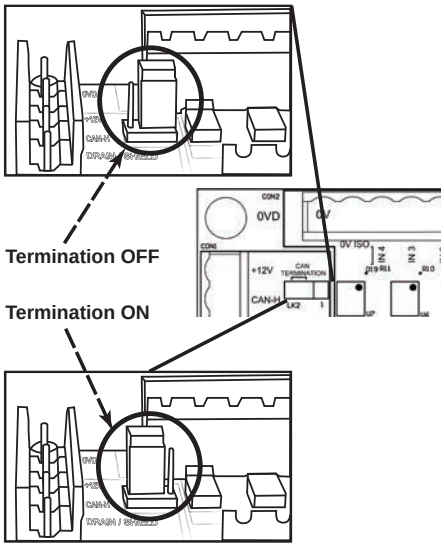
iCANnet termination

The iCANnet network is a 'daisy-chain' protocol that requires termination on the devices at each end of the network. Spurs from the Network are not permitted and will result in communications problems.



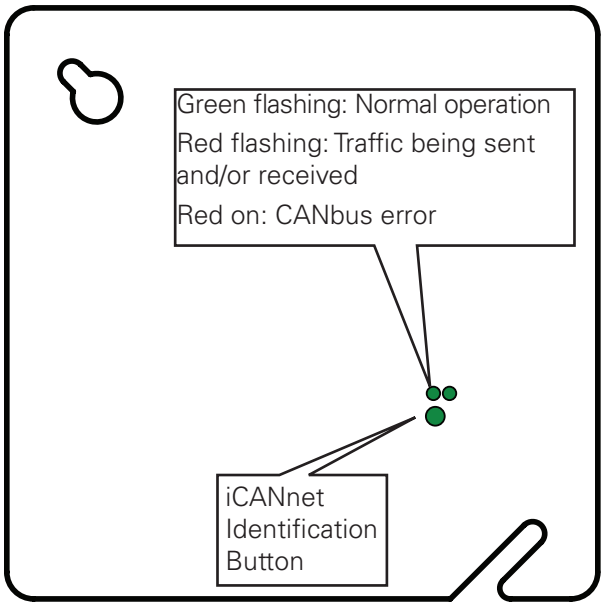
The iCANnet network is a 'daisy-chain' protocol that requires termination on the devices at each end of the network. Spurs from the Network are not permitted and will result in communications problems.

The UIG-2-NA is supplied with termination enabled. If the device is not positioned at the end of the iCANnet chain, the termination must be disabled by moving the jumper to the Termination Off position, as shown in the diagram:



Operation Indicators

The UIG-2-NA has red and green indicators, visible on the front of the unit, to assist with configuration and troubleshooting.



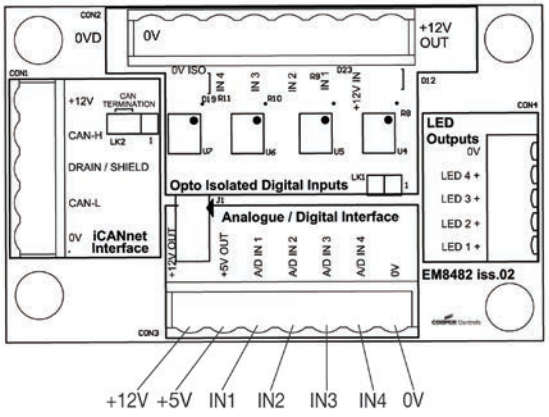
iCANnet Identification Button

The UIG-2-NA features a small button, accessible through the front panel, which sends an identification message across the iCANnet network when pressed.

Input and Output Connection

Analog / Digital Inputs

The UIG-2 has 4 inputs that can be individually configured for either analog or digital operation.



The function of each input is programmable with iCANsoft.

Analog Mode

In analog mode, the inputs have a voltage range of 0-10V. The input device is connected across the appropriate input and the 0V reference. Wire distance from the device to the UIG-2-NA should not exceed 32 ft.(10m).

50mA current limited, regulated voltage sources of 5V and 12V are also available at the connector for devices such as variable resistors without the need for an external supply.

Should the power supply to the UIG-2 be below 12V, then the 12V source will follow the UIG-2 supply voltage.

Digital Mode

In digital mode, switches can be connected between the appropriate input and 0V.

The input functions can be programmed to operate on both a switch closure and release.

Opto-isolated Digital Inputs

The unit has four opto-isolated digital inputs.

These inputs offer greater electrical protection than the analog/digital inputs, but can only be used in digital mode.

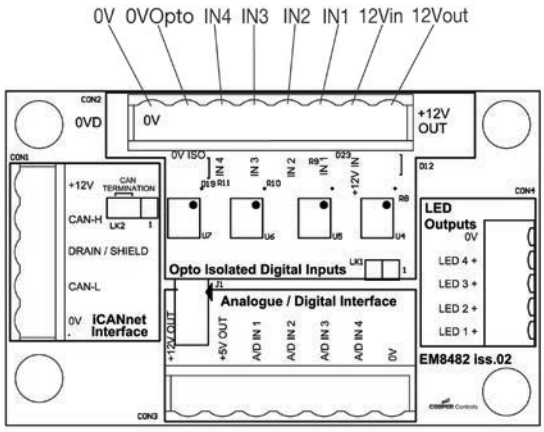
The opto-isolation also offers better electrical noise rejection for those installations where this could be a problem.

To use these inputs, an external supply is required, connected to the **12Vin** pin.

0VOpto is provided as a landing connection for convenience. An LED gives visual indication when a supply is connected across **12Vin** and **0Vopto**.

Instead of an external supply, the 50mA current limited **12Vout** supply can be used, however this will bypass the optical isolation. To use this supply, connect **12Vout** to **12Vin** and **0V** to **0Vopto** at the connector.

Switch closure is made between the input and 0Vopto. Wire distance from the device to the UIG-2-NA should not exceed 32 ft. (10m).



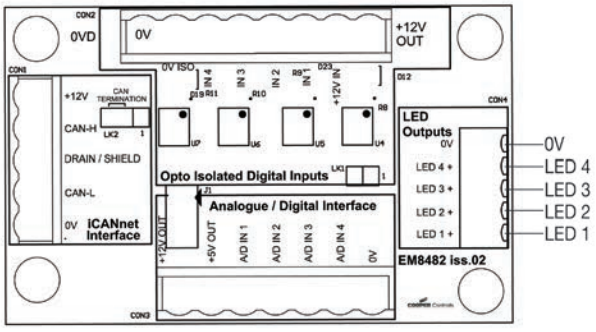
LED Output Drives

The unit has four LED drive outputs, each rated at 6.7 V 10mA, which can be used to give visual indication of programmed functions.

The outputs will indicate input selection for the opto-isolated digital inputs when they are configured for scene selection.

The LED outputs can also be configured from iCANsoft for indication of other functions.

LEDs are connected between the appropriate output and the 0V connection. Wire distance from the device to the UIG-2-NA should not exceed 32 ft. (10m).



Operation

The UIG-2-NA provides the standard input functions which are available from the iCANsoft application. For details about the general use of iCANsoft, please refer to the System Manual.

In addition, the UIG-2-NA provides sequences and partitioning/room join functions.

Sequences

Sequences allow a number of individual actions (steps) to be linked together in order to cause multiple operations from a single trigger action.

The UIG-2-NA provides up to 16 sequences with up to 128 steps each, with or without time delays between steps.

The iCANsoft System Manual gives more details on programming sequences.

Partitioning/Room Join

The UIG-2-NA allows for the programming of simple room join functions, by using partitions.

The room join function operates by linking areas.

A physical room partition can be detected by a switch on the UIG-2-NA inputs. When the partition is opened, an action in one of the areas will cause the equivalent action in the other area.

The UIG-2-NA allows 4 room joins with up to 3 partitions each.

A Technical Note on Room Joins and partitioning, with examples, is available.

Warranties and Limitation of Liability

Please refer to www.cooperlighting.com under the Legal section for our terms and conditions.

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