nIO D
nIO 1S

INPUT/OUTPUT INTERFACE DEVICE
LOW VOLTAGE

SPECIFICATIONS

FEATURES
- **nIO D**
  - Ouputs 0-10 VDC Dimming Signal
- **nIO 1S**
  - Inputs Dry Contact Switches (Toggle or Momentary)
  - Inputs 0-10 VDC Dimming Signal from a non-nLight Device
  - Toggles Local Relays On/Off
  - Initiates a Local or Remote Scene
- Communicates w/ nLight Network
- Remotely Configurable/Upgradeable
- Push-Button Programmable
- Inline Wired - No Mounting Required

PHYSICAL SPECS
- SIZE:
  - Inline Wired Housing
    2.54" H x 1.98" W x 1.00" D
    (6.45 cm x 5.03 cm x 2.54 cm)
  - **KO** Option Version
    3.38" H x 2.53" W x 1.83" D
    (8.59 cm x 6.43 cm x 4.65 cm)
    (dimensions do not including ½" chase nipple)
- WEIGHT: 2 oz
- COLOR: White
- nLIGHT NETWORK PORTS: 2 RJ-45

ELECTRICAL SPECS
- BUS POWER CONSUMPTION: ~ 3 mA
- DIMMING INPUT: (nIO 1S) 0-10 VDC
- DIMMING OUTPUT LOAD: (nIO D)
  - Sinks < 20mA
  - 0-10 VDC LED Drivers / Ballasts
- WIRES: 20 AWG (2)

ENVIRONMENTAL SPECS
- OPERATING TEMP:
  - 14º to 160º F (-10º to 71º C)
- RELATIVE HUMIDITY:
  - 20 to 90% non-condensing
- SILICONE FREE
- ROHS COMPLIANT

OTHER
- UL and CUL Listed
- Plenum Rated
- 5 Year Warranty
- Assembled in the U.S.A.

OVERVIEW

The nLight **nIO D / nIO 1S** is a low voltage device that interfaces and provides network addressability for a variety of non-nLight devices. The **nIO D** is an output device that controls the dimming level of 0-10 VDC dimming ballasts / LED drivers. The **nIO 1S** is an input device that detects a toggle or momentary dry contact closure switch. Additionally, the **nIO 1S**'s can read a 0-10 VDC dimming control signal from non-nLight dimming photocells and wall dimmers.

OPTIONS

LOW TEMP/HIGH HUMIDITY (LT)
- Device electronics are coated for corrosion resistance
- Operates down to -40º F/C
- Required for cold or humid applications

CHASE NIPPLE MOUNTING (KO)
- Enclosure with an extended chase nipple for mounting through 1/2" knockout in luminaire or junction box

nIO D / nIO 1S devices wire into any zone of nLight devices (sensors, power packs, WallPods) using CAT-5e cabling. Class 2 interface wires are present with each unit: an input or an output wire, and a common/ground. The **nIO D / nIO 1S** comes standard in an inline wired housing or with a 1/2" chase nipple for mounting to a luminaire or junction box knockout (**KO** option).

OPERATION

nIO 1S

When a contact closure is detected, the **nIO 1S** can operate in one of several modes:
- **WallPod Mode**: Turns relays on/off within its zone
- **Local Scene Mode**: Initiates a scene to run on its local zone
- **Remote Scene Mode**: Requests the Gateway to run a system profile on non-local devices or zones
- **Time Delay Sweep Mode**: Initiates an occupancy time delay sweep (i.e., temporarily sets timers to 0, 5 (default), 10, 15, 30 sec or 1 min)

When used to read a 0-10 VDC dimming signal, the **nIO 1S** can control any dimming output within its zone (e.g. a **nIO D**'s dimming output).

nIO D

When used as an addressable dimming output, the **nIO D** can control standard (non-DALI) 0-10 VDC dimmable ballasts / LED drivers. This provides a simple cost-effective method of adding additional dimming zones to a room and/or making every fixture individually controllable. This dimming output can be controlled in many ways:

MANUAL CONTROL:
- WallPod Dimmers
- Virtual WallPod Dimmers
- SensorView Software

AUTOMATIC CONTROL:
- Occupancy Sensors
- Photocells
- Scene Controller
- Scheduled Profile

Output level offsets (positive or negative) can also be programmed into the **nIO D** to enable additional customized control.

ORDERING INFO

nIO [I/O OPTION] [MOUNTING] [TEMP/HUMIDITY]

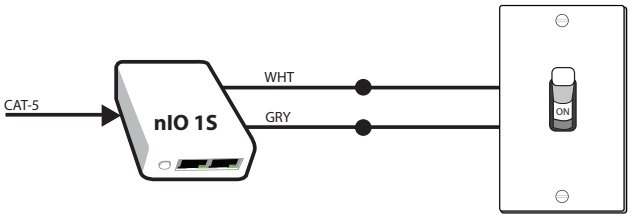
OPTIONS	I/O OPTION	MOUNTING	TEMP/HUMIDITY
	D = 0-10 VDC Dimming Output 1S = Contact Closure Input	Blank = Inline Wired KO = Chase Nipple Mounting	Blank = Standard LT = Low Temp

WIRING

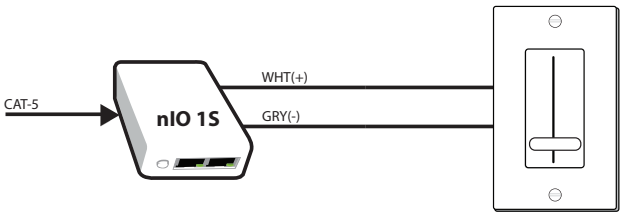
Power to a **nIO D / nIO 1S** device is provided by the CAT-5e connection to an nLight power pack/supply or other nLight device supplying bus power. If power is not present on the CAT-5e bus, the **nIO D**'s dimming output will release lights to highest level. T568B pin/pair assignment is recommended for all CAT-5e cables.

TYPICAL nIO 1S WIRING CONFIGURATIONS

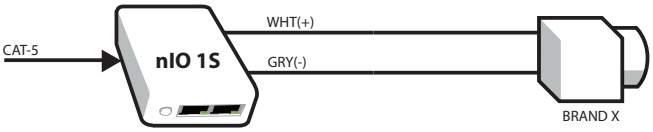
ON/OFF SWITCHES (TOGGLE OR MOMENTARY)



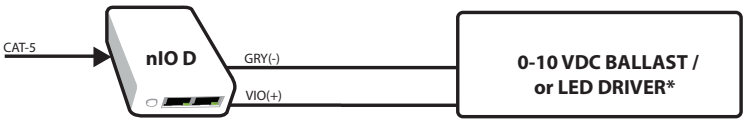
0-10 VDC WALL DIMMERS



0-10 VDC DIMMING PHOTOCELL



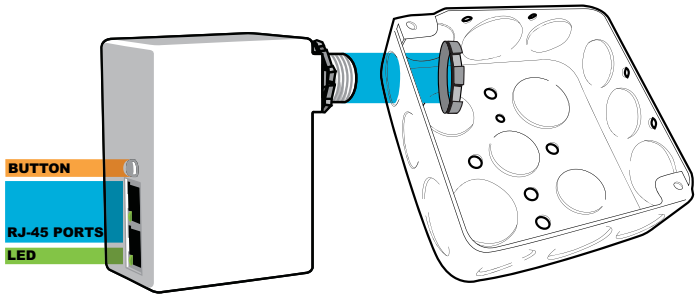
nIO D WIRING CONFIGURATION



*SUGGESTED BALLASTS: ADVANCE® MARK VII®
SYLVANIA® QUICKTRONIC® POWERSENSE™
GE® ULTRAMAX™ DIMMING (-V60)

INSTALLATION

- Connect Class 2 low voltage wires to external devices according to diagrams above
- Interconnect unit with other nLight devices in lighting zone using CAT-5e cables
- Once power is received via CAT-5e connection, all devices in zone will automatically begin functioning together according to each device's defaults
- **nIO D** units track switch channel 1 by default
- **nIO 1S** units broadcast on switch channel 1 by default



- Units with **KO** option mount to a luminaire or junction box through a ½" knockout

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