

# nLIGHT BRIDGE



## nBRG SERIES



### SPECIFICATIONS

#### FEATURES

Communicates w/ nLight Network  
Remotely Configurable/Upgradeable  
Push-Button Programmable  
Green LED Indicators for each Port  
Supports up to 128 Devices per Port\*  
\*with adequate power and Gateway capacity

#### PHYSICAL SPECS

SIZE 4.90" H x 4.90" W x 1.05" D  
(12.45cm x 12.54cm x 2.67cm)  
WEIGHT 7 oz  
MOUNTING 4" x 4" Square Box  
COLOR White  
NETWORK CONNECTION  
4/8 RJ-45 Ports

#### ELECTRICAL SPECS

##### INPUT VOLTAGE

INPUT CURRENT  
NON-WIRELESS 60 mA  
WIRELESS 90 mA  
OUTPUT CURRENT / PORT 40 mA  
WIRES None  
RECOMMENDED POWER SUPPLIES  
PS-150 via Terminal Connections  
nPS-150 via an RJ-45 Port

#### ENVIRONMENTAL SPECS

OPERATING TEMP  
14° to 160° F (-10° to 71° C)  
STORAGE TEMP  
-14° to 160° F (-26° to 71° C)  
RELATIVE HUMIDITY  
20 to 90% non-condensing

#### OTHER

Designed for ZigBee®  
FCC Certified  
UL and CUL Listed  
Plenum Rated  
5 Year Warranty  
Made in the U.S.A.

### OPTIONS

#### WIRELESS (-RF)

- Designed for ZigBee®
- Transmits at 2.4 GHz
- Creates Sensor Switch wireless network
- Simple push-button commissioning

#### LOW TEMP/HIGH HUMIDITY (-LT)

- Sensor is corrosion resistant to moisture
- Operates down to -40° F/C

### ORDERING BLOCK

#### SERIES #

#### # OF PORTS

nBRG

-4 = 4 Ports  
-8 = 8 Ports

#### WIRELESS

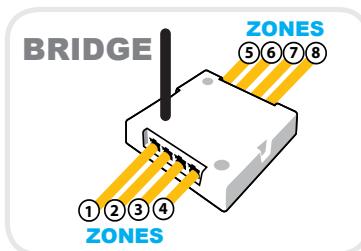
Blank = Non-Wireless  
-RF = Wireless

#### TEMP/HUMIDITY

Blank = Standard  
-LT = Low Temp

[SERIES #]-[# OF PORTS]-[WIRELESS]-[TEMP/HUMIDITY]

**OVERVIEW**  
The nLight Bridge increases the number of lighting control zones in an nLight system. This ability stems from the fact that each Bridge has up to 8 RJ-45 ports into which zones of daisy-chained nLight-enabled devices can connect. The Bridge also is an integral component of the communication backbone in an nLight network. Fundamentally, Bridges act as hubs by aggregating traffic from the connected downstream zones and placing it onto the backbone. They also act as routers by forwarding information from the backbone out to the applicable downstream zones.



The Bridge's actual backbone link is formed by connecting to another Bridge or a Gateway via CAT-5 cabling through one of its RJ-45 ports. Alternatively, with the Bridge's -RF option, this link can be made wirelessly using the ZigBee® mesh networking protocol.

Finally, Bridges can combine system power from zones that are net contributors of power (i.e. those with downstream power packs and power supplies) and distribute it to zones that are net consumers of power (i.e. those with only sensors). Maximum power output per port is 40mA.

#### POWERING OPTIONS

There are two methods of powering an nLight Bridge:

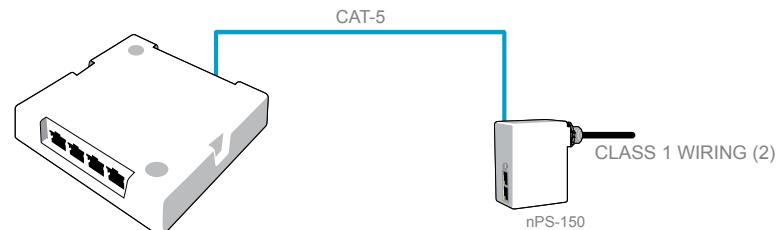
#### LOCAL POWER SUPPLY (RECOMMENDED)

A 15-24 VDC or 24 VAC power supply can deliver power to the Bridge via the terminal connections on the side of the unit. The PS-150 version power supply is recommended, as it conveniently mounts through a knock-out on the side of the junction box where the Bridge unit is mounted.

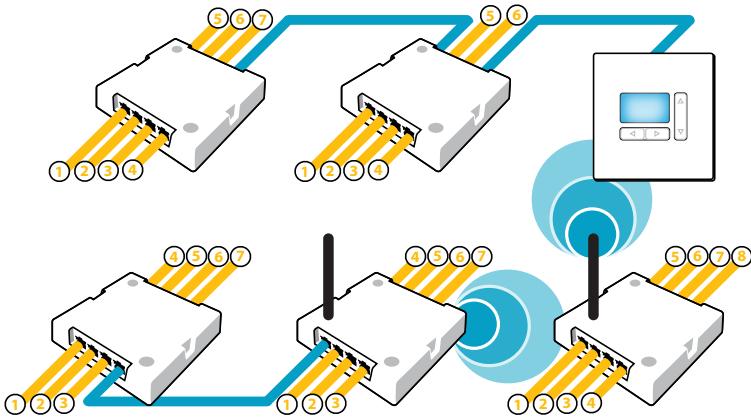


#### NETWORK POWERING (OPTIONAL)

A Bridge may also be powered over a CAT-5 connection from either an nLight power supply or power pack. While the recommended method of network powering is wiring an nPS-150 power supply directly to one of the Bridge's RJ-45 ports, power can also originate from nPP-16 power packs located elsewhere in the network.



## NETWORK CONFIGURATION



An nLight network backbone consists of one or more Bridges and a Gateway communicating over either a CAT-5 wired or a ZigBee® wireless connection. If a wired connection is required, one of the Bridge's RJ-45 ports is used. The above diagram illustrates several common Bridge configurations.

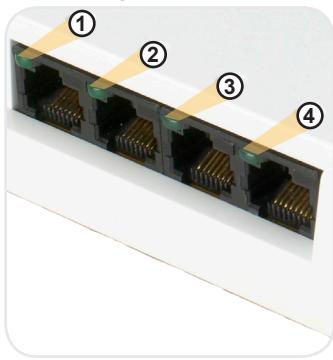
## OPERATIONAL INSTRUCTIONS

Configuring a Bridge is done by pressing the push-button on the side of the unit the number of times corresponding to the desired function (listed below).

- 1 = **Reset** unit
- 2 = **Join** an nLight (Sensor Switch) wireless network that is accepting new members. For 5 minutes afterwards, the network will continue to accept other new members.
- 3 = **Allow** nLight devices with radios to join the Bridge's current Sensor Switch wireless network for 5 minutes.
- 4 = **Disallow** other nLight devices with radios from joining current network
- 5 = **Start a new** nLight (Sensor Switch) wireless network, and allow new members to join for 5 minutes.

## LED FUNCTIONALITY

A LED is provided next to each RJ-45 port in order to provide status information for the Bridge. During normal operation, the will blink when network traffic is detected. During configuration, the sequence in which the LEDs flash indicates the current state (listed below) of the Bridge.



**NOTE:** The state indicated by the LEDs on Port 1-4 is mirrored on the LEDs on Port 5-8 LEDs (if present).

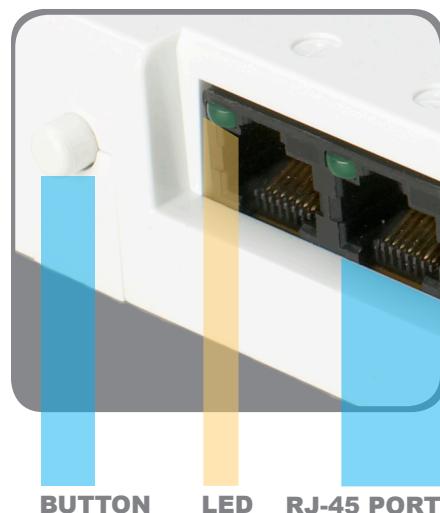
## FCC COMPLIANCE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two 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. As per 47 CFR Part 2.1091 (b), (d)(3) this device should generally be used in such a way that a separation distance of at least 20 cm is normally maintained between the antenna and the body of the user, nearby persons, or other transmitters.

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## MOUNTING

Bridge and power supply mount directly to a 4" x 4" square box.



**SensorSwitch**

**WARRANTY:** Sensor Switch, Inc. warrants these products to be free of defects in manufacture and workmanship for a period of 60 months. Sensor Switch, Inc., upon prompt notice of such defect will, at its option, provide a Returned Material Authorization number and repair or replace returned product.

**LIMITATIONS AND EXCLUSIONS:** This Warranty is in full lieu of all other representation and expressed and implied warranties (including the implied warranties of merchantability and fitness for use) and under no circumstances shall Sensor Switch, Inc. be liable for any incidental or consequential property damages or losses.

© Sensor Switch, Inc. 2008