

Product guide

UID8451, UID8461

ZigBee Green Power switch and scene selector

- No wiring and power connections required so easy to install and maintenance free.
- Low mechanical force required to operate the device (typically less than 8 Newton).
- Indoor distance that can be covered is typically 10m. for line-of-sight installations. When there are walls this will be reduced depending on the type and thickness of the walls.

UID8451, UID8461

- The Philips ZigBee Green Power (ZGP) family consists out of 2 devices.
- One device UID8451 has switch and dim functionality and the other UID8461 has scene selection, including Off, functionality.
- Both devices communicate wirelessly conform the ZigBee Pro standard (IEEE 802.15.4, WPAN). There is no need to connect to any electrical power supply as the devices generate their own power, to communicate, when one of the buttons is pressed (kinetic energy).
- When a button is pressed, or released, a message is send including a unique 32bit identifier preventing interfering with other devices. The receiving device, for example ActiLume Wireless DALI gen2, can detect the time difference between the “press” and “release” action and react on that. For example when wanting to perform the function switching, the time interval between “press” and “release” is short and the receiving device can react on that in the appropriate way.
- The devices can be linked into for example a network formed with ActiLume Wireless DALI gen2 system(s).
- The devices are easy to install and use. Additional information can be found in the appropriate installation instruction and ActiLume Wireless DALI gen2 application guide.



UID8451 ZGP Switch Dim 2B

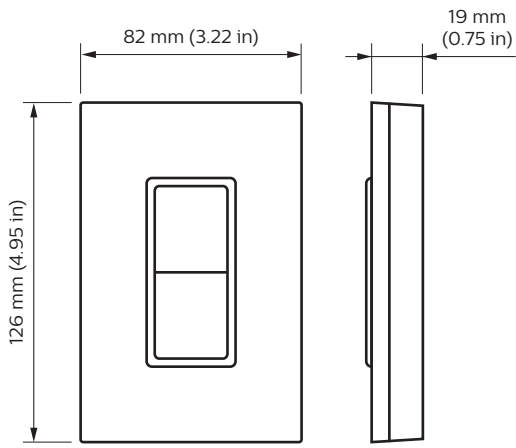
Two button ZigBee Green Power switch and dim. Device is provided with a wall mounting plate. The color of the product is white (similar to RAL9016).



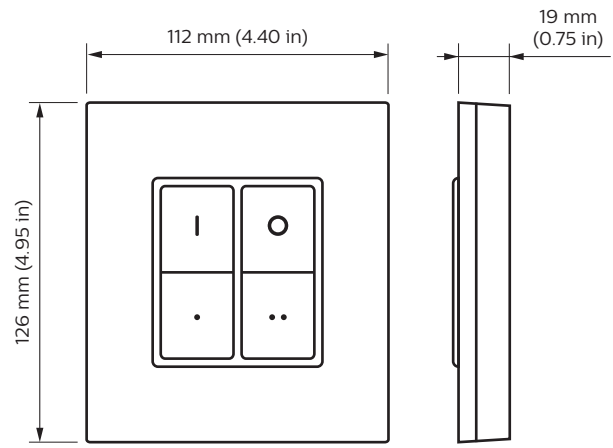
UID8461 Switch Scene Recall 4B

Four button ZigBee Green Power scene selector, including switch lights Off. Device is provided with a wall mounting plate. The color of the product is white (similar to RAL9016).

Dimensional drawings



UID8451



UID8461

Application

Applications

The ZigBee Green Power devices are ideally suited for indoor use such as offices, lobbies, toilets and corridors, and covered industry areas.

Commissioning (linking)

Before the ZGP devices can be used they have to be linked into an existing network. For the UID8451 the rocker/button needs to be removed before the procedure to link it into the network can be performed. For details on the linking procedure refer to installation instructions or application guides.

Philips quality

This ensures quality with respect to:

- System supplier
- As manufacturer of lamps, electronic control gear and lighting control equipment, Philips ensures that, from the earliest development stage, optimum performance is maintained.
- International standards
- Philips lighting control equipment complies with all relevant international rules and regulations.

Wireless communication

The Wireless network is based on the ZigBee PRO standard (IEEE 802.15.4, WPAN) which is targeted at radio-frequency (RF) applications. The ZigBee standard operates at 2.4 GHz in most regions worldwide and is supported by multiple HW/SW vendors. The ZigBee protocol enables fully distributed peer-to-peer communication models. This means no master/slave relationship whereby the application is divided over the devices in the network. Every device knows how it functions within the network. The result is that if one device does not function (removed or defect), the remaining devices keep functioning as intended. The network is based on a mesh network so the devices pass on the received commands. The distance between the devices should not exceed 10 meter. The big advantage of this mesh network is the capability that the network has a self-healing routing meaning automatic route discovery over the mesh network. ZigBee has tolerance for a large number of co-located networks due to use of multiple communication channels and CSMA-CA channel access. The commands do have network security according to AES 128-bits network encryption.

The ZGP devices work seamlessly with ActiLume Wireless DALI gen2 systems making the network even more flexible and expandable.

UID8451

The UID8451 is the switch and dim device from the ZGP family.

Briefly pressing the upper or lower part of the device will either switch, the indirectly connected light(s), On or Off.

A press and hold action will engage the dim-up or dim-down function.

UID8461

The UID8461 is the scene selector, including switch Off, device from the ZGP family.

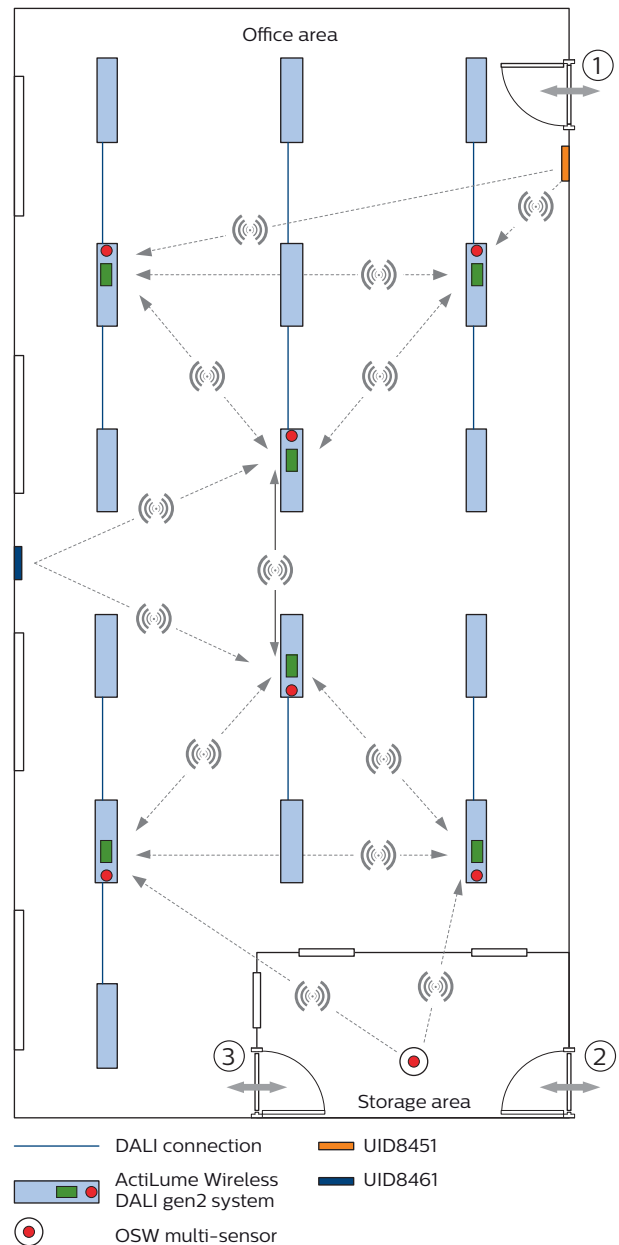
Briefly pressing one out of three buttons will initiate a scene preset recall and indirectly connected light(s) will respond accordingly. There are three light levels and a lights Off function available. Please note that it is not possible to set scene levels as this device only has a recall function.

Application example

This example is a network, in an open plan office, with one UID8451 ZGP switch, mounted near the main entrance door (1), and one UID8461 ZGP scene selector, mounted against the outer wall, combined with six ActiLume Wireless DALI gen2 systems and one OccuSwitch Wireless (OSW) multi-sensor that are mounted in/against the ceiling.

Upon entering the office, through the main door (1), motion is detected by the PIR of the ActiLume Wireless DALI gen2 system that is close to the entrance. Occupancy (motion) is relayed across the network to the other ActiLume Wireless DALI gen2 systems and all lights in the office area will switch On with the light level related to scene-1. If desired the light-level can be dimmed-up or down by keeping the upper or lower button of the UID8451 depressed. Each action on the UID8451 will send a message towards the ActiLume Wireless DALI gen2 systems, in this case to dim the light level. The message is relayed across the network and all luminaires will react accordingly. With the buttons on the UID8461 three light-levels can be selected with the settings of respectively scene-1, 2 or 3. The fourth button on this device can be used to switch the lights Off if for example a presentation with a beamer needs to take place or if the amount of daylight ingress is sufficient. Also here a message is send towards the ActiLume Wireless DALI gen2 systems and is relayed across the network. Assuming that the light has been switched Off (manual override is active) they will stay off as long as occupancy is detected. Once there is no occupancy being detected the hold timer is activated followed by the prolong timer. If the prolong timer has expired the manual override is deactivated and the system goes back into the automatic mode.

The office has an additional entrance (3). Persons that enter the storage area through entrance (2) will trigger the PIR, of the OSW multi-sensor, and this occupancy (motion) signal is relayed towards the ActiLume Wireless DALI gen2 systems. If the lights in the office were Off they will switch On and the windows of the storage area will let enough light pass through to illuminate that area for both storing activities as well as passing through towards the office area through entrance (3). Once the office is entered the light level can be selected with either the UID8451 or UID8461 device. In case that the lights in the office area were already On the storage area is sufficiently illuminated and the motion detection does not initiate a light level change.



Application example of one UID8451 (switch and dim) combined with one UID8461 (scene selector), one OccuSwitch Wireless multi-sensor and a number of ActiLume Wireless DALI gen2 systems.

Specifications

Communication

Wireless	ZigBee PRO standard
Data rate	250kbps
Carrier frequency	2.4GHz

Transmission distances (typical values)

indoor (plasterboard)	10m* (max 3 walls)
indoor reinforced concrete	7m* (max 1 wall/ceiling)

* distance is largely influenced by the wall/ceiling material and the angle that the transmitted signal is intersecting with.

Note: fire-safety walls, elevator shafts and so on are considered as shielding.

Environmental

Temperature	-5°C to 45°C (operating) -25°C to 65°C (storage and transport)
Relative humidity	20% to 95% non-condensing (operating) 0% to 95% non-condensing (storage and transport)

Compliances and approvals

Protection rating	IP20
EMC emission	EN61000-6-2:2005
EMC immunity	EN61000-6-3:2007+A1:2011
Quality standard	ISO 9001
Environmental standard	ISO 14001
FCC ID	CE2522
IC ID	SZV-PTM215Z
Wireless	
R&TTE EMC	ETSI EN 301 489-1:V1.9.2, ETSI EN 301 489-17:V2.2.1
R&TTE Radio	ETSI EN 300 328: V1.8.1

Physical

Dimensions	
UID8451	H 126 mm x W 82 mm x D 19 mm
UID8461	H 126 mm x W 112 mm x D 19 mm
Weight	
UID8451	0.119 kg
UID8461	0.161 kg
Housing	polycarbonate UL94 V-2 White (similar to RAL9016)

Ordering data

Full product name	UID8451/10 ZGP Switch Dim 2B
Order code	9137 003 64403
UPC1	046677455439
UPC3	50046677455434
6NC	455436

Full product name	UID8461/10 ZGP Switch Scene Recall 4B
Order code	9137 003 64203
UPC1	046677455422
UPC3	50046677455427
6NC	455428

