



A Simpler and Smarter Wireless Lighting Control Solution

Design & Application Guide

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OS-NET Design & Application Guide

1. Knowing the OS-NET

1.1 Introduction

For decades, bringing smart controls to commercial or industrial lighting typically meant extra sets of control wire networking to every luminaires, labor intensive installation and wiring connection among complex system devices, luminaires and central controls, complicated configuration and system commissioning through proprietary management software. All above result in more time up and down the ladder, separate wiring diagrams, high levels of complexity, and higher project and maintenance costs. Even with the availability of advanced wireless technologies that can eliminate the wire networking of control wires, the design and installation of wireless lighting control are still challenges that require learning new techniques, installing extra equipment and executing complicated commissioning.

Undoubtedly, wireless communication technology will be the only cost effective solution to enable all non-residential buildings with “smart control”. To be able to achieve that, a wireless mesh network has to be deployed within the environments so that it can transmit, receive, and forward all the control commands and data.

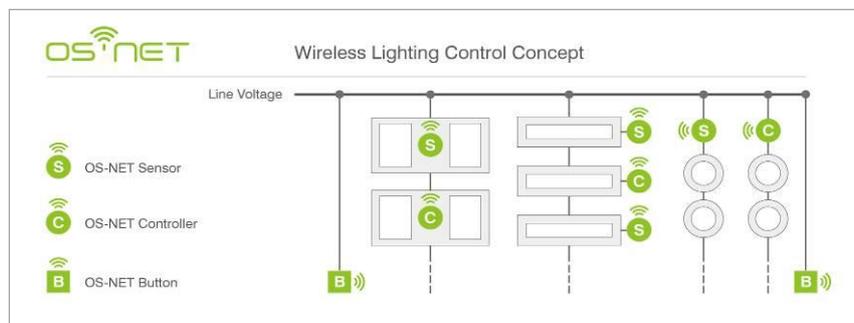
The OS-NET is an innovative solution that can easily enable general luminaires and lighting circuits with smart sensing control and wireless connectivity. OS-NET can also be referred as an occupancy sensor based wireless mesh network which is simultaneously deployed through installing the OS-NET enabled luminaires and lighting circuits.

Revolutionary concepts combined with numerous technical and design innovations have delivered second-to-none Flexibility, Functionality, and Simplicity to the OS-NET. With the capability of the OS-NET solution, planning and designing a top-notch smart lighting system with sophisticated, human-centric, code-compliant sensing and control functionalities will be same as allocating the conventional luminaires and occupancy sensors.

1.2 How does OS-NET work?

The core concept of OS-NET is **simultaneously** deploying a wireless mesh network while installing OS-NET enabled luminaires and lighting circuits. Through the process of grouping OS-NET devices, an OS-NET network that can link up to 250 control groups is created. The sensor of an OS-NET enabled luminaire is capable of sensing the presence of an occupant or vehicle and the ambient light level within its coverage, and then executing a variety of code-compliant controls to the connected lighting of the group in the principle of “**individual sensing and control, group activation**”.

“**Individual sensing and control, group activation**” means that every sensor of the group will individually detect occupant’s activities within its coverage. When any sensor detects the presence of occupant or vehicle, it will not only execute its control to the connected lighting, but also



broadcast the occupancy signal to other sensors and controllers of the group to activate their controls respectively. If any sensor of the group detects occupancy before delay time elapses, the sensors of whole group will continue the controls as occupied. After the area is vacated and the delay time has elapsed, the grouped sensors and controllers will then individually control the connected lighting as vacant.

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1.3 OS-NET Devices

OS-NET devices refer to the products that are built with OS-NET wireless networking capability. These include OS-NET sensors (ONS) and OS-NET controllers (ONC) which are standard OS-NET devices, plus OS-NET buttons (ONB) which are optional OS-NET devices.

● OS-NET Sensor (ONS)

OS-NET Sensors are the fundamental devices that constitute the OS-NET mesh network. In other words, OS-NET is a wireless mesh network formed by a number of OS-NET sensors. Every ONS is a perfect combination of occupancy sensor, daylight sensor, lighting control processor, and wireless communicator designed for flexible integration with a luminaire or mounting on a ceiling in a variety of options.



The ONS not only provides the programmed control to the connected lighting by sensing the presence of an occupant/vehicle and ambient light level, but also broadcasts the occupancy signal to other OS-NET sensors or controllers of the group to activate the control as set.

● OS-NET Controller (ONC)

OS-NET Controllers are supplementary devices of OS-NET. An ONC is actually an OS-NET Sensor without occupancy sensing capability. The ONC can be used to provide associated control to other luminaires or circuits in the same area by receiving the occupancy signal from OS-NET Sensors of the group.



The ONC shares the same housing as the ONS, so it can also be integrated with a luminaire or mounted on the ceiling in the same way as the ONS.

● OS-NET Button (ONB)

The OS-NET Button is an optional OS-NET device. The ONB can be mounted into a standard wall box, as a line voltage powered wireless dimmer switch to provide manual on/off and dimming control* to the assigned lighting group.



The main function of the ONB is to allow the user to control the lights as required by broadcasting the control commands to the ONS and ONC of the same group.

*Only available with 0/1-10V dimmable luminaires.

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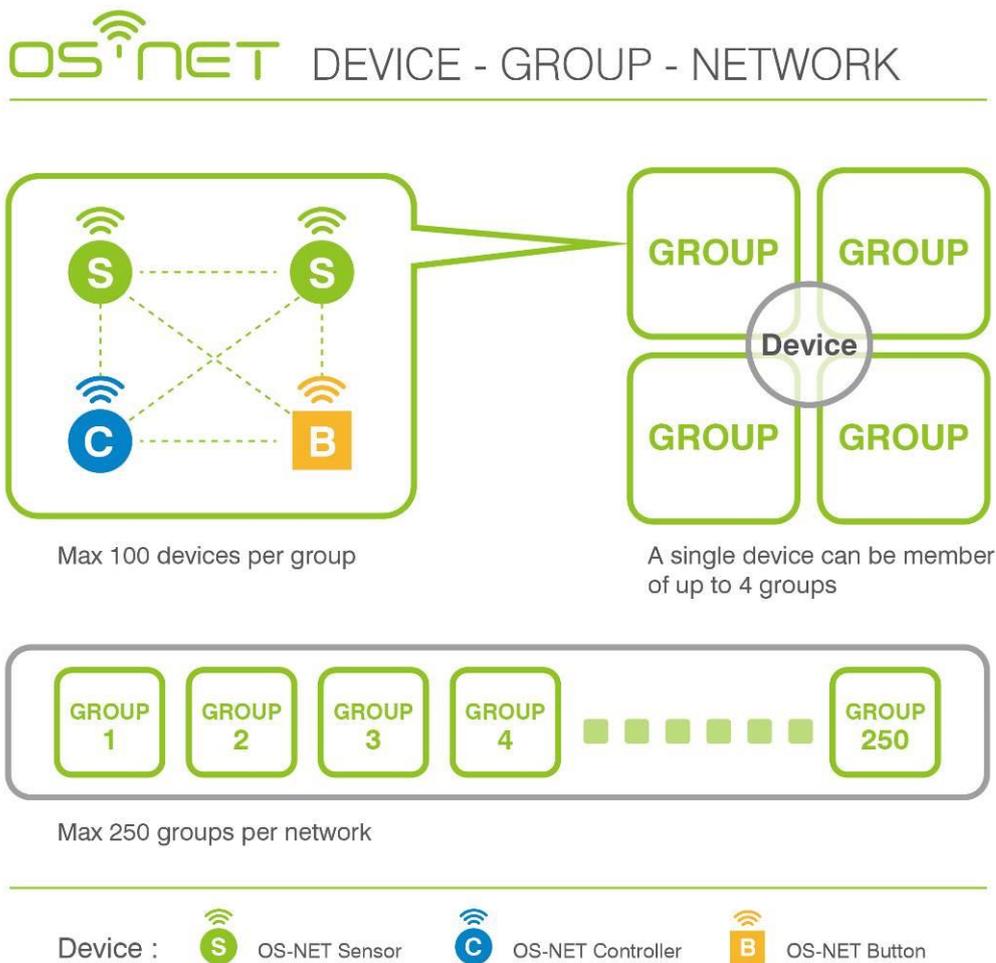
1.4 OS-NET Group

OS-NET group is the basic structure of an OS-NET system to execute smart lighting control. It is also the pillar of creating an OS-NET wireless control network. An OS-NET control group can consist of up to 100 OS-NET devices which can be OS-NET Sensors, Controllers and Buttons.

Every OS-NET device, regardless of being luminaire integrated or ceiling/wall mounted, must be assigned to at least one control group in order to link up the network and execute the control as programmed wirelessly.

1.5 OS-NET Network

OS-NET network refers to the wireless mesh network formed by a number of OS-NET devices through GROUP LINK process. An OS-NET network can link up to 250 groups. The coverage of an OS-NET network should be determined according to the areas that require independent lighting control (ex. a company, factory, whole floor or an entire building). There is no specific limitation of the OS-NET network coverage; it depends on the space that requires OS-NET control. If the area is too large for an independent network to cover, a separate network can be established.



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1.6 OS-NET Advantages

OS-NET is an advanced smart lighting solution that combined multiple sensing and control technologies with top-notch wireless mesh networking capability. Through OS-NET, different luminaires from different manufacturers can be applied in the same environment and harmoniously controlled by local OS-NET Sensors or Controllers to provide high quality smart lighting and control via wireless mesh network. Numerous technological innovations delivered advantages that no other wireless control solution can match.

Deploying the network through installing the OS-NET enabled luminaires and lighting circuits

Lighting designers typically require selecting or specifying different types of luminaires for different applications according to the space characteristics and lighting requirements. Both OS-NET Sensors and Controllers can be flexibly integrated with an OEM luminaire or mounted on the ceiling via a specific mounting bracket. Flexible integration allows installing the OS-NET enabled lighting while also deploying the wireless mesh network.

Different lens options available for providing different ranges at different application heights

Same as luminaire selection, the designer would have to select the sensor that can provide adequate performance, according to the mounting height and sensing requirement. Selecting appropriate sensors for various applications can be challenging. To help designers avoid the headache of sensor selection, a series of interchangeable lens options are available for all Passive Infrared (PIR) based OS-NET Sensors.

Only a handheld remote programmer needed to setup the network, grouping and device control

Most lighting control systems, regardless of wired or wireless control, require a professional engineer to conduct system configuration and device settings. These tasks normally require extra equipment or exclusive management software to enable system operation. With the OS-NET, a lighting installer can easily setup the network, grouping and device control via simple and intuitive operation via a handheld remote programmer.

A single device can be assigned to be member of multiple groups for multi-group activation

Through the EZ-GROUP setting, each OS-NET device can be assigned to be member of up to 4 groups. This enables the advanced multi-group activation lighting control. With multi-group activation lighting control, many smart controls based on traffic flow, such as “turn on the light before presence”, “directional guiding light”, and “multi-zone associated control” can be easily achieved via remote programmer setting.

Requires no complex devices and complicated settings to achieve smart lighting control

With the OS-NET solution, complex system/network devices are no longer required. Each OS-NET sensor has combined top-notch sensing and control technologies, including a digital occupancy sensor and daylight sensor, multi-mode control algorithms, and state-of-the-art wireless mesh network communication. Whether they are integrated with luminaires or mounted on the ceiling, all can be easily setup to execute smart lighting control.

Applicable to different luminaires from different manufacturers, scalability will not be an issue

Broad applicability is just another outstanding advantage of OS-NET. Different luminaires from different manufacturers can be selected, installed in the same environment, and harmoniously controlled by wirelessly linked OS-NET devices to provide code-compliant lighting controls. Shorten lifecycle due to fast merging technology is typical for today’s LED lighting products. Once selecting OS-NET as the control solution, scalability will not be a concern.

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2. Design Guideline

Designing, installing and setup an OS-NET smart lighting control system is much easier than most people would think.

To the **lighting designer or specifier**, just select the applicable OS-NET enabled luminaires according to the photometric characteristics and electrical specifications, allocate the luminaires as usual, and layout power supply circuit as per Section 2.2 Power Supply described. If applicable OS-NET enabled luminaires are not available or desirable, you can still allocate the selected luminaires and OS-NET sensors at proper position to control the circuits and luminaires as desired.

To the **lighting installer**, just install the OS-NET enabled luminaires according to the drawing and mounting instructions. Or mount the OS-NET sensors/controllers at positions and connect with power circuit as per installation instructions. To control dimmable lighting by OS-NET sensor/controller, the dim control signal from OS-NET sensor should “feed” to the dim control input of all drivers “in parallel”.

To the **system commissioner**, just follow the instructions of OS-NET Programming Guide (available from www.irtec.com), conduct the group assignment and device control settings to all OS-NET devices via OS-NET Remote Programmer. With OS-NET, you don't need to operate any proprietary management software to register complex system devices through complicated commissioning process to establish wireless mesh network and get smart lighting control up and running.

2.1 Basic Understanding

- OS-NET is a platform that allows different types of luminaires from different manufacturers to achieve associated control through a wireless network.
- Every OS-NET enabled luminaire or lighting circuit is an independently operable smart lighting, whether it is linked with a wireless network or not.
- Allocating the OS-NET enabled luminaire and OS-NET device is almost same as allocating a conventional luminaire, occupancy sensor, and switch.
- Every OS-NET device needs to link with the network by assigning the group member(s) to enable group control, regardless of luminaire integration or independently mounted.
- Each OS-NET device can be assigned to be members of up to 4 groups. The maximum number of device per group should not exceed 100.
- To execute dimming control, you need to select luminaire equipped with correct type of dimmable driver/ballast.
NOTE: Not all luminaires are dimmable.
- One dimmable driver/ballast can only receive ONE dimming control signal input, no matter how many sets of light sources it is connected to.

2.2 Power Supply

Communication of the wireless mesh network relies on each node of the network to communicate, thus all nodes should be constantly powered to ensure reliable network communication. Manual power interruption of local lighting circuit (e.g. switch off the power to lighting circuit) could possibly disconnect the network and disable the associated group control. Therefore, the power supply circuits should be constantly powered. Other than this, the power circuit design of OS-NET smart lighting control is same as conventional lighting. You may follow the following principles to design the power supply circuit for the OS-NET in a new building or an existing building.

For a **new building**, suggest eliminating the wall switch for local control to avoid power being accidentally switched off and disconnecting the mesh network. Equip with proper circuit breakers to provide power safety protection and allow disconnecting the circuit power for service. If manual on/off or dimming control is required for places like conference rooms, classrooms, brief rooms, meeting rooms, or private offices, a typical wall box can be allocated at proper position with power supply available for OS-NET button.

For an **existing building**, suggest removing or bypassing the original wall switch to avoid power being accidentally switched off and disconnecting the mesh network. If manual on/off or dimming control is required for places like conference rooms, classrooms, brief rooms, meeting rooms, or private offices, you may replace the original wall switch with OS-NET button. **NOTE: The OS-NET button requires LINE and NEUTRAL connection to operate.**

2.3 Integrating OS-NET device with luminaire

The OS-NET sensor/controller can be integrated with a luminaire directly or via specific mounting bracket. For more information about luminaire integration, please refer to the Mounting Option Datasheet available on www.irtec.com and also take the followings into consideration prior to integration;

- To directly integrate an OS-NET sensor/controller with a luminaire, ensure that the luminaire has sufficient internal space for sensor/controller assembly.
- If possible, assemble the OS-NET sensor/controller away from heat sources such as driver or LED module.
- To avoid interfering with sensor operation, ensure no strong light in front of OS-NET sensor/controller.

2.4 Allocating the OS-NET Sensors

An OS-NET system is mainly formed by the OS-NET sensors that are either luminaire integrated or mounted on the ceiling. To allocate the OS-NET sensors for lighting circuit control, please refer to the following instructions;

● **Avoid placing the sensor at inadequate positions**

Avoid placing the sensor at position nearby a HVAC vent, with direct sunlight, or on unstable surfaces. Also do not allocate the sensor above the cable tray, duct, or other hanging objects which may block the sensor detection. If there is no way to avoid above situations, you may also use the OS-NET controller instead and assign it to the same group with a nearby OS-NET sensor.

● **Ensure the sensor can “see” the presence and motion**

In general, a passive infrared (PIR) based occupancy sensor is more sensitive to the motions moving “across” the detection zones than “toward” or “away” from the sensor. Many design innovations and broadcasting group control concept allow you to just allocate the OS-NET sensor at a position where it can “see” the presence and motion of occupant, and the OS-NET system will do the job.

● **Select adequate lens according to the mounting height**

Every passive infrared (PIR) based occupancy sensor requires optical component (generally Fresnel lens) to provide motion detection capability. Multiple lens options are available for OS-NET sensor to provide different coverage for applications with various mounting heights. You may refer to the Lens Datasheet available from www.irtec.com to select adequate lens according to the detection requirement and mounting height.

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3. Group Control

Group control is the basic structure of OS-NET smart lighting solution. An independent OS-NET network can link up to 250 groups, and each group can consist of 1 to 100 OS-NET sensors and controllers, despite being luminaire integrated or ceiling mounted. The OS-NET sensor/controller will respectively activate the programmed control to the controlled light once receiving the OCC (occupied) signal from any OS-NET sensor of the group. The OS-NET sensors and controllers of the same group can be programmed by GROUP-SET operation to execute the same control with identical parameters. If different controls are required, individual OS-NET device can be programmed by INDIV-SET operation to execute the desired control with different parameters.

Occupancy sensing network control based on “individual sensing control, group activation” is the core concept of OS-NET smart lighting control, which is also the essence that makes the OS-NET a simpler and smarter solution.

3.1 EZ-GROUP

Grouping is the fundamental setup work to establish an OS-NET smart lighting control system. Every OS-NET device, regardless of its functionality, requires group assignment to link and become a node of the wireless mesh network.

The group control of OS-NET devices is actually a combined operation of TRANSMITTING and RECEIVING groups. This means whenever an OS-NET sensor detects the presence or movement of occupant, the sensor will broadcast the OCC (occupied) signal based on the TRANSMITTING group number assigned, to other OS-NET devices with the same RECEIVING group number to execute the programmed control respectively.

EZ-GROUP is a quick setting process which will set all grouped devices with the same number of TRANSMITTING and RECEIVING groups. Using the EZ-GROUP setting will not only allow you to easily establish a new OS-NET network, but also quickly complete grouping the OS-NET devices for most applications with typical controls.

3.2 ADVANCED

Although EZ-GROUP can be widely used to group the OS-NET devices for most applications with typical controls, some applications may have special control requirements, such as “turn on the light before presence”, “directional guiding light”, or “multi-zone associated control”, the “ADVANCED” setting can be used to achieve.

Example: When Zone A is occupied, the lighting at Zone A and B should be activated. But when Zone B is occupied, only the lighting at Zone B is required to be activated.

To achieve the above control, you can use EZ-GROUP to setup the OS-NET devices of Zone A and B with respective group numbers, then use the ADVANCED setting to change the number of **TRANSMITTING** or **RECEIVING** group of zone devices. You can either add the group number of Zone B to the TRANSMITTING group of Zone A device, or add group number of Zone A to the RECEIVING group of Zone B device.

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3.3 Grouping Tips

After allocating all the OS-NET enabled luminaires and sensors, the designer may have to assign the control groups for all OS-NET devices, according to the space functions, control requirements, and traffic flows of occupants. The following tips are prepared for the reference of group assignment.

1. If specific sensing control is required, some sensors or controllers can be assigned to different groups and execute different controls. All OS-NET devices of the same zone are not necessarily to be assigned to the same group.
2. If all luminaires within the same zone are required to be activated all together as a group, just assign all devices to the same group.
3. If manual on/off/dim control to the whole group of lighting is needed, then OS-NET button shall be installed. Assign the ONB as member of the controlled group.
4. If different sensing controls are required by the luminaires of the same zone, you may assign all the devices to the same group, and then setting individual OS-NET sensor with specific control mode and parameters. Furthermore, you can assign the OS-NET sensors that are required to execute different controls with different group numbers, such separate assignment will make group setting easier and faster.
5. **One control group** should contain at least **One OS-NET sensor** to enable occupancy or vacancy sensing control.
6. For places with multi-directional traffic flows, such as lane intersection of parking garages or warehouses, grand lobbies or elevator halls, the OS-NET sensors above these positions can be assigned to be group members of all possible forward directions. Thus the lights of all associated groups will be activated simultaneously when the sensors of these places detect the presence of occupant.



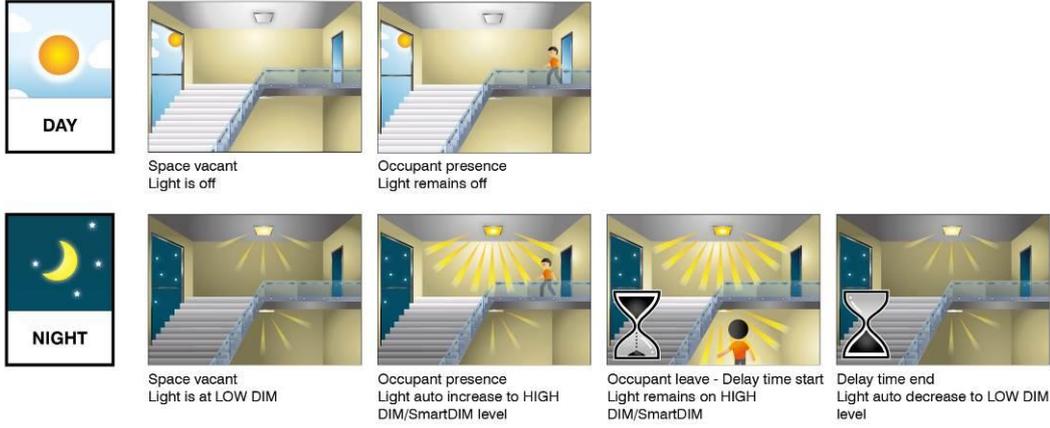
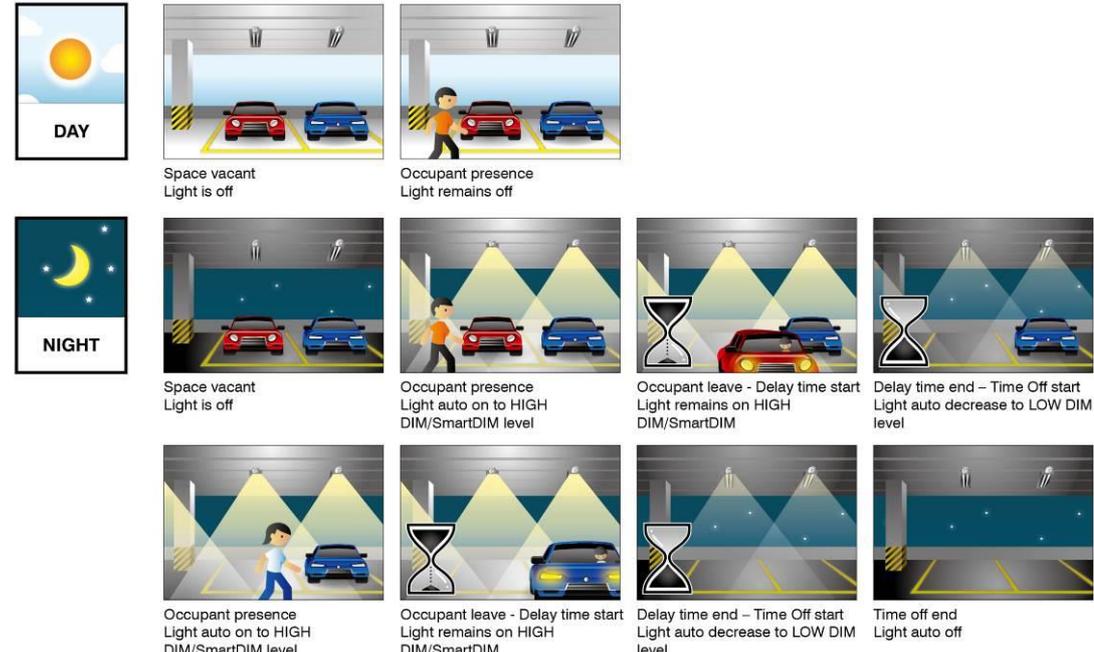
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4. Control Modes and Operation Descriptions

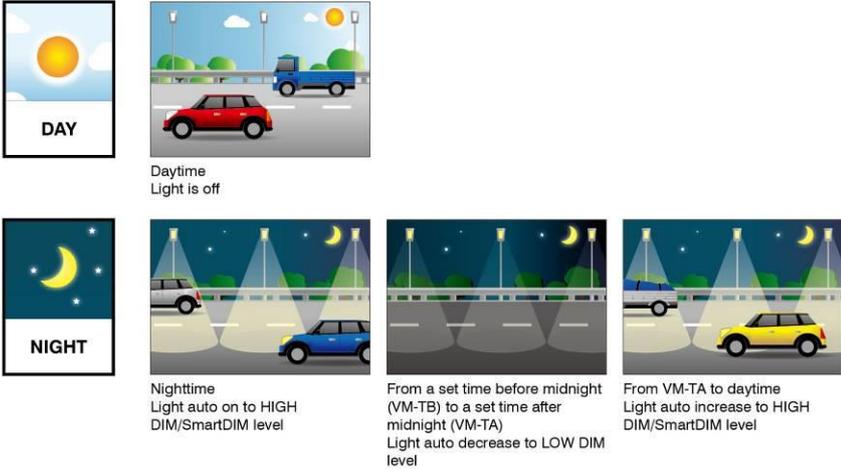
Each OS-NET sensor/controller can be set to provide different control modes derived from different sensing control strategies. These strategies utilize Occupancy Sensing, Vacancy Sensing, or Daylight Sensing technology, and associate with traditional full ON/OFF, bi-level StepDIM or continuous SmartDIM control to control the connected lights.

CONTROL	DESCRIPTION
ON/OFF	<p>This is a commonly used occupancy sensing control mode.</p> <p>Lighting will be inhibited when the ambient light level is higher than the set threshold, regardless of occupancy or vacancy.</p> <p>When the ambient light level is lower than the set threshold, the controlled light will be automatically turned on once the sensor detects the presence of occupant, and turned off after the delay time has elapsed.</p> <p>NOTE: This mode is available for dimmable or non-dimmable lighting, but not for HID lighting.</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="display: flex; justify-content: space-around; width: 100%;"> <div style="text-align: center;">  <p>DAY</p> </div> <div style="text-align: center;">  <p>Space vacant Light is off</p> </div> <div style="text-align: center;">  <p>Occupant presence Light remains on</p> </div> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 10px;"> <div style="text-align: center;">  <p>NIGHT</p> </div> <div style="text-align: center;">  <p>Space vacant Light is off</p> </div> <div style="text-align: center;">  <p>Occupant presence Light auto on</p> </div> <div style="text-align: center;">  <p>Occupant leave - Delay time start Light remains on</p> </div> <div style="text-align: center;">  <p>Delay time end Light auto off</p> </div> </div> </div>
OSO	<p>This is an occupancy sensing control mode can be applied in spaces that require 24-hour lighting.</p> <p>When space is vacant, the light will be on at Low Dim level. When space is occupied, lighting output will be instantly increased to High Dim level or continuously regulated to maintain within a pre-set range by SmartDIM control.</p> <p>NOTE: This mode is available with dimmable lighting only. If the controlled light is non-dimmable, all lights will remain ON all the time.</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="text-align: center;">  <p>DAY & NIGHT</p> </div> <div style="display: flex; justify-content: space-around; width: 100%; margin-top: 10px;"> <div style="text-align: center;">  <p>Space vacant Light is at LOW DIM</p> </div> <div style="text-align: center;">  <p>Occupant presence Light auto increase to HIGH DIM/SmartDIM level</p> </div> <div style="text-align: center;">  <p>Occupant leave - Delay time start Light remains on HIGH DIM/SmartDIM</p> </div> <div style="text-align: center;">  <p>Delay time end Light auto decrease to LOW DIM level</p> </div> </div> </div>

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CONTROL	DESCRIPTION
<p>OSLA</p>	<p>This is an occupancy sensing control mode can be applied in spaces that require automatic lighting when the ambient light level is lower than the set threshold.</p> <p>Lighting will be inhibited when the ambient light level is higher than the set threshold, regardless of occupancy or vacancy. When the ambient light level is lower than the set threshold, the sensor/controller will automatically set the light to the Low Dim level. Once the sensor detects the presence of an occupant, the lighting output will be increased to the High Dim level or continuously regulated within a pre-set range by SmartDIM control. Lighting output will be reduced to the Low Dim level after delay time elapsed or shut off if the ambient light is higher than the threshold.</p> <p>NOTE: This mode requires dimmable lighting to enable dimming control. If lighting is non-dimmable, all lights will remain on whenever the ambient light level is lower than the set threshold.</p> <div data-bbox="316 611 1366 1039">  </div>
<p>OSLATO</p>	<p>This is an occupancy sensing control mode can be applied in spaces that require maintaining Low Dim lighting for a period of time after the delay time has elapsed.</p> <p>Lighting will be inhibited when the ambient light level is higher than the set threshold, regardless of occupancy or vacancy. When the ambient light level is lower than the set threshold and any sensor detects the presence of occupant, the sensor/controller will instantly increase the lighting output to the High Dim level or continuously regulate the output to maintain overall lighting level within a pre-set range by SmartDIM control. After the delay time has elapsed, lighting output will be reduced to the Low Dim level for a period of TIME OFF delay before turning off.</p> <p>NOTE: This mode requires dimmable lighting to enable dimming control. If lighting is non-dimmable, there will be no dim control and the delay time will be extended with the TIME OFF (TO) delay.</p> <div data-bbox="316 1368 1410 2020">  </div>

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CONTROL	DESCRIPTION
<p>DSVM</p>	<p>This is a daylight sensing control mode can be applied in spaces that require automatically dimming the lighting output to a low level between a certain time before and after midnight.</p> <p>When the ambient light level is lower than the set threshold, the sensor/controller will turn the light to the High Dim level or continuously regulate the output to maintain overall lighting level within a pre-set range by SmartDIM control. Lighting output will be reduced to the Low Dim level from a certain time before virtual midnight to a certain time after. Lighting will be inhibited during daytime.</p> <p>NOTE: This mode requires dimnable lighting to enable dimming control. If lighting is non-dimmable, all lights will remain on whenever ambient light level is lower than the set threshold.</p> <div data-bbox="320 600 1161 1070">  <p>DAY Light is off</p> <p>NIGHT Light auto on to HIGH DIM/SmartDIM level</p> <p>From a set time before midnight (VM-TB) to a set time after midnight (VM-TA) Light auto decrease to LOW DIM level</p> <p>From VM-TA to daytime Light auto increase to HIGH DIM/SmartDIM level</p> </div>
<p>DSC</p>	<p>This is a daylight sensing control mode can be applied in spaces that require automatic lighting whenever the ambient light is lower than the set threshold.</p> <p>The sensor/controller will automatically turn on the light to the High Dim level or continuously regulate the output to maintain overall lighting level within a pre-set range by SmartDIM control when the ambient light level is lower than the set threshold, and automatically turn off the light when the ambient light level is higher than the set threshold.</p> <p>NOTE: This mode requires dimnable lighting to enable dimming control. If lighting is non-dimmable, all lights will remain on whenever ambient light level is lower than the threshold.</p> <div data-bbox="331 1547 1142 1765">  <p>DAY Light is off</p> <p>NIGHT Light auto on to HIGH DIM/SmartDIM level</p> </div>

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CONTROL	DESCRIPTION
VSC	<p>This is a vacancy sensing control mode can be applied in spaces that require users to turn on the light manually, and have the sensor/controller turn off the light automatically.</p> <p>The occupant would have to press the upper part of OS-NET button to turn the light to the High Dim level or continuously regulate the output to maintain overall lighting level within a pre-set range by SmartDIM control. The sensor/controller will control the connected lighting as per OSLATO mode.</p> <p>NOTE: This mode requires dimmable lighting to enable dimming control. If lighting is non-dimmable, there will be no dim control and the delay time will be extended with the TIME OFF (TO) delay.</p> <div data-bbox="331 577 938 779" style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>DAY & NIGHT</p> </div> <div style="text-align: center;">  <p>Space vacant Light is off</p> </div> <div style="text-align: center;">  <p>Occupant presence Light remains off</p> </div> </div> <p>Push-Button Operation</p> <div data-bbox="331 869 1177 1093" style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>When light is off</p> </div> <div style="text-align: center;">  <p>Press button Light manual on to HIGH DIM/SmartDIM level</p> </div> <div style="text-align: center;">  <p>Occupant leave - Delay time start Light remains on HIGH DIM/SmartDIM</p> </div> <div style="text-align: center;">  <p>Delay time end Light auto off</p> </div> </div> <div data-bbox="331 1115 1417 1339" style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>When light is on</p> </div> <div style="text-align: center;">  <p>Press button Light manual off</p> </div> <div style="text-align: center;">  <p>Occupant leave Light remains off</p> </div> <div style="text-align: center;">  <p>Next occupancy Light remains off</p> </div> <div style="text-align: center;">  <p>Press button Light manual on to HIGH DIM/SmartDIM level</p> </div> </div>
OFF	<p>This is a manual control mode to shut off the light for service or specific purpose.</p> <p>Once this mode is set, all lighting controlled by the sensor/controller will remain off until another mode is selected.</p>

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5. Applications and Control Mode Recommendations

The following table highlights some typical OS-NET applications and control mode recommendations for designer's reference. For other unlisted applications, you may refer to the application with similar functional and occupancy activity, or contact info@irtec.com for availability and assistance.

APPLICATIONS	ON/OFF	OSO	OSLA	OSLATO	DSVM	DSC	VSC*
Classroom	○			●			●
Conference room	○			●			○
Corridor/Hallway	○	● ¹	● ²				
Entrance hall/Lobby	○	● ¹	● ²				
Gymnasium	○			●			
Kitchen/Break room	○			●			○
Lecture hall	○			●			○
Office-open	○			●			
Office-private	○			●			●
Operation area	○	○ ¹	○ ²	●			
Outdoor-perimeter	○		●		○	○	
Park/play ground	○		●		○	○	
Parking lot	○		●	○	○		
Parking garage-driveway		● ¹	● ²	○			
Parking garage-space	●			○			
Restroom/locker room	○	○ ¹	○ ²	●			
Stairwell	●	○ ¹	○ ²				○
Storage	●			○			○
Utility room	●			○			○
Warehouse	○			●			

● - Recommended ○ - OK to use

* ONB is required to enable Vacancy Sensing Control (VSC).

¹ Area without daylight but requires 24-hour lighting for safety or other purposes.

² Area with daylight but requires 24-hour lighting for safety or other purposes.