



A Simpler and Smarter Wireless Lighting Control Solution

Frequently Asked Questions

Table of Contents

1. BASICS.....	5
1.1 What is OS-NET?.....	5
1.2 How does OS-NET work?	5
1.3 What is OS-NET enabled lighting?.....	5
1.4 What is OS-NET control group?.....	6
1.5 Where OS-NET can be applied?	6
1.6 What are OS-NET devices?.....	6
1.7 What is the function of OS-NET Sensor (ONS)?.....	6
1.8 What is the function of the OS-NET Button (ONB)?.....	7
1.9 What is the function of the OS-NET Power Pack & Load Controller (ONP)?.....	7
1.10 What kind of wireless technology is behind OS-NET?.....	7
1.11 What can OS-NET do for lighting industry?	7
1.12 What are the benefits of using OS-NET?	8
1.13 How many OS-NET devices can be connected per network?.....	8
1.14 What is the communication range between two OS-NET devices?.....	8
1.15 How to ensure independent operation of an OS-NET network?.....	8
1.16 How is the system security of OS-NET?	8
1.17 How to identify OS-NET devices?.....	9
1.18 How to establish an OS-NET controlled lighting system?.....	9
2. CONTROL.....	9
2.1 How many different control schemes can an OS-NET Sensor provide?.....	9
2.2 How can I dim multiple luminaires by a single OS-NET Sensor?.....	11
2.3 How many luminaires can be controlled per OS-NET Sensor?	11
2.4 Can a single OS-NET Sensor control multiple lighting groups?.....	11
2.5 Can I use OS-NET Sensor for standalone lighting control?	12
2.6 Will all luminaires of a group operate synchronously?	12
2.7 Can I use OS-NET to control existing lighting?.....	12
2.8 Can multiple OS-NET Sensors control a single luminaire or lighting circuit?	12
2.9 Can a group-assigned OS-NET Sensor control the light standalone?.....	12
2.10 Can I manually control a group of OS-NET enabled lighting?.....	12
2.11 How many groups can an OS-NET network link?.....	12

FAQ about OS-NET

3.	DEVICE MOUNTING	13
3.1	How can I mount the OS-NET Sensor?	13
3.2	How can I mount the OS-NET Button?	13
3.3	How can I mount the OS-NET Power Pack & Load Controller?.....	13
4.	LUMINAIRE INTEGRATION	13
4.1	How can I integrate an OS-NET Sensor with a luminaire?.....	13
4.2	How can I ensure optimal wireless communication among OS-NET devices?	13
5.	LENS SELECTION	13
5.1	Why do OS-NET Sensors feature interchangeable lenses?.....	13
5.2	How to select a proper lens for an OS-NET Sensor?	13
6.	APPLICATION.....	14
6.1	How to design an OS-NET enabled lighting system?.....	14
6.2	What could happen if an OS-NET Sensor fails?.....	14
6.3	What could happen if network communication fails?	14
6.4	Will wireless signal affect any of my other devices?	14
6.5	Will there be more OS-NET products in the future?	14
6.6	Can I use OS-NET to control HVAC system?.....	14
7.	SETTING	15
7.1	What is the purpose of setting an OS-NET Sensor?	15
7.2	Do I have to group each OS-NET device?.....	15
7.3	How to start setting a newly installed OS-NET enabled lighting system?.....	15
7.4	How do I know if an OS-NET device is network connected?	15
7.5	How many groups can an OS-NET device be assigned to?	15
7.6	How many devices can be assigned to a group?.....	15
7.7	What is the purpose of grouping the OS-NET devices?	16
7.8	How to group OS-NET devices?.....	16
7.9	What is the EZ-GROUP setting for?	16
7.10	What is the ADVANCED setting for?.....	16
7.11	How can I protect the settings of an OS-NET network?	16
7.12	How can I create multiple OS-NET networks in the same field?	17
7.13	How to add a new OS-NET device or OS-NET enabled lighting?	17
7.14	How to change the settings of an individual OS-NET Sensor?.....	17
7.15	How to change the settings of OS-NET Sensors in a group basis?.....	17
7.16	How to change the assigned group of OS-NET device?.....	17
7.17	How can I download the settings of an OS-NET Sensor?	17

©2023 IR-TEC America, Inc. All rights reserved. This document contains information relating to IR-TEC product portfolio which is subject to change. IR-TEC does not give any representation or warranty as to the accuracy or completeness of the information included herein, and shall not be liable for any action in reliance thereon. The information presented on this document is not intended as any commercial offer and does not form part of any quotation or contract. Trademarks are the property of IR-TEC America, Inc. or other respective owners.

FAQ about OS-NET

1. BASICS

1.1 What is OS-NET?

OS-NET is an abbreviation of Occupancy Sensing Network.

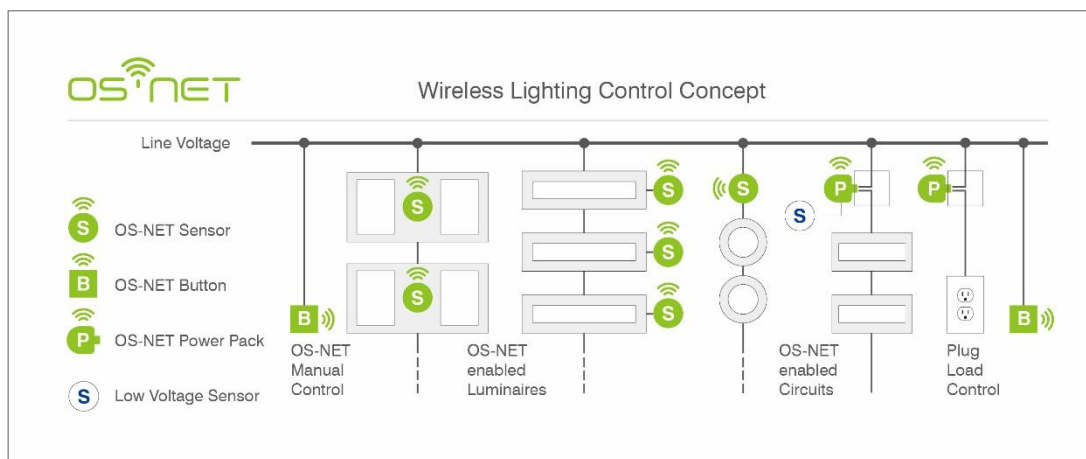
OS-NET is a simpler and smarter wireless lighting control network solution developed by IR-TEC.

OS-NET is a wireless mesh network formed by a number of wirelessly linked OS-NET devices to enable smart sensing control and networking capabilities among luminaires.

1.2 How does OS-NET work?

OS-NET is created from a simple and cost effective concept, i.e. simultaneously deploy a wireless mesh network required for smart lighting control while installing the luminaires and lighting circuits with OS-NET Sensors integrated. Through the process of grouping all OS-NET devices, mainly the OS-NET Sensors, an OS-NET that can link up to 250 control groups thus created. Every OS-NET Sensor 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 smart controls to the connected lighting of the group in a unique control concept, i.e. individual sensing control, group activation.

“Individual sensing control, group activation” means that every grouped sensor will detect occupant’s activities within its coverage. When any sensor detects the presence of occupant or vehicle, it not only controls the connected lighting as set, but also broadcasts the occupancy signal to other sensors of the group to activate the programmed controls to the connected lightings. If any grouped sensor detects occupancy before delay time elapses, the entire lighting group will remain controlled as occupied. After the area is vacated and delay time elapsed, each grouped sensor will individually control the connected lighting as set.



1.3 What is OS-NET enabled lighting?

The OS-NET enabled lighting refers to the luminaires that are integrated with OS-NET Sensors and the lighting circuits that are electrically controlled by OS-NET Sensors.

FAQ about OS-NET

1.4 What is OS-NET control group?

The OS-NET control groups are fundamental pillars of an OS-NET wireless mesh network. An OS-NET control group can be a single independent OS-NET enabled luminaire or a combination of multiple OS-NET devices.

1.5 Where OS-NET can be applied?

The OS-NET solution can be applied in most areas of commercial, industrial, institutional, indoor and outdoor lighting environments. In simple words, wherever smart lighting control is required, either for retrofit projects or a new building, OS-NET is capable of providing code-compliant, energy efficient smart controls with ease.

1.6 What are OS-NET devices?

OS-NET devices refer to the products that are built with OS-NET wireless networking capability, including OS-NET Sensors (ONS), OS-NET Buttons (ONB), and OS-NET Power Pack & Load Controller (ONP). In addition to the individual functionality, every OS-NET device is also a node of mesh network that can transmit, receive, and/or forward the wireless communication commands within network.

1.7 What is the function of OS-NET Sensor (ONS)?

The OS-NET Sensors are fundamental devices that constitute an 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.

An ONS not only provides fully programmable smart control to the connected lighting by the sensing the local occupancy status and ambient light level, but also broadcasts the occupancy signal to other OS-NET Sensors of the group to activate the respective controls as set through wireless network.

OS-NET Sensors are available with several form factors for different OEM luminaire integration and ceiling installation options.



FAQ about OS-NET

1.8 What is the function of the OS-NET Button (ONB)?

The OS-NET Button is an optional OS-NET device designed to replace the existing wall switch, as a line voltage powered wireless control device to provide manual on/off and dimming control to the lighting group assigned. The main function of the ONB is to allow the user to control the local lighting as required.



OS-NET Buttons are available in two different form factors.
The rectangular one is for mounting into standard NEMA wall box.
The square one is for mounting into standard EURO wall box.

1.9 What is the function of the OS-NET Power Pack & Load Controller (ONP)?

The OS-NET Power Pack & Load Controller is an optional OS-NET device that can easily enable wireless smart lighting control with IR-TEC's low voltage occupancy sensors. Subject to the wiring connection and control settings, it can be configured to execute occupancy or vacancy sensing control to the connected light, or plug load control for codes compliance.



1.10 What kind of wireless technology is behind OS-NET?

The OS-NET is a wireless sensor mesh network based on the ZigBee protocol, but with exclusive modification to achieve the highest level of flexibility, functionality and simplicity set by IR-TEC. ZigBee is an IEEE 802.15.4- based wireless communication protocol developed by ZigBee Alliance. For more details about ZigBee technology, please visit www.zigbee.org

1.11 What can OS-NET do for lighting industry?

The OS-NET can provide top-notch energy efficient, code-compliant, sophisticated multi-scheme controls without requiring extra sets of control wire networking to each luminaire and circuit. These include occupancy, vacancy, and daylight sensing based for on-off switching, bi-level StepDIM and continuous SmartDIM controls to the connected lighting in an individual or a group basis. With above capabilities, it can help lighting industry achieve smart controls with unsurpassed level of Flexibility, Functionality, and Simplicity.

- To the OEM lighting manufacturer, OS-NET can help you easily deliver a state-of-the-art energy efficient lighting with wireless connectivity by simply integrating an OS-NET Sensor with your luminaire.
- To the lighting designer or specifier, OS-NET can help you easily complete a lighting project featuring smart control by simply selecting the OS-NET enabled luminaires or OS-NET Sensors for lighting circuit control, and place them at proper positions according to the photometric characteristics of luminaires and the sensing coverage of sensors.
- To the lighting installer, you can install a wireless network controlled lighting system in the same way as installing the conventional luminaires, sensors and switches. No extra wiring, no extra labeling on the

FAQ about OS-NET

complicated control wires, no more complicated commissioning. All you need is grouping the devices and setting controls via a remote.

1.12 What are the benefits of using OS-NET?

Simply speaking, OS-NET can save time, money and energy!

A wireless mesh network is synchronously built-up while installing the luminaires and circuits which is a basic job-to-do. No more extra sets of wiring diagram, control wires to each device, complicated wiring connections, and commissioning time typically required by conventional lighting control systems. So time is saved!

The OS-NET does not require a centralized system control panel, routers, interfaces, power adaptors and proprietary management software which normally contribute to higher project cost. All you need are OS-NET enabled luminaires and OS-NET Sensors for local lighting circuit controls. So money is saved!

With OS-NET, all lighting can be smartly controlled by a number of wirelessly linked sensors. Every sensor individually controls the connected lighting as programmed according to the occupancy status and ambient light level of the area under group activation control concept. So energy is saved!

1.13 How many OS-NET devices can be connected per network?

A ZigBee network does not have a specified limit of devices as it depends on the network traffic of data and command communication. As the OS-NET has been purposely designed with minimal data and command communication, an OS-NET can effectively connect up to thousands of OS-NET devices.

1.14 What is the communication range between two OS-NET devices?

The communication range of OS-NET devices can be affected by numerous factors, including the enclosure design of luminaire integrated, wall/partition material, building structure...etc. In general, the communication range of OS-NET device can easily reach to 15-30 m in typical indoor applications, and 50-100 m at outdoor open space.

1.15 How to ensure independent operation of an OS-NET network?

Ensuring independent operation of an OS-NET network is important to prevent linking with another OS-NET network in a neighboring area. Unwanted network linkage could result in cross-network group activation among the devices of two separate networks that are assigned with the same group numbers. To ensure independent operation of an OS-NET network, always LOCK the network after all settings completed.

1.16 How is the system security of OS-NET?

A PC-based lighting control system, wired or wireless, is always more vulnerable to cyber attack than an independent system. The OS-NET requires no PC, every OS-NET Sensor is basically an independent sensing and control device that can sense the occupancy status and ambient light level, and control the connected light as programmed individually. All network communication commands are encrypted by AES-128 to further protect OS-NET from any wireless cyber attack.

FAQ about OS-NET

1.17 How to identify OS-NET devices?

OS-NET devices share the same appearance as other IR-TEC sensor and control products. To help identify the product, all OS-NET devices will come with the OS-NET logo on the unit and package. In addition, the LED indicator of OS-NET devices will always blink “twice” to indicate the operation.

1.18 How to establish an OS-NET controlled lighting system?

An OS-NET controlled lighting system can be easily established by completing 3 works as below;

1. INSTALLING

For the luminaires integrated with OS-NET Sensors, you just mount the luminaires at designated positions and connect with power like the conventional lighting.

For the OS-NET Sensors to control the lighting circuits, you just mount the sensors and luminaires at designated positions, and connect the power and local control wires accordingly.

2. GROUPING

After installing all luminaires and OS-NET devices, you need to conduct grouping process for all OS-NET devices via operating a remote programmer.

3. SETTING

After grouping all OS-NET devices, you just need to conduct device settings for OS-NET Sensors to provide specific sensing control scheme as desired in an individual or a group basis.

2. CONTROL

2.1 How many different control schemes can an OS-NET Sensor provide?

Every OS-NET Sensor can be programmed to provide different control schemes based on occupancy/vacancy sensing and daylight harvesting technologies to execute on/off switching, bi-level StepDIM and continuous SmartDIM controls to the connected lighting.

Scheme	Status	Day*	Night*	Description
ON/OFF	Vacant	OFF		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 controlled light will be turned on automatically once the sensor detects the presence of occupant, and turned off after the delay time elapsed. NOTE: This is a typical occupancy sensing control scheme that can be used with dimmable or non-dimmable lighting, but not HID.
	Occupied	OFF	ON	
OSO	Vacant	Low Dim		When space is vacant, the lights will be maintained at Low Dim level. Whenever space is occupied, lighting output will be increased to High Dim level or continuously regulated to maintain within the pre-set range by SmartDIM control. NOTE: This is an occupancy sensing control scheme that can be applied in the areas require 24-hour lighting. Do NOT use with non-dimmable lighting.
	Occupied	High Dim		
		SmartDIM		

FAQ about OS-NET

Scheme	Status	Day*	Night*	Description
OSLA	Vacant	OFF	Low Dim	<p>Lighting will be inhibited if 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 will automatically control the light at Low Dim level. When sensor detects the presence of an occupant, lighting output will be increased to the High Dim level or continuously regulated within the pre-set range by SmartDIM control. After the delay time elapsed, lighting output will be reduced to Low Dim level or shut off if the ambient light is higher than the set threshold.</p> <p>NOTE: This is an occupancy sensing control scheme that can be applied in the spaces require automatic lighting whenever ambient light level is lower than the set threshold.</p> <p>Do NOT use with non-dimmable lighting.</p>
	Occupied	OFF	High Dim	
		SmartDIM		
OSLATO	Vacant	OFF	Low Dim & OFF	<p>Lighting will be inhibited if 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, lighting output will be increased to High Dim level or continuously regulated to maintain overall lighting level within the pre-set range by SmartDIM control. After the delay time elapsed, lighting output will be reduced to Low Dim level for a period of TIME OFF delay before shut off.</p> <p>NOTE: This is an occupancy sensing control scheme that can be applied in the spaces require maintaining Low Dim lighting for a period of time before shutting off.</p> <p>This scheme requires dimmable lighting to enable dimming control. If lighting is non-dimmable, the controlled lights will be shut off after the TIME OFF delay elapsed.</p>
	Occupied	OFF	High Dim	
		SmartDIM		
DSVM	Vacant	OFF	High Dim/ SmartDIM & Low Dim	<p>Lighting will be inhibited if the ambient light level is higher than the set threshold. When the ambient light level is lower than the set threshold, the sensor will turn the light to High Dim level or continuously regulate the output to maintain overall lighting level within the pre-set range by SmartDIM control. Lighting output will be reduced to Low Dim level from a certain time before virtual midnight to a certain time after.</p> <p>NOTE: This is a daylight sensing control scheme that can be applied in the spaces require automatically dimming the light to a low level between a certain time before and after virtual midnight. This scheme requires dimmable lighting to enable dimming control. If lighting is non-dimmable, the controlled lighting will remain full on whenever the ambient light level is lower than the set threshold.</p>
	Occupied	OFF	High Dim/ SmartDIM & Low Dim	
DSC	Vacant	OFF	High Dim/ SmartDIM	<p>The sensor will automatically turn on the light to High Dim level or continuously regulate the output to maintain overall lighting level within the 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 is a daylight sensing control scheme that can be applied in the spaces require automatic lighting whenever the ambient light is lower than the set threshold.</p> <p>This scheme requires dimmable lighting to enable dimming control. If lighting is non-dimmable, all lights will remain full on whenever ambient light level is lower than the threshold.</p>
	Occupied	OFF	High Dim/ SmartDIM	

FAQ about OS-NET

Scheme	Status	Day*	Night*	Description
VSC	Vacant	OFF		The occupant would have to press the OS-NET Button to turn on the lighting group assigned. The sensor will control the lights at High Dim level or continuously regulate the output to maintain overall lighting level within the pre-set range by SmartDIM control. The sensor will control the connected lighting as per OSLATO. NOTE: This is a vacancy sensing control scheme that can be applied in the spaces require users to manually turn on the light, and have the sensor turn off automatically. This scheme requires dimmable lighting to enable dimming control. If lighting is non-dimmable, the controlled lighting will be shut off after the TIME OFF delay elapsed.
	Occupied	Manual ON		
OSB	Vacant	OFF	OFF/ Low Dim	Lighting will be inhibited if 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 the first occupant is detected by a grouped sensor, the output of sensor connected light will be increased to High Dim level or continuously regulated within the pre-set range by SmartDIM control during occupancy, and the unoccupied areas of entire lighting group will brighten up to Low Dim level as background light. The entire lighting group turns off after the last person leaves and delay time elapsed. NOTE: This is an advanced occupancy sensing control scheme that can be applied in open offices to provide background light level before the area of entire lighting group is vacant. Do NOT use this scheme to control non-dimmable lighting.
	Occupied	OFF	High Dim	
		SmartDIM		
OFF	Vacant	OFF	OFF	Once this scheme is set, all OS-NET controlled lighting will remain off until another scheme is selected.
	Occupied	OFF	OFF	NOTE: This is a manual control scheme that can be used to shut off the lights for a certain period of time.

*Day/Night refers to the condition when ambient light level is higher/lower than the threshold set.

2.2 How can I dim multiple luminaires by a single OS-NET Sensor?

To dim multiple luminaires by a specific OS-NET Sensor, you would have to connect the dim control wires (2) to the drivers/ballasts of all luminaires.

2.3 How many luminaires can be controlled per OS-NET Sensor?

The number of luminaires that can be controlled by an OS-NET Sensor is subject to dim control current of drivers/ballasts used and the total wattage of all luminaires controlled. Every OS-NET Sensor with 0-10V dim control current can provide up to 25 mA. You should calculate the maximum number of luminaires per sensor based on the dim control current consumption per driver/ballast and total wattage of luminaires controlled.

2.4 Can a single OS-NET Sensor control multiple lighting groups?

Yes. A single OS-NET Sensor can be assigned to be member of multiple groups. A multi-grouped sensor will activate all lighting groups assigned whenever it detects the presence of occupant. A typical application for multi-group control is the area with multi-directional traffic flows, i.e. crossway and elevator hall.

FAQ about OS-NET

2.5 Can I use OS-NET Sensor for standalone lighting control?

Yes. An ungrouped OS-NET Sensor will provide standalone control to the connected lighting.

2.6 Will all luminaires of a group operate synchronously?

In general, all OS-NET Sensors of the same group will enter into “occupied” status and activate the respective controls to the connected lighting simultaneously whenever any OS-NET Sensor detects the presence of occupant. But if there is area with the ambient light level higher than the set threshold, the local sensor will inhibit switching on the light except if the OSO scheme is set. The local sensor will turn the connected light off or to low dim individually according to the occupancy status and the ambient light level condition.

2.7 Can I use OS-NET to control existing lighting?

Yes. The OS-NET will be an ideal solution to retrofit the existing lighting with code-compliant smart controls. All you have to do is, replacing the existing lighting with OS-NET enabled luminaires or install the OS-NET Sensors to control the lighting circuits, and replacing the manual wall switch with an OS-NET Button for manual control. After completing the group and device control settings, you can deliver an energy efficient lighting system featuring code-compliant smart controls.

2.8 Can multiple OS-NET Sensors control a single luminaire or lighting circuit?

Yes. But if the controlled luminaire is dimmable, it can only receive the dim control signal from a specific OS-NET Sensor.

2.9 Can a group-assigned OS-NET Sensor control the light standalone?

Yes. You just have to execute the UNGROUP process to disengage the OS-NET Sensor from network, and then the sensor will control the connected light in standalone basis.

2.10 Can I manually control a group of OS-NET enabled lighting?

Yes. You just need installing an OS-NET Button and set it as member of the target control group, then you will be able to turn on/off or dim the lighting group by pressing the button as instructed. You can also use the OS-NET Remote to turn on/off the lighting in individual or group basis.

2.11 How many groups can an OS-NET network link?

A single OS-NET network can link up to 250 groups. To control more than 250 lighting groups, multiple networks can be established.

FAQ about OS-NET

3. DEVICE MOUNTING

3.1 How can I mount the OS-NET Sensor?

The OS-NET Sensor can be mounted, with different mounting accessories and form factors, on the ceiling above the sensing area to control the local luminaires or lighting circuit. For more information about mounting options, please refer to the Mounting Option Datasheet available from www.irtec.com.

3.2 How can I mount the OS-NET Button?

The OS-NET Button can be mounted into standard EURO or NEMA wall box with mains power available.

3.3 How can I mount the OS-NET Power Pack & Load Controller?

The OS-NET Power Pack & Load Controller can be attached to a junction box, cable tray, or fixture through a 1/2" knockout with the designed threaded nipple and locknut.

4. LUMINAIRE INTEGRATION

4.1 How can I integrate an OS-NET Sensor with a luminaire?

The OS-NET Sensor can be integrated with an OEM luminaire directly or via a mounting bracket, and provide a variety of controls to the lighting connected. For more information about luminaire integration, please refer to the Mounting Option Datasheet available from www.irtec.com.

4.2 How can I ensure optimal wireless communication among OS-NET devices?

The wireless communication range could be affected by the metallic enclosure of integrated luminaire. To obtain optimal communication range, avoid enveloping the OS-NET Sensor with a metallic enclosure.

5. LENS SELECTION

5.1 Why do OS-NET Sensors feature interchangeable lenses?

OS-NET Sensors utilize passive infrared (PIR) sensing technology to detect motions of bodies giving off heat (human or vehicle) through an optical lens. To widen the applications of OS-NET, every OS-NET Sensor features interchangeable lens options with different detection patterns and coverage to meet sensing requirements for different traffic flows and mounting heights.

5.2 How to select a proper lens for an OS-NET Sensor?

Selecting a proper lens for an OS-NET Sensor should take the mounting height, traffic flow, and detection range into consideration. Please refer to the Lens Datasheet available from www.irtec.com to help select a proper lens. If further assistance is required, please contact info@irtec.com (for North America customers) or support@irtec.com (for International customers).

6. APPLICATION

6.1 How to design an OS-NET enabled lighting system?

Designing an OS-NET enabled lighting system is almost the same as designing a conventional lighting and control system. No extra work needed.

- For OS-NET enabled luminaire, just layout the position and power circuit according to the photometric characteristic of the individual luminaire.
- For OS-NET Sensor, just place the sensor at a position where it can have the best view to “see” the presence of occupant.
- For OS-NET Button, just place the button at a position convenient for user operation.

6.2 What could happen if an OS-NET Sensor fails?

This depends on which part fails. If the wireless communication fails, the OS-NET Sensor will still control the connected lighting as programmed individually. If the other part fails, the OS-NET Sensor may not control the connected lighting as programmed.

NOTE: If the sensor operation indicator is normal, but the connected lighting is constantly off or flashing, this could likely indicate that part of luminaire is failed.

6.3 What could happen if network communication fails?

If the network communication fails, all OS-NET Sensors will still control the connected lighting individually as programmed, but without group activation control.

6.4 Will wireless signal affect any of my other devices?

The OS-NET uses 2.4-2.5 GHz radio bands which are available worldwide for wireless sensor networks and other data transmission. The radio communication flow rate of OS-NET devices has been kept at minimal level, and much lower than other data communication devices, so they hardly can affect other devices. However, if there are devices with busy communication and massive data transmissions loading on site, the instantaneity of OS-NET device communication may be possibly affected and causing lag response.

6.5 Will there be more OS-NET products in the future?

Yes. IR-TEC will continue developing more OS-NET products, including gateway that can share data of local occupancy status, ambient light level, lighting status, output level...etc. for management purpose.

6.6 Can I use OS-NET to control HVAC system?

Yes, you can use an OS-NET Sensor to control the operation of ventilation fan or fan-coil of a HVAC system. Please consult with IR-TEC sales team for the availability of HVAC control.

7. SETTING

7.1 What is the purpose of setting an OS-NET Sensor?

An OS-NET network is formed by a number of wirelessly connected OS-NET devices, mainly the OS-NET Sensors. So every OS-NET Sensor must be assigned to a control group in order to link up the network. Each OS-NET Sensor can be set to control the connected lighting in a specific scheme with different parameters. Setting an OS-NET Sensor not only assigns the OS-NET Sensor as member of the control group(s), but also determines how an individual sensor should control the light it physically connected with.

7.2 Do I have to group each OS-NET device?

Yes. Each OS-NET device must be assigned as member of at least one control group in order to link up the network. Grouping all OS-NET devices also helps control setting work faster via "GROUP-SET" function.

7.3 How to start setting a newly installed OS-NET enabled lighting system?

Once you complete installing a new OS-NET enabled lighting system, you would require an OS-NET Remote Programmer (SRP-281) to setup all OS-NET devices. The first step is to create a new network from grouping two unconnected OS-NET devices within 1 minute. After the network is created, you can continue grouping all other OS-NET devices.

NOTE: To ensure the field is free of a neighboring OS-NET network, you can select an unconnected OS-NET Sensor and test with a temporary group setting. Wait for 1 minute and observe the LED indicator of the sensor after uploading the group setting data. If the sensor LED turns to blink in **BLUE** to indicate the operation after grouping completed, it means the field is free. If the sensor LED remains in **GREEN** after grouping completed, it means the sensor has linked to an open (unlocked) neighboring OS-NET. To prevent the unwanted cross-network group control, execute the UNGROUP process to off-link the testing sensor from the network connected. Lock the neighboring OS-NET if possible, or find another sensor away from the neighboring network and test again.

7.4 How do I know if an OS-NET device is network connected?

The easiest way to identify a network connected OS-NET device is observing the color of LED indicator. The LED of an unconnected OS-NET device will be indicated in **BLUE**, a network connected OS-NET device will display its LED in **GREEN**.

NOTE: An unconnected OS-NET Sensor can still control the lighting as programmed, but not group activation control. An unconnected OS-NET Button will be functionless.

7.5 How many groups can an OS-NET device be assigned to?

A single OS-NET device can be assigned to be member of up to 4 control groups.

7.6 How many devices can be assigned to a group?

This is a question without an exact answer. A control group may consist of one or many OS-NET devices. To ensure reliable wireless communication, we suggest not exceeding 100 OS-NET devices per group.

FAQ about OS-NET

7.7 What is the purpose of grouping the OS-NET devices?

Grouping the OS-NET devices enables not only the network linkage, but also the group sensing and control capability, i. e. when any sensor detects occupancy, all sensors of the group will execute the control as programmed. In addition, only grouped OS-NET Sensors can be set in group basis.

7.8 How to group OS-NET devices?

All you need is an OS-NET Remote Programmer. Enter into the EZ-GROUP page from GROUP LINK, select the numbers of group assigned, aim at the target device and press the UPLOAD button. The device will beep (OS-NET Sensor) or blink the LED (OS-NET Button) to acknowledge successful grouping. For other devices of the same group, you can repetitively aim and press the UPLOAD button to quickly group one by one.

7.9 What is the EZ-GROUP setting for?

The OS-NET group activation control is actually a combined operation of TRANSMITTING and RECEIVING groups. When any OS-NET Sensor of the group detects the presence of occupant, it will transmit the OCC signal with the TRANSMITTING group number it belonged to the OS-NET Sensors with the same RECEIVING group number to execute the programmed control respectively.

The EZ-GROUP setting allows you to quickly complete the network linking and grouping of all OS-NET Sensors. EZ-GROUP will set the OS-NET Sensors of the same group with identical TRANSMITTING and RECEIVING group numbers. Typical group activation control in most applications can be achieved by EZ-GROUP setting.

7.10 What is the ADVANCED setting for?

Although typical group activation control for most applications can be achieved by EZ-GROUP setting, certain application may require special group control that would have to rely on ADVANCED setting to achieve.

Example of special group control: When Zone A is occupied, the lighting of Zone A and B should be activated. But when Zone B is occupied, only the lighting of Zone B are required to be activated.

To achieve the above control, you can use EZ-GROUP to setup the sensors 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 sensors. You can either add the group number of Zone B to the TRANSMITTING group of Zone A sensors, or add group number of Zone A to the RECEIVING group of Zone B sensors.

7.11 How can I protect the settings of an OS-NET network?

After completing setup of an OS-NET network, you should lock the network to protect the settings from accidental or unauthorized change. Furthermore, locking the network can prevent being accidentally linked by a newly installed neighboring OS-NET network which could result in abnormal group activation due to cross-network communication. You can LOCK the network by an OS-NET Remote Programmer.

FAQ about OS-NET

7.12 How can I create multiple OS-NET networks in the same field?

If multiple OS-NET networks in the same field are required, ensure to LOCK the existing network first. Then execute the process of setup a new network to create the second OS-NET network in the same field. By repeating the same process, more networks can be created if necessary.

7.13 How to add a new OS-NET device or OS-NET enabled lighting?

To add a newly installed OS-NET device or OS-NET enabled lighting to an existing OS-NET, you would have to UNLOCK the target network first, assign the device to its control group, and set the control scheme and parameters via operating the SRP-281 remote.

7.14 How to change the settings of an individual OS-NET Sensor?

You would need an OS-NET Remote Programmer to change the settings of an OS-NET Sensor. Enter into the DEVICE setting page, select the INDIV-SET, set the new control scheme and parameter, aim the remote at the target sensor and press UPLOAD button. Hold it until the sensor beeps or the remote displays UPLOAD OK.

NOTE: If the network is locked, you should first UNLOCK to allow the setting change.

7.15 How to change the settings of OS-NET Sensors in a group basis?

You would need an OS-NET Remote Programmer to change the settings of OS-NET Sensors in a group basis. Enter into the DEVICE setting page, select the GROUP-SET, set the new control scheme and parameters, aim the remote at any sensor of the group and press UPLOAD button. Hold it until the sensor beeps or the remote displays UPLOAD OK. Please refer to the OS-NET Programming Guide for detailed instructions.

NOTE:

1. The latest OS-NET programming guide is available from www.irtec.com.
2. If the network is locked, you would have to UNLOCK to allow setting changes.
3. After grouping, all grouped sensors will individually control the connected lighting in the same scheme and parameters based on local occupancy status and ambient light level.
4. If a sensor requires specific control scheme or different parameter from the group setting, you can execute an individual setting as 7.14 described.

7.16 How to change the assigned group of OS-NET device?

Changing the assigned group of an OS-NET device is same as the initial group setting. Just enter into the EZ-GROUP page of the remote programmer, select the new group number(s), aim the target device and press the UPLOAD button to change. The device will beep or blink its LED to acknowledge the change.

NOTE: If the network is locked, you would have to UNLOCK to allow the setting change.

7.17 How can I download the settings of an OS-NET Sensor?

You can use an OS-NET Remote Programmer to download the current settings and group assigned from an installed OS-NET Sensor. Just aim the remote at the target sensor, press DOWNLOAD button and hold it until download completed. All settings of the target sensor will be displayed on respective pages of the remote.