

WALLSENZR

Commercial Wall Switch Sensors



- Reliability
- Aesthetics
- Performance
- Sustainability



Achieve maximum energy savings through simple & effective sensor control



SIMPLE | SLEEK | POWERFUL

To deliver the best sustainability for today's building control, IR-TEC redefined the commercial wall switch sensors with design innovations and superb quality of its WALLSENZR family.

Created for achieving the maximum energy savings for any application, the WALLSENZR can easily replace legacy toggle switches to provide occupancy, or vacancy sensing based load control. This state-of-the-art wall switch sensor family offers line voltage or low voltage PIR and PIR+HFD dual tech sensors with single or double pole output, for 3-way, bi-level switching in various control modes.

Standing on the commitment of providing more green innovations in building control sector, IR-TEC sees every manual wall switch as an opportunity to create a more sustainable future. Let the WALLSENZR shape a smarter and greener building.



PIR
Single Pole



PIR
Double Pole



PIR+HFD
Single Pole



PIR+HFD
Double Pole

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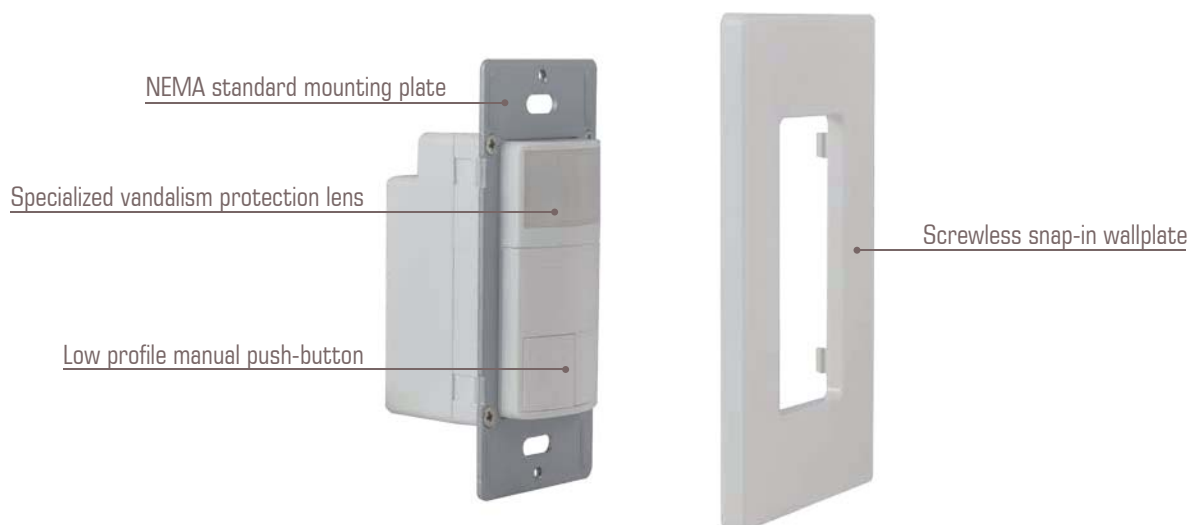
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The Superior WALLSENZR

To fulfill the growing demands for commercial wall switch sensors, IR-TEC's market leading engineering teams created the WALLSENZR family with superior designs in many aspects.





Reliability

- **Vandalism Protection Lens**

Specialized lens prevents vandalism while keeping optimum detection.

- **Hybrid-Switching Control**

Provide superior service life for controlling load with high inrush current.

Aesthetics

- **Appealing Aesthetics Profile**

Low profile appealing aesthetics design with no grid opening on the front.

- **Screwless Snap-in Wallplate***

Contemporary wallplate provides interior decorator pleasing appearance.

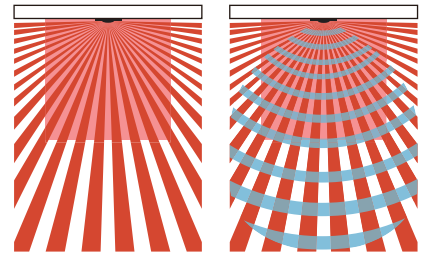
Performance

- **Superior Sensing Capability**

180° Field of View with second-to-none minor motion sensing capability.

- **Easy and Accurate Settings**

Accu-Set digital potentiometers provide fast, easy and accurate settings.



Sustainability

- **Energy Codes Compliance**

Every WALLSENZR can be used as occupancy or vacancy sensor control.

- **Ambient Lighting Override**

Optional photocell sensor integrated for ambient light sensing override.

- **Energy Efficient Building**

The more wall switch sensors used, the better building energy efficiency.

*WALLSENZR will allow for off the shelf wall plates with screws as well if needed.

Benefits of using WALLSENZR

No matter for new building or retrofit project, IR-TEC WALLSENZR family has a full range of line voltage and low voltage sensors to offer for all applications with the following benefits.



Reducing the Energy Cost

IR-TEC WALLSENZR can effectively reduce the energy consumption in building spaces by ensuring that lights and HVAC are turned OFF or to a lower level when spaces are unoccupied. Depending on the spaces and areas applied, using IR-TEC WALLSENZR will maximize the energy savings as per guidelines below;

- The more lighting and loads controlled by sensors, the better energy efficiency is.
- The lower occupancy rate of the space applied, the higher energy saving potential.



Energy Codes Compliance

In addition to energy savings, IR-TEC WALLSENZR is embracing manual-ON operation to maximize Return on Investment (ROI). With either in automatic-ON or manual-ON control, the WALLSENZR family meets the automatic shutoff requirements of current energy codes such as; ASHRAE 90.1, IECC and CEC Title 24.



Bi-Level Switching Control

By offering two control outputs, one that comes ON automatically and another comes ON manually as demand, the double pole WALLSENZR provides bi-level switching control options that have the potential to save more energy by enabling the occupants to use as much light as needed.



No Compromise in Safety

Programmable Delay-OFF timing provides safety and comfort so no one has to leave the room in the dark. Occupancy/vacancy sensors ensure to only turn OFF the light after the delay time elapsed.

Interior Décor Satisfaction

IR-TEC WALLSENZR family is created to satisfy interior decorators with an aesthetically pleasing low profile design. The world's first PIR+HFD dual tech wall switch sensor features a fully enclosed sensor front without any grid openings.

Rebate and Tax Deduction

Using occupancy/vacancy sensors can help commercial building owners earn the tax deduction and/or receive rebates from utilities based on superior energy savings.



Sustainable Building Design

The wall switch sensors that meet, or exceed, current code requirements can contribute to increasing a building's energy efficiency, and earn additional points for LEED certification.



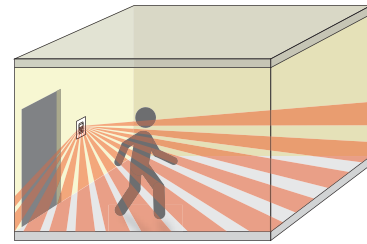
Occupancy Sensing Technologies

IR-TEC's WALLSENZR utilizes advanced occupancy sensing technologies to provide superior occupancy sensing performance required by today's energy efficient building controls.

Passive Infrared (PIR)

Passive Infrared is the most popular and widely applied sensing technology in the market today. PIR sensor senses the presence and motions of occupant by detecting the change of infrared energy emitted from a warm object (human body or vehicle) in motion and the background space. Every PIR sensor is equipped with an optical device, generally a plastic lens with multiple segments called Fresnel lens, to collect the infrared energy emitted by the occupant to the infrared sensing component.

The Fresnel lens divides the detection coverage into multiple zones corresponding to the respective segments. PIR sensor requires an unobstructed line-of-sight for effective operation, therefore sensing performance is subject to the relative position between sensor and occupant. PIR sensors are more sensitive to the movements across the detection zones than toward or away the sensors. In general, the closer the occupant is to the sensor, the better the sensor could detect minor motion.



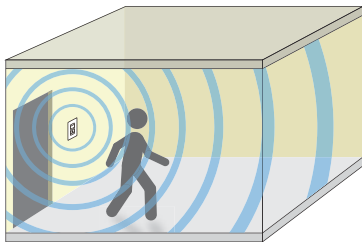
Application notes

- PIR sensors could possibly “see” the out-of-sight motion through detecting the infrared reflected by image reflective surfaces, such as mirrors, glassy metals or polished marble stones.
- Ensure that there is a discernible temperature difference between the occupant and ambient temperature. High ambient temperature will reduce the sensitivity of PIR sensor which could result in smaller coverage or shorter range.
- PIR sensors are best for use in areas with an unobstructed view to the occupant activities.
- Movements across the detection zones would be easier detected than toward the PIR sensor.

High Frequency Doppler (HFD)

High Frequency Doppler technology detects the presence and motions of occupant by sensing the frequency shift bounced back from a moving object. The operation principle of HFD sensors is Doppler Effect which is same as the ultrasonic (US) sensors, but operating with much higher frequency range. Ultrasonic sensors operate with ultrasound wave (typically 32KHz – 45KHz) and HFD sensors operate with X-band radio waves (typically 4GHz – 12GHz). The HFD sensor does not require openings on the front cover like conventional ultrasonic sensor, which have been considered negative factors for interior décor, sensor operation, high moisture application, vandalism prevention, and facility management.

HFD sensors are better at detecting minor motions (e.g. typing, reading) and do not require an unobstructed line-of-sight placement like PIR sensors, thus making them more suitable for applications such as an office with partitions, a library with cubicles or a restroom with stalls.

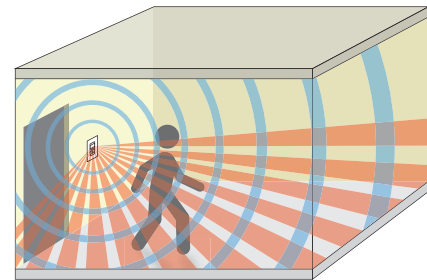


Application notes

- Avoid placing the HFD sensors within 3 ft. of fluorescent lighting fixture as this may cause false detection.
- Avoid sensor placement facing doors, corridors or exits as HFD sensors may detect the traffics at adjacent areas. Sensitivity adjustment and range verification may be necessary for HFD sensors.
- HFD sensors are best for use in areas with partitions and high dividers, or high level of minor motion activities.
- On the contrary with PIR sensors, the HFD sensors are more sensitive to the movements "toward" than "across" the sensor.

Dual Technology (PIR+HFD)

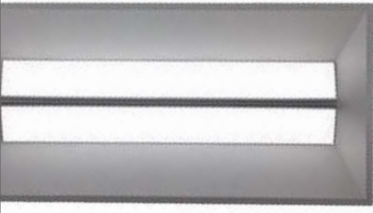
As no any single occupancy sensing technology is perfect, thus dual tech sensors are created for better reliability and performance by utilizing the advantages of each single technology and advanced processing logic. IR-TEC offers variety of dual tech sensors which combines PIR and HFD technologies into a single housing. IR-TEC dual tech sensors are the best for most applications, as they not only provide superior occupancy sensing performances, but also greatly reduce the possibility of false activating caused by environmental interference.



Application notes

- As PIR is normally used as the primary sensing technology, so apply dual tech sensor similar as PIR sensor.
- Ensure that there is a discernible temperature difference between the occupant and ambient temperature. High ambient temperature will reduce the sensitivity of PIR sensor which could result in smaller coverage or shorter range.
- HFD sensor has better detection to the minor motion, so place the sensor as close to the occupant as possible for the places with less major motion.

Load Switching Technologies

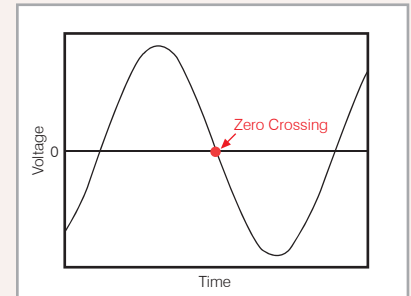


Load switching control is the main function for line voltage occupancy sensors. Different types of load could cause different impact to the load switching component, commonly an electromechanical relay, of the sensor. Many energy efficient lightings (CFL, LED) employ electronic ballasts or drivers which could cause very high inrush current (HIC) when the ballast is first switched ON. The inrush current, though very short time, can overwhelm rated current capacity of an electromechanical relay, fusing the contacts over time and leaving the load permanently ON.

To provide the longevity required by professional control, all IR-TEC's line voltage sensors employ zero-cross switching and some with the innovative hybrid switching to withstand impacts generated by load switching.

Zero-cross Switching

Zero-crossing control technology helps protect the relay contacts with minimal inrush current by switching the relay contacts at or near zero voltage. All IR-TEC line voltage sensors and power packs with relays for load switching employ zero-crossing control technology to prolong their operation life.



Hybrid Switching

Depending on the circuitry design and components applied, some high power factor LED drivers or electronic ballasts could generate the inrush current to 100 or more times of the rated operation current of the lighting. To switch the lighting which could generate very high inrush current, sensor with zero-crossing controlled relay may not be good enough to achieve its operation life expected, thus IR-TEC employed an innovative hybrid switching control technology on some sensors for the control of lightings with HIC.

The IR-TEC sensors with Hybrid Switching employ a solid state relay in conjunction with the electromechanical relay to control the load with HIC. This robust switching design allows the solid state relay to handle the make/break period when the HIC can occur. Then the electromechanical relay takes over to handle the load to avoid solid state relay generating excessive heat that could cause sensor malfunction or failure. HIC load switching test shows that the sensors with hybrid switching control technology have superior performance than the zero-crossing control in switching the loads with exceptionally high inrush currents.

Versatile Controls

To provide second-to-none control versatility for specific customer requirements or energy code compliance, each WALLSENZR can be easily programmed to operate as an occupancy or vacancy sensor with specific control mode via DIP switch combination.

Multiple Control Modes



Mode Descriptions	Applicable Models	
Occupancy Sensing Only Control (OSOC) The sensor will turn the load ON automatically whenever it detects the presence of occupant, and switch the load OFF automatically if no occupant motion has been detected before the time delay elapses. More on page 9	LBS - 700N LBS - 701N LBT - 700N	BBS - 700N BBT - 700N
Occupancy Sensing Only with PM (OSOP) The sensor operates as in OSOC, but with Presentation Mode (PM) via push-button operation for specific requirement. More on page 9	LBS - 700N LBS - 701N LBT - 700N	BBS - 700N BBT - 700N
Occupancy Sensing with ALS Control (OSAC) The sensor operates as in OSOC, but with the ALS to inhibit switching ON the light when ambient light level is higher than the set threshold. More on page 10	LBS - 700S LBS - 701S LBT - 700S LDS - 700S LDT - 700S	BBS - 700S BBT - 700S BDS - 700S BDT - 700S
Occupancy Sensing with ALS & PM (OSAP) The sensor operates as in OSAC, but with the ALS and Presentation Mode (PM) both active. More on page 11	LBS - 700S LBS - 701S LBT - 700S LDS - 700S LDT - 700S	BBS - 700S BBT - 700S BDS - 700S BDT - 700S
Vacancy Sensing Only Control (VSOC) This requires occupant to press the push-button to turn ON the load connected, and the sensor will switch OFF the load automatically if no occupant motion has been detected before the time delay elapses. The sensor will automatically turn ON the load if it detects occupant activity within 30 seconds after time delay elapsed. More on page 12	LBS - 700N LBS - 700S LBS - 701N LBS - 701S LBT - 700N LBT - 700S LDS - 700S LDT - 700S	BBS - 700N BBS - 700S BBT - 700N BBT - 700S BDS - 700S BDT - 700S
Pole One with Extended Delay (POED) The sensor will control the connected load of pole 2 as per pole 1 set with Extended Delay (ED). More on page 13	LBT - 700N LBT - 700S LDT - 700S	BBT - 700N BBT - 700S BDT - 700S
Ambient Light Sensing Only (ALSO) The sensor will automatically turn ON the connected load of pole 2 when ambient light is lower than the LUX level set, and turn OFF the load when ambient light is higher than the threshold. More on page 13	LBT - 700S LDT - 700S	BBT - 700S BDT - 700S

The above modes can be achieved through different DIP switch combinations of applicable models. Please refer to the respective installation instruction for the correct setting.

OSOC Occupancy Sensing Only Control



Space vacant
Light is OFF



Occupant presence
Light auto ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF

Push-Button Operation



Press button – Switch to manual
Light manual OFF



Occupant leave
Light remains OFF



Next occupancy
Light remains OFF



Press button – Switch to auto
Light manual ON



Press button – Switch to auto
Light manual ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF



Next occupancy
Light auto ON

OSOP Occupancy Sensing Only with PM



Space vacant
Light is OFF



Occupant presence
Light auto ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF

Push-Button Operation



Press button – Switch to PM
Light manual OFF



Occupant leave – Delay time start
Light remains OFF



Delay time end – Reset to auto
Light remains OFF



Next occupancy
Light auto ON



Press button
Light manual ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF



Next occupancy
Light auto ON

OSAC Occupancy Sensing with ALS Control



Space vacant
Light is OFF



Occupant presence
Light remains OFF



Space vacant
Light is OFF



Occupant presence
Light auto ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF

Push-Button Operation



Press button – Switch to manual
Light manual OFF



Occupant leave
Light remains OFF



Next occupancy
Light remains OFF



Press button – Switch to auto
Light manual ON



Press button – Switch to auto
Light manual ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF



Next occupancy
Light auto ON

OSAP Occupancy Sensing with ALS & PM



Space vacant
Light is OFF



Occupant presence
Light remains OFF



Space vacant
Light is OFF



Occupant presence
Light auto ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF

Push-Button Operation



Press button – Switch to PM
Light manual OFF



Occupant leave – Delay time start
Light remains OFF



Delay time end – Reset to auto
Light remains OFF



Next occupancy
Light auto ON



Press button
Light manual ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF



Next occupancy
Light auto ON

VSOC Vacancy Sensing Only Control

VSOC mode is only available on pole 2 of double pole sensors with pole 1 set as OSOC, OSOP, OSAC or OSAP mode.



Space vacant
Light is OFF



Occupant presence
Light remains OFF

Push-Button Operation



Press button
Light manual ON



Occupant leave – Delay time start
Light remains ON



Delay time end
Light auto OFF



Sensor will automatically turn ON the light if occupancy is detected within 30 seconds after time delay elapsed.



Press button
Light manual OFF



Occupant leave
Light remains OFF



Next occupancy
Light remains OFF



Press button
Light manual ON

Example: Pole 1 - OSOP and Pole 2 - VSOC



Space vacant
Pole 1 Light is OFF
Pole 2 Light is OFF



Occupant presence
Pole 1 Light auto ON
Pole 2 Light remains OFF



Press button 2
Pole 1 Light remains ON
Pole 2 Light manual ON

Pole 1 controls



Pole 2 controls



Occupant leave – Delay time start
Pole 1 Light remains ON
Pole 2 Light remains ON



Delay time end
Pole 1 Light auto OFF
Pole 2 Light auto OFF



Pole 2 will automatically turn ON the light if occupancy is detected within 30 seconds after time delay elapsed.

POED Pole One with Extended Delay

POED mode is only available on pole 2 with pole 1 set as OSOC, OSOP or OSAP mode.

The following illustrates the operation after occupant leave under auto control.



Occupant leave – Delay time start
Pole 1 Light remains ON
Pole 2 Light remains ON



Delay time end – 5 minutes start
Pole 1 Light auto OFF
Pole 2 Light remains ON



5 minutes elapsed
Pole 1 Light remains OFF
Pole 2 Light auto OFF

ALSO Ambient Light Sensing Only

ALSO mode is only available on pole 2 with pole 1 set as OSAC mode.

Pole 1 - OSAC and Pole 2 - ALSO



Space vacant
Pole 1 Light is OFF
Pole 2 Light is OFF



Occupant presence
Pole 1 Light remains OFF
Pole 2 Light remains OFF

Pole 1 controls



Pole 2 controls



Space vacant
Pole 1 Light is OFF
Pole 2 Light is ON



Occupant presence
Pole 1 Light auto ON
Pole 2 Light remains ON



Occupant leave – Delay time start
Pole 1 Light remains ON
Pole 2 Light remains ON



Delay time end
Pole 1 Light auto OFF
Pole 2 Light remains ON

Push-Button Operation

Below illustrates pole 2 operation only.



Press button 2
Pole 2 Light manual OFF



Occupant leave – Delay time start
Pole 2 Light remains OFF



Delay time end – If day
Pole 2 Light remains OFF



Delay time end – If night
Pole 2 Light auto ON



Press button 2
Pole 2 Light manual ON



Occupant leave – Delay time start
Pole 2 Light remains ON



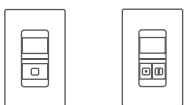
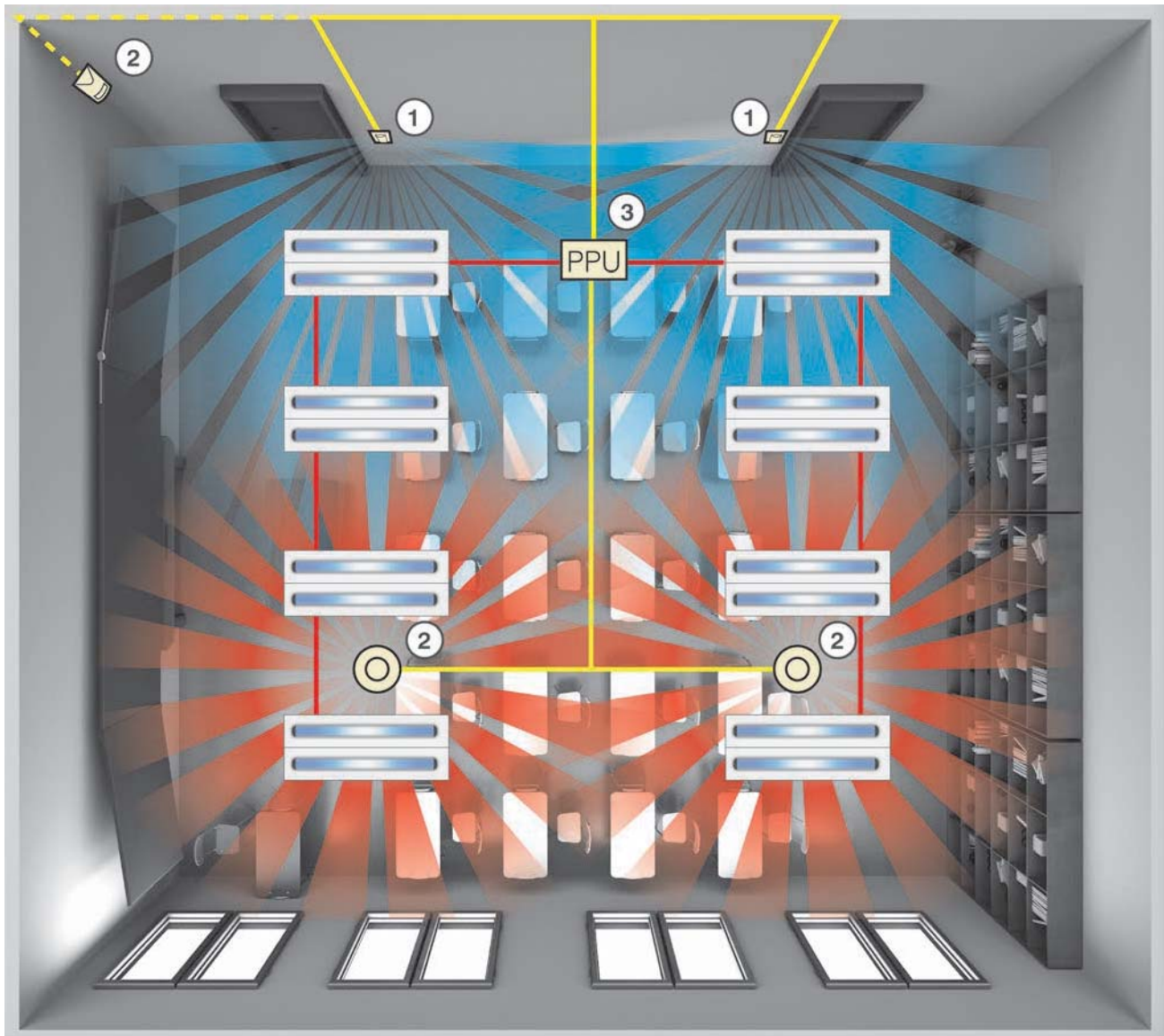
Delay time end – If day
Pole 2 Light auto OFF



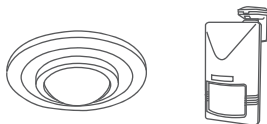
Delay time end – If night
Pole 2 Light auto ON

Multi-way Manual Control

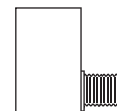
The BBS-702 and BBT-702 are two low voltage wall switch sensors featured with unique Multi-way Manual Control. These sensors are ideal for large area applications, such as classroom, open office, grand hall, long corridor, grand conference room... etc., where may require multiple low voltage wall switch sensors and ceiling mount sensors to cover the whole area, and yet still be able to provide manual ON/OFF control for specific purpose.



① **BBS/BBT-702S Series**
Wall Switch Sensor



② **BOS/OS Series**
Low Voltage Occupancy Sensor

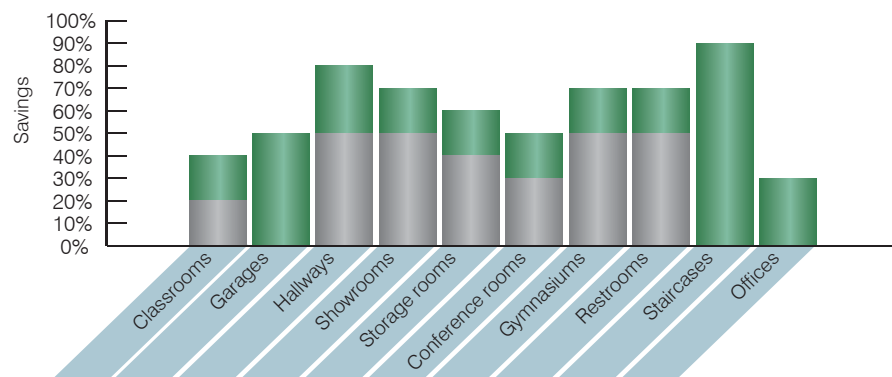


③ **PPU-300**
Power Pack & Controller



Applications and Savings

IR-TEC's WALLSENZR family can be applied in a variety of spaces to control the lighting, HVAC or fan operation to deliver great energy savings. The followings are some typical applications for single and double pole sensors for reference.



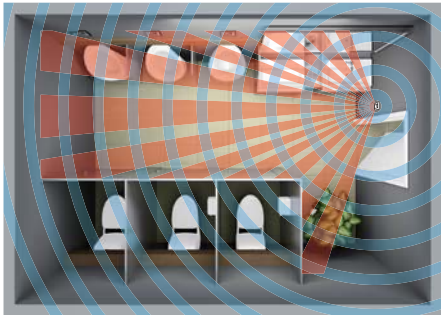
Single Pole Sensors



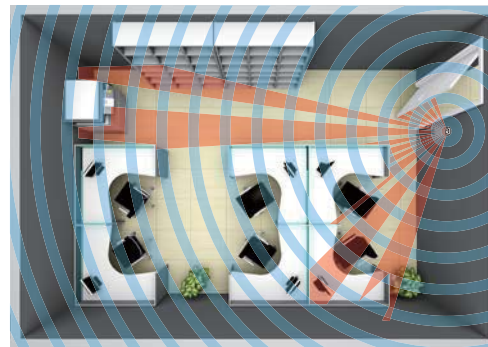
**PIR
LBS/BBS**
Private Office



**PIR
LBS/BBS**
Laundry Room



**PIR+HFD
LDS/BDS**
Restroom with
Partitions

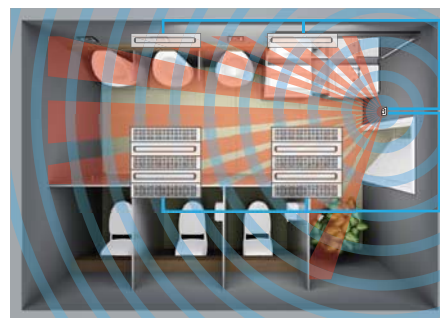


**PIR+HFD
LDS/BDS**
Office with
Partitions

Double Pole Sensors



**PIR
LBT/BBT**
Private Office
with Bi-level
Switching



**PIR+HFD
LDT/BDT**
Restroom with
Partitions and
Bi-level Switching

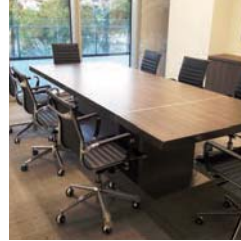
Potential Energy Savings

The advantages of occupancy and vacancy sensing controls have been proven in various applications for years. Numerous case studies verified that occupancy and/or vacancy sensing based control performs greater energy savings than any other control solutions.



Classrooms

20 to 40 %
Potential Energy Savings



Conference rooms

30 to 50 %
Potential Energy Savings



Garages

Up to 50 %
Potential Energy Savings



Gymnasiums

50 to 70 %
Potential Energy Savings



Hallways

50 to 80 %
Potential Energy Savings



Restrooms

50 to 70 %
Potential Energy Savings



Showrooms

50 to 70 %
Potential Energy Savings



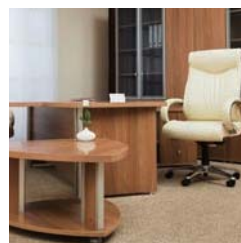
Staircases

Up to 90 %
Potential Energy Savings



Storage rooms

40 to 60 %
Potential Energy Savings



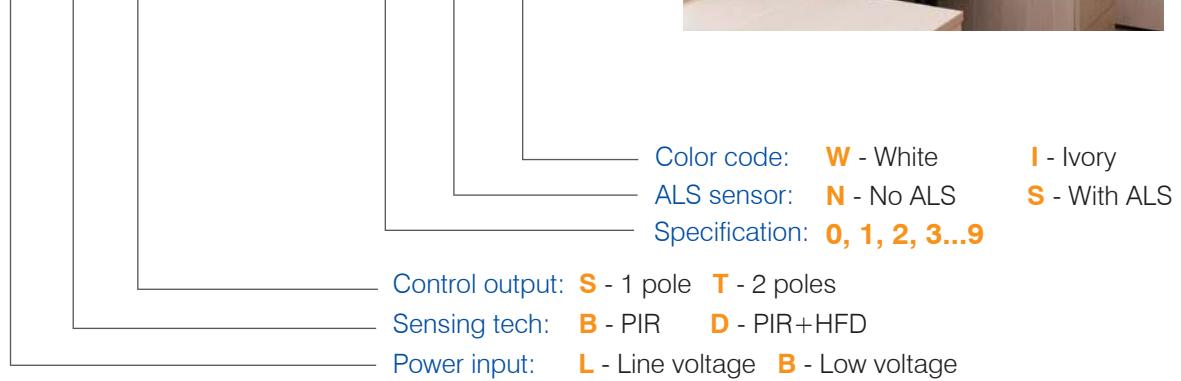
Offices

Up to 30 %
Potential Energy Savings

Product Matrix

Product Code

A B C - 7 0 x x x



PIR, Single pole

LBS-700N
 LBS-700S
 LBS-701N
 LBS-701S
 BBS-700N
 BBS-700S
 BBS-702S



White



Ivory

PIR, Double Pole

LBT-700N
 LBT-700S
 BBT-700N
 BBT-700S
 BBT-702S



White



Ivory

Dual Tech, Single Pole

LDS-700S
 BDS-700S



White



Ivory

Dual Tech, Double Pole

LDT-700S
 BDT-700S



White



Ivory

Line Voltage Sensors

The WALLSENZR family offers a full range of line voltage wall switch sensors for versatile control and applications.

Sensor								
Model No.	LBS-700Nx	LBS-700Sx	LBS-701Nx	LBS-701Sx	LBT-700Nx	LBT-700Sx	LDS-700Sx	LDT-700Sx
x- Color Code	W/I	W/I	W/I	W/I	W/I	W/I	W/I	W/I
SPECIFICATIONS								
Sensing Technology	PIR	PIR	PIR	PIR	PIR	PIR	PIR+HFD	PIR+HFD
Sensor Operation Mode	Occ/Vac	Occ/Vac	Occ/Vac	Occ/Vac	Occ+Vac	Occ+Vac	Occ/Vac	Occ+Vac
Ambient Light Sensor		•		•		•	•	•
Load Switching	Hybrid	Hybrid	Zero-Xing	Zero-Xing	Hybrid x 2	Hybrid x 2	Hybrid	Hybrid x 2
Detection Coverage	1,200 ft ²	1,200 ft ²	1,200 ft ²	1,200 ft ²	1,200 ft ²	1,200 ft ²	1,200 ft ²	1,200 ft ²
HIC Protection	•	•			•	•	•	•
3-way Control	•	•	•	•	•	•	•	•
-40°C/°F Operating	•	•	•	•	•	•	•	•
CONTROL MODES								
OSOC	•		•		•			
OSOP	•		•		•			
OSAC		•		•		•	•	•
OSAP		•		•		•	•	•
VSOC	•	•	•	•	•	•	•	•
POED					•	•		•
ALSO						•		•
ELECTRICAL								
120 VAC, 50/60 Hz			•	•				
120/277 VAC, 50/60 Hz	•	•			•	•	•	•
Neutral Required			•	•			•	•
Ground Required	•	•			•	•		
LOAD RATINGS								
LED	500W	500W	500W	500W	500W	500W	500W	500W
CFL	800W	800W	500W	500W	800W	800W	800W	800W
Incandescent/Halogen	800W	800W	600W	600W	800W	800W	800W	800W
Fluorescent Ballast	800W	800W	700W	700W	800W	800W	800W	800W
Motor	1/6 hp	1/6 hp	1/4 hp	1/4 hp	1/6 hp	1/6 hp	1/6 hp	1/6 hp
CERTIFICATIONS								
UL/cUL	•	•	•	•	•	•	•	•
CA Title 20/24 Compliance	•	•	•	•	•	•	•	•

Low Voltage Sensors

Low voltage wall switch sensors offer the following advantages over line voltage sensors:

Greater control flexibility

- Connect multiple low voltage sensors at different locations on a single control circuit.
- Switch loads that exceed the rating of a line voltage wall switch sensor.
- Use as alternative solution in jurisdiction that prohibit the use of line voltage wall switch.
- Integrate with VAV or building management systems for additional energy savings.

Lower installation costs

Low voltage sensors use low voltage wiring which typically does not require the use of conduit in most installations, thus the labor cost are generally lower, and it would be easier and faster to relocate the controls if necessary.

Sensor								
Model No.	BBS-700Nx	BBS-700Sx	BBT-700Nx	BBT-700Sx	BBS-702Sx	BBT-702Sx	BDS-700Sx	BDT-700Sx
x- Color Code	W/I	W/I	W/I	W/I	W/I	W/I	W/I	W/I
SPECIFICATIONS								
Sensing Technology	PIR	PIR	PIR	PIR	PIR	PIR	PIR+HFD	PIR+HFD
Sensor Operation Mode	Occ/Vac	Occ/Vac	Occ+Vac	Occ+Vac	Occ/Vac	Occ+Vac	Occ/Vac	Occ+Vac
Ambient Light Sensor		•		•	•	•	•	•
Power Input	12–24VDC	12–24VDC	12–24VDC	12–24VDC	12–24VDC	12–24VDC	12–24VDC	12–24VDC
Isolated Dry Contact	1 pole	1 pole	2 poles	2 poles	1 pole	2 poles	1 pole	2 poles
Contact Rating	2A	2A	2A	2A	2A	2A	2A	2A
Detection Coverage	1,200 ft²	1,200 ft²	1,200 ft²	1,200 ft²	1,200 ft²	1,200 ft²	1,200 ft²	1,200 ft²
Power Pack Required	•	•	•	•	•	•	•	•
Multi-way Manual Control					•	•		
-40°C/°F Operating	•	•	•	•	•	•	•	•
CONTROL MODES								
OSOC	•		•					
OSOP	•		•					
OSAC		•		•			•	•
OSAP		•		•	★	★	•	•
VSOC	•	•	•	•	★	★	•	•
POED			•	•		•		•
ALSO				•		•		•
CERTIFICATIONS								
UL/cUL	•	•	•	•	•	•	•	•
CA Title 20/24 Compliance	•	•	•	•	•	•	•	•

★ OSAP or VSOC mode can be achieved through different wiring with PPU-300.
Please refer to installation instruction for correct connection.

CONTACT

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