BBS-700 series

Low Voltage Wall Switch Sensor

OVERVIEW

The BBS-700 is a member of IR-TEC's WALLSENZR family of low voltage wall switch sensor designed to fit in a standard NEMA wall box. The sensors combine state-of-the-art passive infrared sensing technology with décor aesthetics to provide optimal energy-saving for all applications.

The sensor output will be activated to turn ON the load automatically via the connected power pack or BMS when it detects the presence of an occupant, and will turn OFF automatically if no motion is detected before the delay time elapses. To meet compliance of specific energy code, such as CA Title 24, the BBS-700 series can be easily programmed as a Vacancy sensor. In Vacancy mode the sensor output will only be activated by pressing the push-button manually and will turn OFF the load automatically per the sensor time delay. The BBS-700 allows for the push-button operation to be programmed with different manual control options.

The model BBS-700S comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Isolated dry contact output allows the BBS-700 series to control the load with IR-TEC Power Packs or BMS.

FEATURES

- Occupancy-Vacancy sensor changeable control
- Low profile, optimal décor sensor aesthetics
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- Specialized lens provides vandalism protection
- Dry contact relay output for versatile control
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance
- Low cut back cover provides more wiring space

APPLICATIONS

IR-TEC's WALLSENZR family can be used for occupancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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OPERATION

Sensor Mode

The BBS-700 series wall switch sensor employs passive infrared (PIR) sensing technology to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor can be easily programmed as Occupancy or Vacancy Sensor to comply with energy codes as needed.

1. Occupancy Sensor (Auto-ON, Auto-OFF)

Occupancy Sensor Mode switches the light ON automatically when it detects the presence of an occupant. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses.
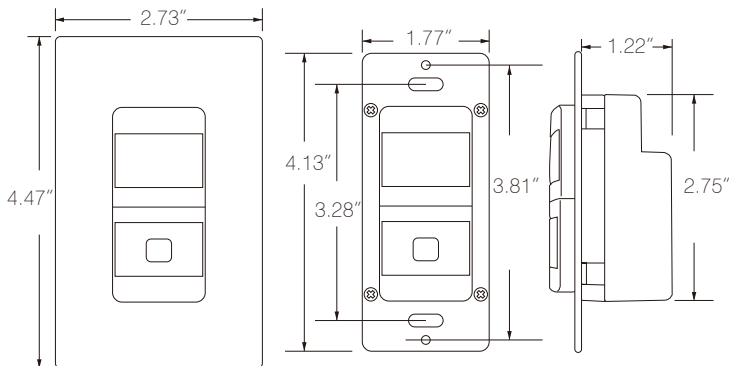
2. Vacancy Sensor (Manual-ON, Auto-OFF)

Vacancy Sensor Mode requires the user to manually press the push-button to turn ON the light. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses. The sensor will automatically turn ON the light if it detects occupant activity within 30 seconds after time delay elapsed.
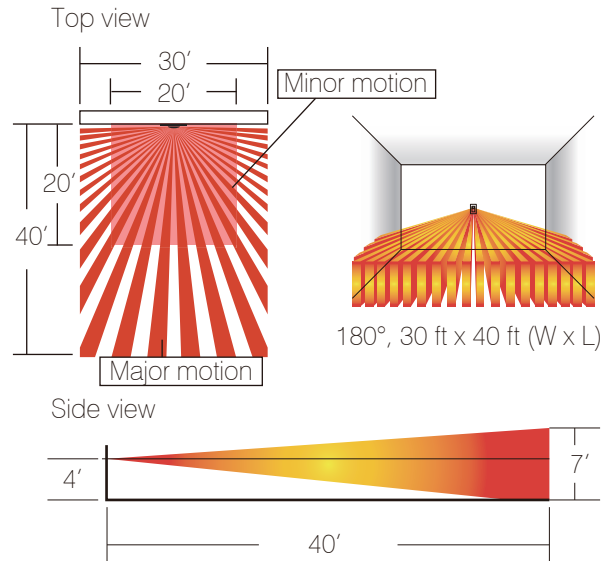
Push-button

The push-button operation can be programmed by DIP switch setting to turn the light ON and OFF manually or in Presentation Mode (PM) for specific application.

DIMENSIONS

DETECTION COVERAGE

Top view

180°, 30 ft x 40 ft (W x L)

Side view

SPECIFICATIONS

Power input	12~24 VDC ± 5%
Current drain	5/20 mA, 24 VDC @ vacant/occupied
Infrared sensor	Dual element pyroelectric
Control output	Form A relay (NO), isolated dry contact
Contact rating	Max. 2A @ 30 VDC, isolated
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3~5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @ 4 ft H
	Minor motion - 20 ft x 20 ft (W x L) @ 4 ft H
Ambient light level	7 levels, from dark to 24 Hr.
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

BBS-700SW– Low Voltage Wall Switch Sensor, 12-24 VDC, 1-pole, White

BBS-700SI – Low Voltage Wall Switch Sensor, 12-24 VDC, 1-pole, Ivory

BBS-702 series

Low Voltage Wall Switch Sensor

OVERVIEW

The BBS-702 series is a member of IR-TEC's WALLSENZR family of low voltage wall switch sensor designed to fit in a standard NEMA wall box. The sensor combines state-of-the-art passive infrared sensing technology with décor aesthetics to provide optimal energy-saving for the applications.

The BBS-702 sensor provides an isolated dry contact together with a unique momentary contact signal to control the load through the connected Power Pack or BMS with Multi-way Manual Control (MMC) available. The MMC is ideal for large area applications where may require multiple wall switch sensors and wall/ceiling mount sensors to cover the whole area, but with manual on/off control available for specific purpose. To meet compliance of specific energy code, such as CA Title 24, the BBS-702 series can be used as vacancy sensor through specific wiring with PPU-300. Under the vacancy sensing control, the connected load will only be switched on by pressing the push-button manually, and switched OFF automatically when delay time of the last motion detected sensor elapses.

The model BBS-702S comes with an ambient light sensor (ALS) to inhibit its output if ambient light level is higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Isolated dry contact output allows the BBS-702 series to control the load with IR-TEC Power Packs or integrate with BMS/BAS.

FEATURES

- Occupancy and vacancy sensing control available
- Low profile, optimal décor sensor aesthetics
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- Specialized lens provides vandalism protection
- Dry contact relay output for versatile control
- Sensor operation LED indicator can be disabled
- Multi-way Manual Control via button operation
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance

APPLICATIONS

The BBS-702 of IR-TEC's WALLZENZR family can be used for occupancy/vacancy sensing based lighting, or load controls, in a variety of spaces.

Classroom	Laboratory
Conference room	Long corridor
Parking garage	Open office
Grand hall	Self-storage facility
Gymnasium	Warehouse
Industrial assembly	Wide open room

OPERATION

The BBS-702 series wall switch sensor employs passive infrared (PIR) sensing technology to monitor the occupancy status through an exclusive lens with 180° field of view. An isolated dry contact output will be engaged to turn on the load through the power pack connected. A unique momentary contact signal can be connected with the power pack to provide multi-way manual on/off control.
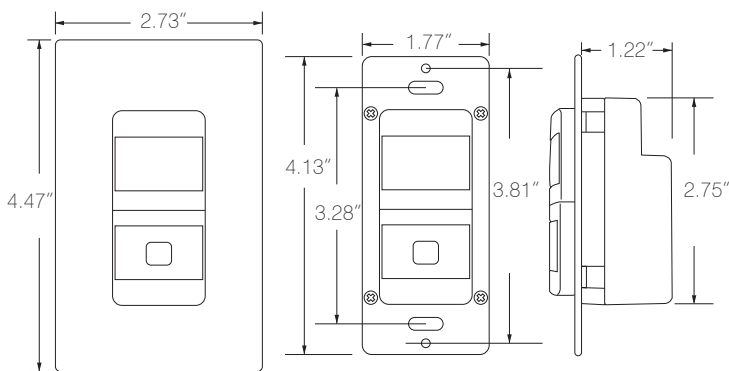
1. Occupancy Sensor (Auto-ON, Auto-OFF)

Occupancy sensing control switches the light ON automatically when it detects the presence of an occupant. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses.

2. Vacancy Sensor (Manual-ON, Auto-OFF)

Vacancy sensing control requires the user to manually press the push-button to turn ON the light. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses. The sensor will automatically turn ON the light if it detects occupant activity within 30 seconds after time delay elapsed.

DIMENSIONS

DETECTION COVERAGE

Top view

30'
20'
Minor motion
20'
40'
Major motion

180°, 30 ft x 40 ft (W x L)

Side view

4'
7'
40'
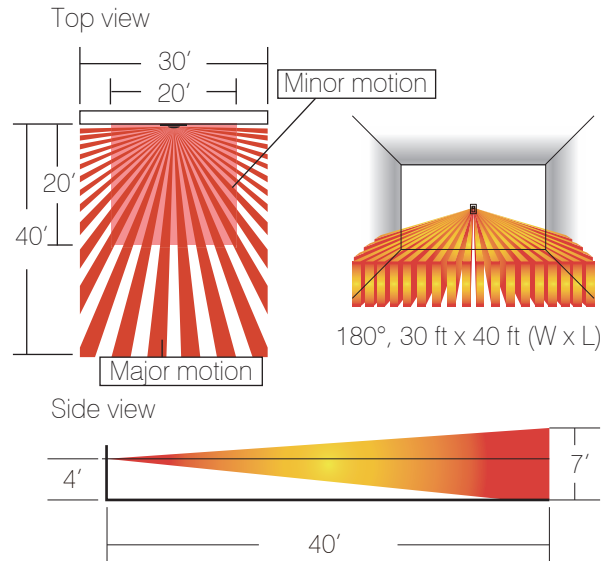
SPECIFICATIONS

Power input	12~24VDC
Current drain	5/20 mA, 24VDC @vacant/occupied
Infrared sensor	Dual element pyroelectric
Control output	Form A dry contact & active low
Contact rating	Max. 2A @30VDC
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft high
	Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Ambient light level	7 levels, from dark to 24 Hr.
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

BBS-702SW – Low Voltage Wall Switch Sensor, 12-24VDC, w/ALS, White

BBS-702SI – Low Voltage Wall Switch Sensor, 12-24VDC, w/ALS, Ivory

BBT-700 series

Low Voltage Wall Switch Sensor

OVERVIEW

The BBT-700 is a member of IR-TEC's WALLSENZR family of 2-pole low voltage wall switch sensor designed to fit in a standard NEMA wall box. The sensors combine state-of-the-art passive infrared sensing technology with décor aesthetics to provide optimal energy-saving for all applications.

The BBT-700 contains two relays, and two push buttons, for controlling two lighting loads or circuits independently together with the connected Power Packs or BMS. To comply with specific energy code, such as CA Title 24, the sensor is factory set to control the primary output (pole 1) in occupancy sensing mode, and the secondary output (pole 2) in vacancy sensing mode. A variety of control options can be programmed via DIP switch settings to meet specific energy code or customer requirements.

The model BBT-700S comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Isolated dry contact outputs allow the BBT-700 series to operate with two IR-TEC Power Packs for controlling two separate loads in occupancy and vacancy sensing bases.

FEATURES

- Occupancy-Vacancy sensor changeable control
- Low profile, optimal décor sensor aesthetics
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- Specialized lens provides vandalism protection
- Dry contact relay outputs for versatile controls
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance
- Low cut back cover provides more wiring space
- 12-24VDC low voltage power supply operation

APPLICATIONS

IR-TEC's WALLSENZR family can be used for occupancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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OPERATION

The BBT-700 series wall switch sensor employs passive infrared (PIR) sensing technology to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor provides typical occupancy sensing (Auto-ON, Auto-OFF) control on pole 1 and vacancy sensing (Manual-ON, Auto-OFF) control on pole 2. Different control options of each pole can be achieved through DIP switch settings. The followings are brief descriptions of the control modes available.

1. Occupancy Sensing with ALS Control (OSAC)

The sensor operates as occupancy sensing control (Auto-ON, Auto-OFF) on the load of pole-1 connected, but with ALS enabled to inhibit output when ambient light level is higher than the set threshold.

2. Occupancy Sensing with ALS & PM (OSAP)

The sensor operates as above OSAC on pole-1, but with *Presentation Mode (PM) active.

3. Vacancy Sensing Only Control (VSOC)

This requires occupant to press the push-button of pole-2 to turn ON the load controlled, 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 light if it detects occupant activity within 30 seconds after time delay elapsed.

4. Pole One with Extended Delay (POED)

The sensor will control the pole-2 output as per pole-1, but with Extended Delay (ED) for 5 minutes.

5. Ambient Light Sensing Only (ALSO)

The sensor will automatically turn ON the load of pole-2 connected when ambient light is lower than the LUX level set, and turn OFF when ambient light is higher than the set level.

*Presentation Mode allows the occupant to switch off the load as desired by pressing the relevant push-button. The load will remain off if motion is detected before the time delay elapses. Pressing the push-button again will turn the load back ON and the sensor will operate as per sensor setting. If no motion has been detected and the time delay expires, sensor will return to normal operation and turn on the load with the next sensed motion.

DETECTION COVERAGE

Top view

Minor motion

30'

20'

20'

40'

Major motion

180°, 30 ft x 40 ft (W x L)

Side view

4'

7'

40'
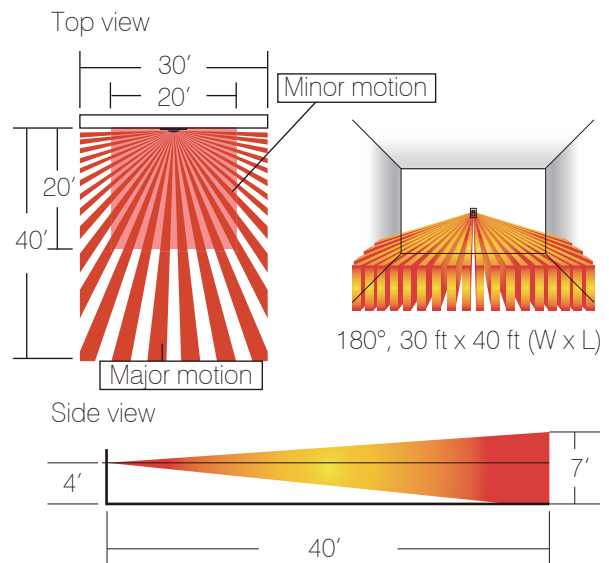
SPECIFICATIONS

Power input	12~24 VDC ± 5%
Current drain	5/30 mA, 24 VDC @ vacant/occupied
Infrared sensor	Dual element pyroelectric
Control output	2 x Form A relay, dry contact
Contact rating	Max. 2A @30 VDC, isolated
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3~5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @ 4 ft H
	Minor motion - 20 ft x 20 ft (W x L) @ 4 ft H
Ambient light level	7 levels, from dark to 24 Hour
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

BBT-700SW– Low Voltage Wall Switch Sensor, 12-24 VDC, 2-pole, White

BBT-700SI – Low Voltage Wall Switch Sensor, 12-24 VDC, 2-pole, Ivory

BDS-700 series

Low Voltage Dual-Tech Wall Switch Sensor

OVERVIEW

The BDS-700 is a low voltage dual-tech wall switch sensor in the IR-TEC's WALLSENZR family designed to fit in a NEMA standard wall box. This state-of-the-art wall switch sensor combines digital Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies into an aesthetically pleasing housing to provide superior occupancy/vacancy sensing control for various applications. HFD is an advanced sensing technology which utilizes super high frequency radio waves to detect the object movement, similar to ultrasonic but without grid openings on the front.

The sensor output will be activated to turn ON the load as programmed via the connected power pack or BMS when it detects the presence of an occupant, and will turn OFF automatically if no motion is detected before the delay time elapses. To meet compliance of specific energy code, such as CA Title 24, the BDS-700 series can be programmed as a Vacancy Sensor. In vacancy sensing mode, the sensor output will only be activated by pressing the push-button manually and will turn OFF the load automatically per the sensor delay time. The BDS-700 allows for the push-button operation to be programmed with different manual control modes.

The sensor comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light level is higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Isolated dry contact output allows the BDS-700 series to control the load with IR-TEC Power Packs or integrate with BMS/BAS.

FEATURES

- Cutting edge PIR + HFD dual technology sensor
- Occupancy/vacancy sensor convertible operation
- Dual-tech or single HFD sensor mode selectable
- Front accessible sensor operation configurations
- No grid opening aesthetics pleasing sensor front
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- 4 levels of HFD sensitivity setting programmable
- Specialized lens provides vandalism protection
- Accu-Set digital potentiometer sensor settings
- Isolated dry contact output for versatile control
- Screwless wall plate offers high end appearance

APPLICATIONS

IR-TEC's Dual-Tech WALLSENZR can be used for occupancy/vacancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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OPERATION

The BDS-700 series dual-tech wall switch sensor employs Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies to monitor the occupancy status with 180° field of view. The sensor can be programmed as an Occupancy Sensor (Auto-ON, Auto-OFF) or Vacancy Sensor (Manual-ON, Auto-OFF) with the following control options via DIP switch settings and push-button operation.

1. Occupancy Sensing with ALS Control (OSAC)

When ambient light level is lower than the set threshold, the sensor will turn the load ON automatically when it detects the presence of occupant, and switch it OFF automatically if no occupant motion has been detected before the time delay elapses.

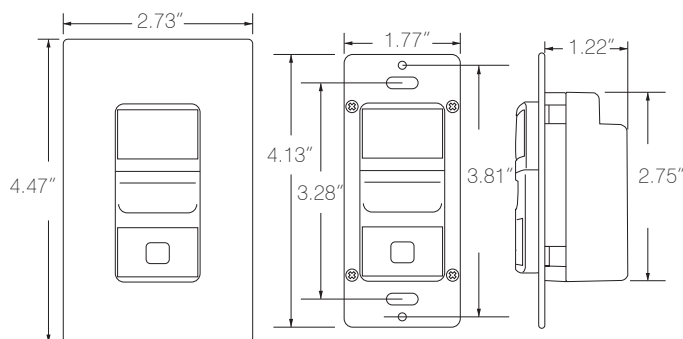### 2. Occupancy Sensing with ALS & PM (OSAP)

The sensor operates as in OSAC, but with *Presentation Mode (PM) active.

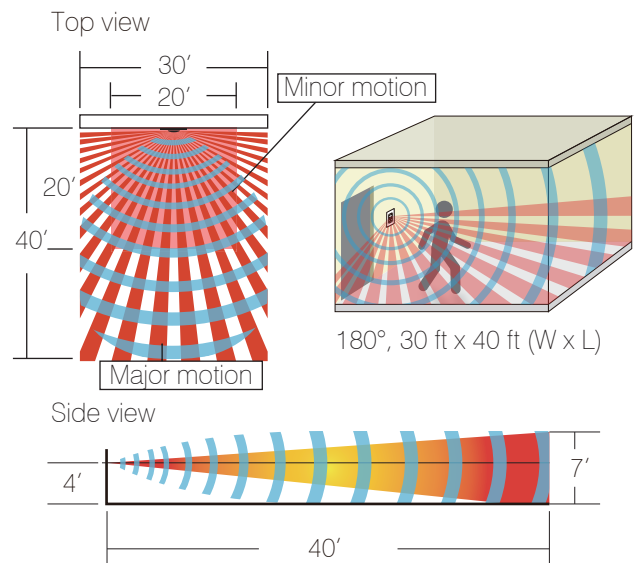### 3. Vacancy Sensing Only Control (VSOC)

This requires occupant to press the push-button to turn ON the load, 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 light if it detects occupant activity within 30 seconds after time delay elapsed.

*Presentation Mode allows the occupant to switch off the load as desired by pressing the specific push-button. The load will remain off if motion is detected before the time delay elapses. Pressing the push-button again will turn the load back ON and the sensor will operate as per sensor setting. If no motion has been detected and the time delay expires, sensor will return to normal operation and turn on the load with the next sensed motion.

DIMENSIONS

DETECTION COVERAGE

Top view

180°, 30 ft x 40 ft (W x L)

Side view

SPECIFICATIONS

Power input	12~24VDC ± 5%
Current drain	10/30 mA, 24VDC @vacant/occupied
Sensing technology	Digital PIR & High Frequency Doppler
Control output	Form A relay (NO), isolated dry contact
Contact rating	Max. 2A @30VDC, isolated
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft high
	Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Ambient light level	7 levels, from dark to 24 Hr. (ALS disabled)
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

BDS-700SW– Low Voltage Dual-Tech Wall Switch Sensor, 12-24 VDC, White

BDS-700SI – Low Voltage Dual-Tech Wall Switch Sensor, 12-24 VDC, Ivory

LBS-700 series

Line Voltage Wall Switch Sensor

WALLSENZR

OVERVIEW

The LBS-700 is a member of IR-TEC's WALLSENZR family of line voltage wall switch sensor designed to fit in a standard NEMA wall box with no neutral connection required. The sensors combine state-of-the-art passive infrared sensing technology with décor aesthetics to provide optimal energy-saving for all applications.

The sensor will turn ON the load automatically when it detects the presence of an occupant, and will turn OFF automatically if no motion is detected before the delay time elapses. To meet compliance of specific energy code, such as CA Title 24, the LBS-700 series can be easily programmed as a Vacancy sensor. In Vacancy mode the sensor will only turn ON the load by pressing the push-button manually and will turn OFF the load automatically per the sensor time delay. The LBS-700 allows for the push-button operation to be programmed with different manual control options.

The model LBS-700S comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Patent pending Hybrid-Switching control allows the LBS-700 series to control the lighting with high inrush current (HIC) while switching ON, such as multiple LED or CFL lightings connected in parallel.

FEATURES

- Occupancy-Vacancy sensor changeable control
- Available with or without ambient light sensor
- Low profile, optimal décor sensor aesthetics
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- Specialized lens provides vandalism protection
- Hybrid-Switching for controlling loads with HIC
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance
- Low cut back cover provides more wiring space
- 120/277VAC operation without neutral connected

APPLICATIONS

IR-TEC's WALLSENZR family can be used for occupancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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OPERATION

The LBS-700 series wall switch sensor employs passive infrared (PIR) sensing technology to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor can be easily programmed as Occupancy or Vacancy Sensor to comply with energy codes as needed.

1. Occupancy Sensor (Auto-ON, Auto-OFF)

Occupancy sensor switches the light ON automatically when it detects the presence of an occupant. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses.

2. Vacancy Sensor (Manual-ON, Auto-OFF)

Vacancy sensor requires the user to manually press the push-button to turn ON the light. The sensor will switch the light OFF automatically if no occupant activity has been detected before the time delay elapses. The sensor will automatically turn ON the light if it detects occupant activity within 30 seconds after time delay elapsed.
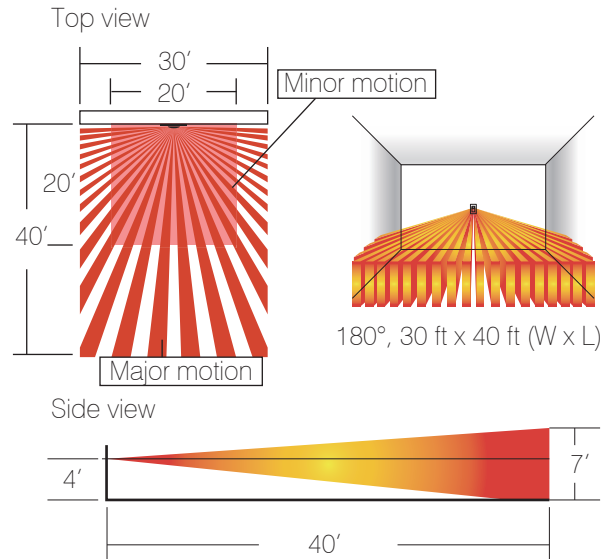
Push-button

The push-button operation can be programmed by DIP switch setting to turn the light ON and OFF manually or in Presentation Mode (PM) for specific application.

DIMENSIONS

DETECTION COVERAGE

Top view

Minor motion

Major motion

Side view

180°, 30 ft x 40 ft (W x L)
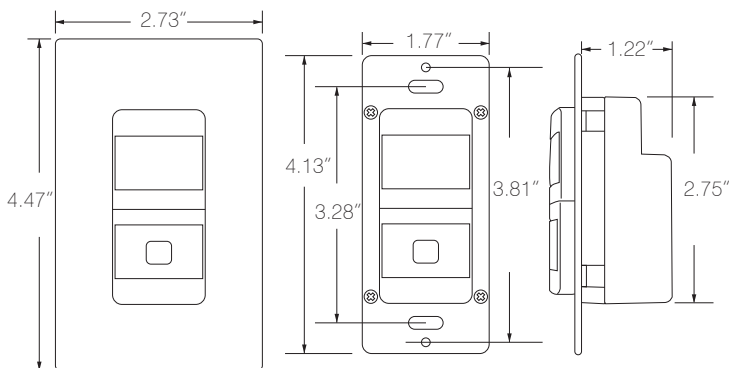
SPECIFICATIONS

Power supply	120/277VAC, 60Hz
Maximum load	Incandescent/Halogen – 800W(VA)
	Fluorescent Ballast/CFL – 800W(VA)
	Ballast Electronic (LED) – 500/800VA,@120/277V
	Motor – 1/6 HP
Infrared sensor	Dual element pyroelectric
Switching control	Zero-cross Hybrid-Switching
Inrush current	Max. 80A, 20 mS
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft high
	Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Ambient light level	7 levels, from dark to 24 Hr., LBS-700S only
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

LBS-700N – Line Voltage Wall Switch Sensor, 120/277 VAC
LBS-700S – Line Voltage Wall Switch Sensor, 120/277 VAC, w/ALS

LBT-700 series

Line Voltage Wall Switch Sensor

WALLSENZR

OVERVIEW

The LBT-700 is a member of IR-TEC's WALLSENZR family of 2-pole line voltage wall switch sensor designed to fit in a standard NEMA wall box with no neutral connection required. The sensors combine state-of-the-art passive infrared sensing technology with décor aesthetics to provide optimal energy-saving for all applications.

The LBT-700 contains two relays, and two push buttons, for controlling two lighting loads or circuits independently. To comply with specific energy code, such as CA Title 24, the sensor is factory set to control the primary load (pole 1) in occupancy sensing mode, and the secondary load (pole 2) in vacancy sensing mode. A variety of control options of each pole can be programmed via DIP switch settings to meet specific energy code or customer requirements.

The model LBT-700S comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Patent pending Hybrid-Switching control allows the LBT-700 series to switch ON two separate loads with high inrush current (HIC) such as multiple LED or CFL lights connected in parallel.

FEATURES

- Occupancy-Vacancy sensor changeable control
- Available with or without ambient light sensor
- Low profile, optimal décor sensor aesthetics
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- Specialized lens provides vandalism protection
- Dual Hybrid-Switching for controlling HIC loads
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance
- Low cut back cover provides more wiring space
- 120/277VAC operation with no neutral required

APPLICATIONS

IR-TEC's WALLSENZR family can be used for occupancy/vacancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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TITLE 20/24

IR-TEC
Specializing in Building Sensors

LBT-700 series
Line Voltage Wall Switch Sensor

WALLSENZR

OPERATION

The LBT-700 series wall switch sensor employs passive infrared (PIR) sensing technology to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor provides typical occupancy sensing (Auto-ON, Auto-OFF) control on pole 1 and vacancy sensing (Manual-ON, Auto-OFF) control on pole 2. Different control options of the LBT-700 series can be programmed through DIP switch settings. Followings are brief descriptions of the control modes available.

Ambient Light Sensing Only (ALSO)

The sensor will automatically turn ON the connected load if the ambient light is lower than the LUX level set, and turn OFF the load when ambient light is higher than the threshold.

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.

Occupancy Sensing Only with PM (OSOP)

The sensor operates as in OSOC, but with Presentation Mode (PM) via push-button operation for specific requirement.

Occupancy Sensing with ALS Control (OSAC)

The sensor operates as in OSOC, but with the ALS to inhibit switching ON the load when ambient light level is higher than the set threshold.

Occupancy Sensing with ALS & PM (OSAP)

The sensor operates as in OSAC, but with the ALS and Presentation Mode (PM) both active.

Pole One with Extended Delay (POED)

The sensor will control the load as per pole-1 set with Extended Delay (ED) for 5 minutes.

Vacancy Sensing Only Control (VSOC)

This requires occupant to press the push-button to turn ON the load, 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 light if it detects occupant activity within 30 seconds after time delay elapsed.

Presentation Mode (PM) allows the occupant to switch OFF the load as desired by pressing the specific push-button. The load will remain OFF if motion is detected before the time delay elapses. Pressing the push-button again will turn the load back ON and the sensor will operate as per sensor setting. If no motion has been detected and the time delay expires, sensor will return to normal operation and turn ON the load with the next sensed motion.

DETECTION COVERAGE

Top view

30'
20'
Minor motion
20'
40'
Major motion

180°, 30 ft x 40 ft (W x L)

Side view

4'
7'
40'
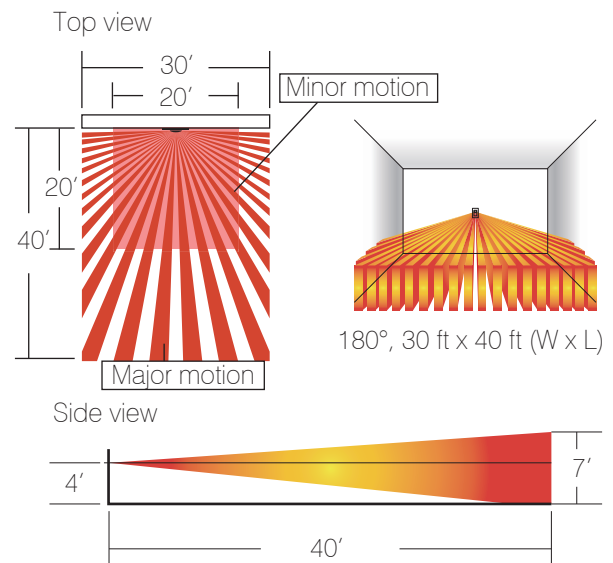
SPECIFICATIONS

Power supply	120/277VAC, 60Hz
Maximum load, per pole	Incandescent/Halogen – 800W(VA)
	Fluorescent Ballast/CFL – 800W(VA)
	Ballast Electronic (LED) – 500/800VA@120/277V
	Motor – 1/6 HP
Infrared sensor	Dual element pyroelectric
Inrush current	Max. 80A, 20 mS, per pole
Switching control	Zero-crossing with Hybrid-Switching
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft H
	Minor motion - 20 ft x 20 ft (W x L) @4 ft H
Ambient light level	7 levels, from dark to 24Hr, LBT-700S only
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

LBT-700N – Line Voltage Wall Switch Sensor, 120/277 VAC
LBT-700S – Line Voltage Wall Switch Sensor, 120/277 VAC, w/ALS

IR-TEC
Specializing in Building Sensors

LDD-700S series

Line Voltage Dual-Tech Wall Switch Sensor with 0-10V Dimming

WALLSENZR

OVERVIEW

The LDD-700S is a line voltage dual technology wall switch sensor with 0-10V dimming output that can turn lights ON/OFF based on occupancy and also allow the user to manually increase or decrease the lighting level as required. This sensor combines digital Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies into an aesthetically pleasing housing to provide occupancy or vacancy sensing based lighting control. HFD is an advanced motion sensing technology capable of providing exceptional minor motion detection, without requiring open grids on the front like ultrasonic sensing technology.

The LDD-700S will automatically turn on the light at the set-level (factory default 100%) when it detects the presence of an occupant. If no motion is detected before the delay time elapses, the sensor will dim the light down to 1/3 of the set-level for 30 seconds before turning OFF. For compliance of specific energy codes, such as CA Title 24, the LDD-700S series can be easily programmed as a vacancy sensor. Thus, the sensor will turn ON the light after pressing any push-button and then control the light in the same way as above described. Two push-buttons allow the user to temporarily dim the light as desired or memorize the preferred lighting level for the next occupancy.

The sensor has a built-in ambient light sensor (ALS) to inhibit turning on the light if ambient light level is higher than the set threshold. Two digitalized Accu-Set potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy, and accurate. Exclusive Hybrid Switching technology protects the relay contacts from being fused by the inrush current generated while switching on multiple LED lights.

FEATURES

- Dual-tech wall switch sensor with 0-10V dimming
- Occupancy/vacancy sensing control convertible
- PIR＋HFD or single HFD sensing mode switchable
- Front accessible sensor operation control setting
- Aesthetically pleasing sensor front without open grids
- 180° F. O. V. with coverage more than 1,200 sq. ft.
- 4 levels of programmable HFD detection sensitivity
- Specialized lens provides vandalism protection
- Accu-Set digital potentiometer for control settings
- Hybrid Switching technology for HIC light control
- Screwless wall plate offers appealing appearance

APPLICATIONS

IR-TEC's Dual-Tech WALLSENZR is designed to fit in a single gang NEMA wall box to provide bi-level occupancy/vacancy sensing control to 0-10V dimmable lights for following applications:

Bathrooms	Laundry rooms
Classrooms	Meeting rooms
Conference rooms	Private offices
Entrances	Playrooms
Exit halls	Restrooms
Garages	Showrooms
Break rooms	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

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IR-TEC
Specializing in Building Sensors

LDD-700S series
Line Voltage Dual-Tech Wall Switch Sensor with 0-10V Dimming

WALLSENZR

OPERATION

The LDD-700S series dual-tech wall switch sensor employs Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies to monitor the occupancy status within its detection coverage. The sensor can be easily programmed as an Occupancy Sensor (Auto-ON, Auto-OFF) or Vacancy Sensor (Manual-ON, Auto-OFF) with different control modes via DIP switch settings and push-button operation.

1. Occupancy Sensing with ALS Control (OSAC)

When the ambient light level is lower than the set threshold, the sensor will turn ON the light at the set-level when it detects the presence of occupant. If no occupant motion has been detected during the time delay, the sensor will dim the light down to 1/3 of the set-level for 30 seconds before turning OFF.

2. Occupancy Sensing with ALS & PM (OSAP)

The sensor will control the light same as OSAC, but with Presentation Mode (PM) enabled.

Presentation Mode allows the occupant to switch off the light as desired by pressing any push-button. The light will remain off if motion is detected before the time delay elapses. Pressing the push-button again will turn the light back ON and the sensor will operate as set. If no motion has been detected and the time delay elapses, the sensor will return to normal operation and turn on the light with the next sensed motion.

3. Vacancy Sensing Only Control (VSOC)

This control mode requires occupant to press any push-button to turn ON the light at the set-level, and the sensor will dim the light down to 1/3 of the set-level for 30 seconds before turning off if no occupant motion has been detected before the time delay elapses. The sensor will automatically turn the light back on if it detects occupant activity within 30 seconds after turning off.
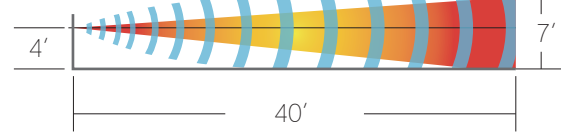
WIRING DIAGRAM

DETECTION COVERAGE

Top view
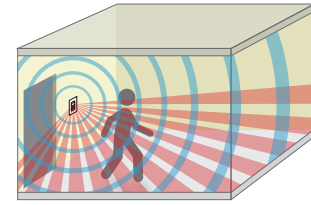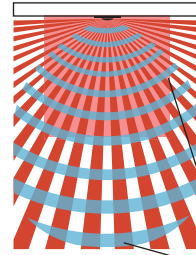
Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Major motion - 30 ft x 40 ft (W x L) @4 ft high

Side view

SPECIFICATIONS

Power supply	120/277VAC, 60Hz
Sensing technology	Digital PIR & High Frequency Doppler
Maximum load	Electronic Ballast– 500/800VA@120/277V
Inrush current	Max. 80A, 16.7 ms @60Hz
Load switching	True Zero-cross Hybrid Switching
Dim control output	0-10V, ±5%, isolated, max. 25 mA
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3~5 ft. (90~150 cm) above the floor
Ambient light level	7 levels, from dark to 24 Hour
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	14°F ~ 131°F (-10°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

LDD-700SW – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, 0-10V, White,

LDD-700SI – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, 0-10V, Ivory
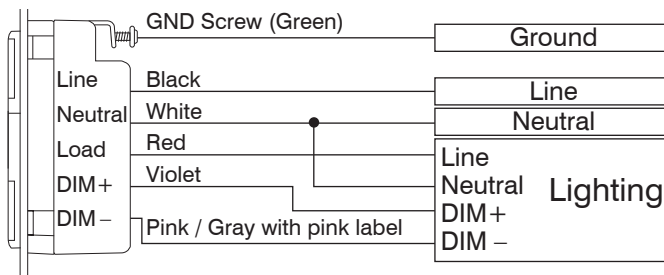
iR-TEC
Specializing in Building Sensors

LDS-700 series

Line Voltage Dual-Tech Wall Switch Sensor

OVERVIEW

The LDS-700S is a dual technology line voltage wall switch sensor in the IR-TEC's WALLSENZR family designed to fit in a standard NEMA wall box. This state-of-the-art dual-tech wall switch sensor combines digital Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies into an aesthetically pleasing housing to provide second-to-none occupancy/vacancy sensing based lighting control for all applications. HFD is an advanced sensing technology which utilizes super high frequency radio waves (4~12GHz) to detect the occupancy, similar to ultrasonic sensor, but without requiring the grid openings on the front.

The LDS-700S will turn ON the load automatically when it detects the presence of an occupant, and will turn OFF automatically if no motion is detected before the delay time elapses. For compliance of specific energy code, such as CA Title 24, the LDS-700S series can be easily programmed as a Vacancy Sensor. In vacancy sensing mode, the sensor will only turn ON the load by pressing the push-button manually and will turn OFF the load automatically per the sensor time delay. The LDS-700S allows for the push-button operation to be programmed with different control modes.

The sensor comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Patent pending Hybrid-Switching technology allows the sensor to switch on the load even with very high inrush current, such as multiple LED or CFL lights connected in parallel.

FEATURES

- **World's 1**st PIR+HFD dual-tech wall switch sensor
- Occupancy/vacancy sensor convertible operation
- Dual-tech or single HFD sensing mode switchable
- Front accessible sensor operation configurations
- No grid opening - aesthetics pleasing sensor front
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- 4 levels of HFD sensitivity setting programmable
- Specialized lens provides vandalism protection
- Accu-Set digital potentiometer sensor settings
- Hybrid-Switching technology for HIC load control
- Screwless wall plate offers high end appearance

APPLICATIONS

IR-TEC's Dual-Tech WALLSENZR can be used for occupancy/vacancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

Specializing in Building Sensors

OPERATION

The LDS-700S series dual-tech wall switch sensor employs Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor can be easily programmed as an Occupancy Sensor (Auto-ON, Auto-OFF) or Vacancy Sensor (Manual-ON, Auto-OFF) with different control modes via DIP switch settings and push-button operation.

1. Occupancy Sensing with ALS Control (OSAC)

When ambient light level is lower than the set threshold, the sensor will turn the load ON automatically when it detects the presence of occupant, and switch it OFF automatically if no occupant motion has been detected before the time delay elapses.

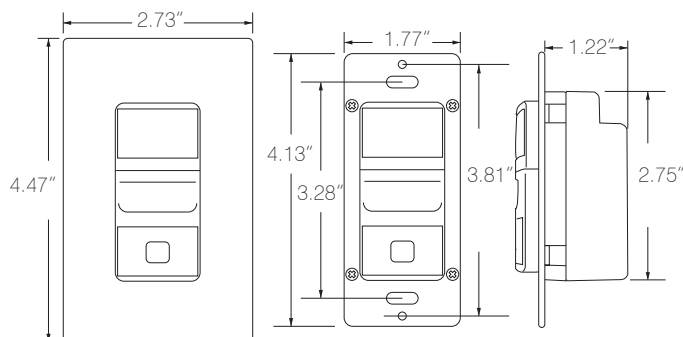## 2. Occupancy Sensing with ALS & PM (OSAP)

The sensor operates as in OSAC, but with Presentation Mode (PM) active.

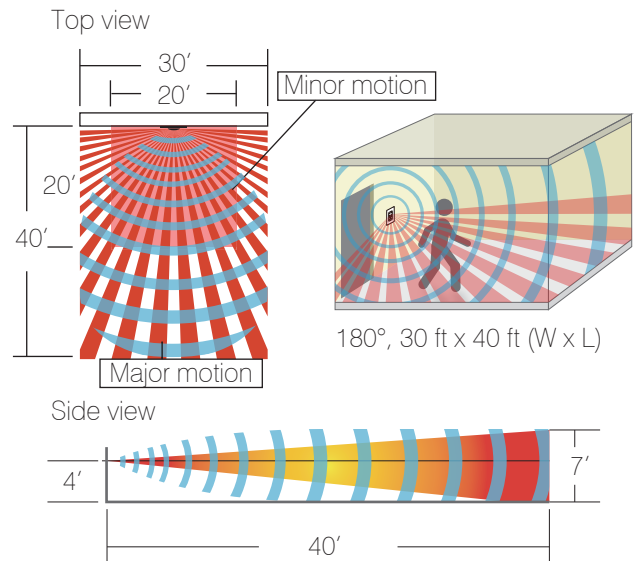## 3. Vacancy Sensing Only Control (VSOC)

This requires occupant to press the push-button to turn ON the load, 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 light if it detects occupant activity within 30 seconds after time delay elapsed.

Presentation Mode allows the occupant to switch OFF the load as desired by pressing the specific push-button. The load will remain OFF if motion is detected before the time delay elapses. Pressing the push-button again will turn the load back ON and the sensor will operate as per sensor setting. If no motion has been detected and the time delay expires, sensor will return to normal operation and turn ON the load with the next sensed motion.

DIMENSIONS

DETECTION COVERAGE

Top view

180°, 30 ft x 40 ft (W x L)

Side view

SPECIFICATIONS

Power supply	120/277VAC, 60Hz
Sensing technology	Digital PIR & High Frequency Doppler
Maximum load	Incandescent/Halogen – 800W(VA)
	Fluorescent Ballast/CFL – 800W(VA)
	Ballast Electronic (LED) – 500/800VA@120/277V
	Motor – 1/6 HP
Inrush current	Max. 80A, 16.7 mS
Load switching	Zero-cross Hybrid-Switching
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft high
	Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Ambient light level	7 levels, from dark to 24 Hour
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

LDS-700SW – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, White

LDS-700SI – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, Ivory

LDT-700 series

Line Voltage Dual-Tech Wall Switch Sensor

OVERVIEW

The LDT-700S is a dual technology 2-pole line voltage wall switch sensor IR-TEC's WALLSENZR family designed to fit in a standard NEMA wall box. This state-of-the-art dual-tech wall switch sensor combines digital Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies into an aesthetically pleasing housing to provide second-to-none occupancy/vacancy sensing based lighting control for all applications. HFD is an advanced sensing technology which utilizes super high frequency radio waves (4~12GHz) to detect the occupancy, similar to ultrasonic sensor, but without requiring the grid openings on the front.

The LDT-700S employs two relays with two push-buttons, for controlling two lighting loads or circuits independently. To comply with specific energy code, such as CA Title 24, the sensor is factory set to control the primary load (pole-1) in occupancy sensing mode, and the secondary load (pole -2) in vacancy sensing mode. A variety of control modes can be programmed via DIP switch settings to meet specific energy code or customer requirements.

The sensor comes with an ambient light sensor (ALS) to inhibit the lighting if ambient light levels are higher than required. The Accu-Set digital potentiometers make delay time (TIME) and ambient light level (LUX) settings fast, easy and accurate. Patent pending Hybrid-Switching technology allows the sensor to switch On two separate loads even with very high inrush current, such as multiple LED or CFL lights connected in parallel.

FEATURES

- **World's 1st** PIR+HFD dual-tech wall switch sensor
- Occupancy/vacancy sensor convertible operation
- Dual-tech or single HFD sensing mode switchable
- Front accessible sensor operation configurations
- No grid opening aesthetics pleasing sensor front
- 180° F. O. V. with coverage exceeds 1,200 sq. ft.
- 4 levels of HFD sensitivity setting programmable
- Specialized lens provides vandalism protection
- Dual Hybrid-Switching for controlling HIC loads
- Accu-Set digital potentiometer sensor settings
- Screwless wall plate offers high end appearance

APPLICATIONS

IR-TEC's Dual-Tech WALLSENZR can be used for occupancy sensing based lighting, or load controls, in a variety of spaces:

Bathrooms	Laundry rooms
Classrooms	Offices
Closets	Playrooms
Conference rooms	Restrooms
Entrances	Self-storage facilities
Exit halls	Showrooms
Garages	Storage rooms
Gymnasiums	Utility rooms
Hallways	Workshops

Specializing in Building Sensors

OPERATION

The LDT-700S series dual-tech wall switch sensor employs Passive Infrared (PIR) and High Frequency Doppler (HFD) sensing technologies to monitor the occupancy status through an exclusive lens with 180° field of view. The sensor provides typical occupancy sensing control (Auto-ON, Auto-OFF) on pole-1 and vacancy sensing control (Manual-ON, Auto-OFF) on pole-2. Different control modes can be programmed through DIP switch settings. Followings are brief descriptions of the control modes available on two control poles of LDT-700S series.

1. Occupancy Sensing with ALS Control (OSAC)

The sensor operates as occupancy sensing control (Auto-ON, Auto-OFF), but with the ALS to inhibit switching on the load of pole-1 connected when ambient light level is higher than the set threshold.

2. Occupancy Sensing with ALS & PM (OSAP)

The sensor operates as above OSAC on the pole-1, but with Presentation Mode (PM) active.

3. Vacancy Sensing Only Control (VSOC)

This requires occupant to press the push-button to turn ON the load of pole-2 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 light if it detects occupant activity within 30 seconds after time delay elapsed.
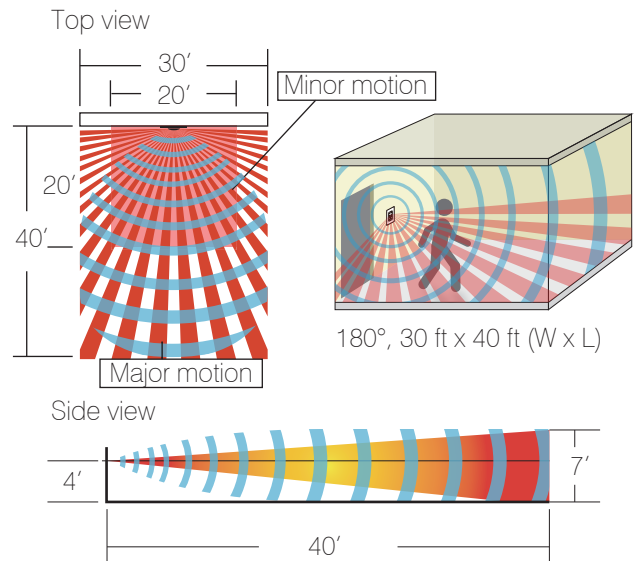
4. Pole One with Extended Delay (POED)

The sensor will control the load of pole-2 connected as per pole-1 with Extended Delay (ED) for 5 minutes.

5. Ambient Light Sensing Only (ALSO)

The sensor will automatically turn ON the load of pole-2 connected when ambient light is lower than the LUX level set, and turn OFF if ambient light is higher than the set level.

Presentation Mode allows the occupant to switch OFF the load as desired by pressing the specific push-button. The load will remain OFF if motion is detected before the time delay elapses. Pressing the push-button again will turn the load back ON and the sensor will operate as per sensor setting. If no motion has been detected and the time delay expires, sensor will return to normal operation and turn ON the load with the next sensed motion.

DETECTION COVERAGE

Top view

180°, 30 ft x 40 ft (W x L)

Side view

SPECIFICATIONS

Power supply	120/277VAC, 60Hz
Sensing technology	Digital PIR & High Frequency Doppler
Maximum load, per pole	Incandescent/Halogen – 800W(VA)
	Fluorescent Ballast/CFL – 800W(VA)
	Ballast Electronic (LED) – 500/800VA@120/277V
	Motor – 1/6 HP
Inrush current	Max. 80A, 16.7 mS, per pole
Load switching	Zero-cross Hybrid-Switching
Detectable speed	1~10 ft./sec. (0.3~3 m/sec)
Mounting height	3 ~ 5 ft. (90~150 cm) above the floor
Detection coverage	Major motion - 30 ft x 40 ft (W x L) @4 ft high
	Minor motion - 20 ft x 20 ft (W x L) @4 ft high
Ambient light level	7 levels, from dark to 24 Hour
Delay time setting	T/1'/3'/5'/10'/20'/30', T=10 sec. for testing
Op. humidity	Max. 95% RH, non-condensate
Op. temperature	-40°F ~ 131°F (-40°C ~ 55°C)
Dimensions	4.13"H x 1.77"W x 1.65"D (w/mounting plate)

ORDERING INFORMATION

LDT-700SW – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, 2-pole, White

LDT-700SI – Line Voltage Dual-Tech Wall Switch Sensor, 120/277 VAC, 2-pole, Ivory