

## BDS-700 series

### Low Voltage Dual-Tech Wall Switch Sensor

# WALLSENZR



## 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:

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



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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)

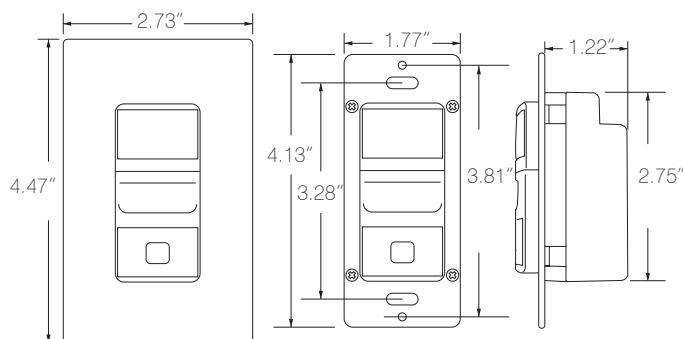
The sensor operates as in OSAC, but with \*Presentation Mode (PM) active.

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

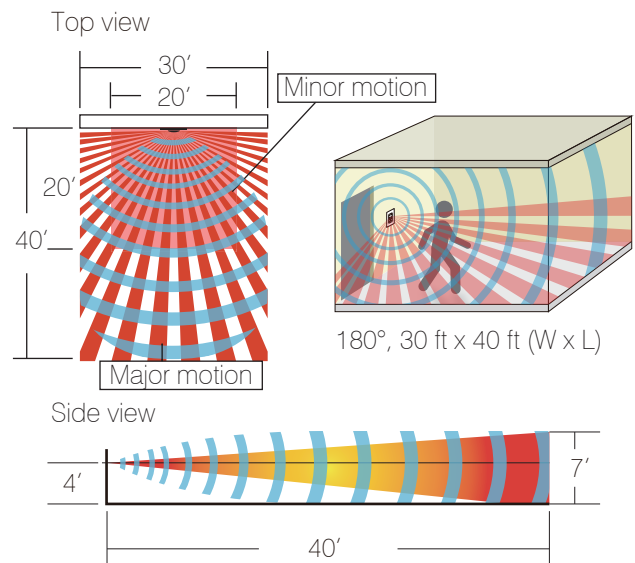
This requires occupant to press the push-button to turn ON the load, and the sensor will switch OFF the load automatically if no occupant motion has been detected before the time delay elapses. The sensor will automatically turn ON the light if it detects occupant activity within 30 seconds after time 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



### 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