

Tech Note 070524_01

Date: July 5, 2024
Product: BDS-600 Series Occupancy Sensors
Subject: Installation and Troubleshooting

Occupancy sensors are a prevalent element of Blue Ridge lighting control systems, and their proper operation is critical to the system. This note highlights common installation issues and offers a checkout procedure to confirm operation. It is written specifically for the BDS-600SS, but many of the considerations apply to other dual-tech sensors.

Installation Notes:

Physical location is often the factor that causes sensor performance issues. The Passive Infrared (PIR) sensor triggers occupancy but is poor at detecting motion directly toward the sensor and cannot “see” through obstacles. Placing the sensor to have a clear view of an occupant’s walking path and at an angle to the sensor when entering the area will ensure proper occupancy triggering. It is also important to keep the sensor at least 5 feet away from air supply ducts and fluorescent lighting as these can cause false positive signals.

The sensor's sensitivity setting also commonly causes issues. This setting only affects the High-Frequency Doppler (HFD) sensor, which maintains the occupied reading while an occupant is in the area. The HFD signal can penetrate through non-metallic materials such as glass, plaster, and plywood and, therefore, can cause false positives from an adjacent area.

One final detail that can be overlooked is the wiring set-up of the sensors in a space. Many applications utilize multiple sensors wired in parallel on a single digital input. If you have multiple sensors wired to a single digital input, you must ensure the correct settings are used for each physical sensor and its respective location.

Checkout Procedure:

Below is the recommended checkout procedure for BDS-600 Series Sensors. It requires that you have the controller configured and checked out and the test space under control.

1. Verify proper wiring, sensor power, and input signal. Also confirm the sensor settings are as follows: Time = 2, Sens. = Medium, Lux = 7
2. The time can be set to 1 for the test procedure. This will delay a vacancy reading by 10 seconds and allow faster test completion.
3. In Essentials, set the occupancy sensor timeout to 1 minute.
4. Verify that the monitored space is physically not occupied and that the Essentials channel status indicates no occupancy.
5. Physically walk the monitored space to trigger the sensor and exit.
6. Using Essentials to monitor channel status, verify immediately that occupancy is indicated and that vacancy is indicated after 10 seconds.
7. If immediate occupancy is not indicated, review the Lens type selection and replace it with the appropriate Lens type.
8. If occupancy is still indicated after 10 seconds, adjust the sensitivity and repeat the test process.
9. Once the correct occupancy sensor operation is verified, return the timer setting to 2 and use Essentials to set the desired occupancy sensor timer value. Send settings to save the configuration to the controller.