

# Ceiling Mount Occupancy Sensors

## MSC Series



### SPECIFICATIONS

<b>Standards</b>	UL and cUL Listed; FCC part 15 (Class B) for Home and Office Use
<b>Input Voltage</b>	24VDC
<b>Isolated Relay</b>	Contact rating: 1A@24VDC Resistive
<b>Temperature</b>	0° to 50°C (32° to 122°F)
<b>Humidity</b>	Max. 90% RH noncondensing
<b>CURRENT CONSUMPTION@24VDC*</b>	
<b>PIR</b>	21mA nominal
<b>Ultrasonic</b>	34mA nominal
<b>Dual</b>	37mA nominal
<b>DIMENSIONS</b>	
<b>MSCU</b>	4.6" (117 mm) diameter, 1.4" (35.1 mm) high
<b>MSCD/MSCP</b>	4.6" (117 mm) diameter, 1.8" (45.7 mm) high

For local line switching control, power must be provided by AA47 Power Pack or an approved equivalent.

### Uses The Latest Passive Infrared And Ultrasonic Technologies

#### FEATURES

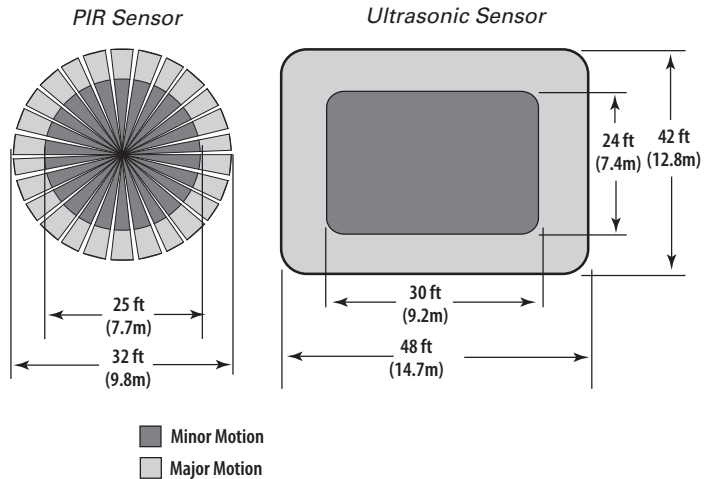
- Up to 2000 square foot coverage area and 360 degree field of view for application versatility
- Daylight level sensing (from 0.5 to 250 foot-candles)... avoids unnecessary lighting
- Adjustable time delay (preset time delays from 15 seconds [test] to 30 minutes)...provides ultimate flexibility
- Adjustable coverage sensitivity (from 60-100%)
- Auxiliary relay...easily communicates with building control system
- Adjustment compartment cover...tamper resistant
- LED motion indicator...provides quick visual status
- Manual bypass...for easy commissioning

#### APPLICATIONS

- Lighting control based on occupancy
- Reducing energy usage
- Key component for LEED\* certification programs
- MSC1000 – best for conference rooms, classrooms, and other general applications
- MSCD2000 – best for multi-stall bathrooms, large conference rooms, and warehouses
- MSCU2000 – best for lobbies, aisles, and great for multi-stall bathrooms

\*Leadership in Energy and Environmental Design (LEED) is a registered mark of the US Green Building Council

#### Coverage Patterns for 9 ft (2.8m) Ceiling Height



### DESCRIPTION

**MSC Series** Occupancy Sensors employ passive infrared (PIR) and/or ultrasonic technologies to accurately detect occupancy and automatically switch room lighting.

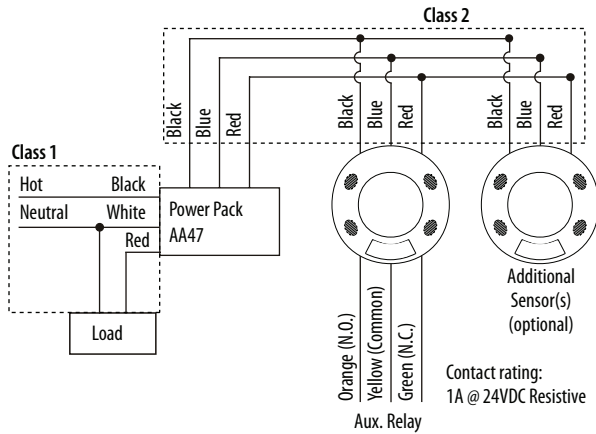
The low-profile sensor is ceiling-mounted to maximize motion sensitivity in large areas with obstructions. With a 360 degree field of view, and up to 2000 square feet of coverage area, the ceiling-mounted occupancy sensor is ideal for conference rooms, classrooms, multi-stall bathrooms, and large office areas.

The MSC series also incorporates an integral photosensor to prevent lights from switching on when sufficient ambient light is present, as commonly found in windowed areas.

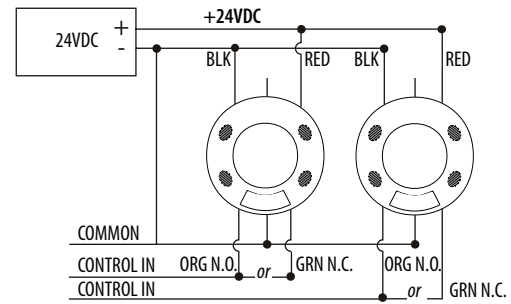
Installation and configuration are simple. The sensor readily mounts to drop ceilings, and it features front adjustments for setting sensitivity and time delay. The sensor also features an auxiliary relay for use with building automation and HVAC systems.

WIRING DIAGRAM

Local Line-Power Control MSC



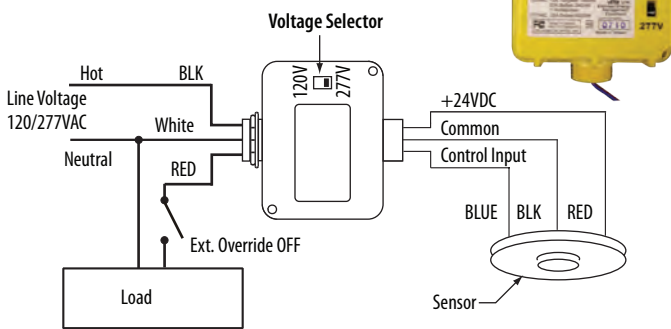
Building Control Panel



The AA47 Line-Switching Power Pack provides local switching capability to control loads at a signal from MSC Series occupancy sensors, independent of any connection to building control systems. The AA47 routes 120/277VAC, 60 Hz line power directly to a Form A relay contact (SPST) to control a load and generates full-wave, 24VDC to power up to four MSC sensors (dependent on model). The AA47 can be mounted either inside or outside an electrical box, and sensor power can be routed via plenum-rated cable to the sensor(s).

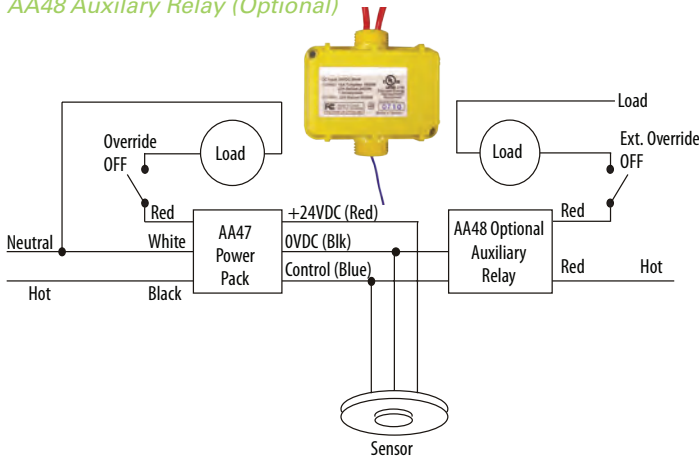
System Diagram Using AA47

AA47 Line-Switching Power Pack  
For local line switching



System Diagram Using AA48

AA48 Auxiliary Relay (Optional)



SPECIFICATIONS - AA47

<b>Storage Temp</b>	-29° to 65°C (-20° to 150°F)
<b>Operating Temp</b>	0° to 40°C (32° to 104°F)
<b>Maximum Humidity</b>	90% RH noncondensing
<b>AC Power Input</b>	120/277VAC ± 10%, 60 Hz
<b>Output Voltage</b>	24VDC
<b>Output Current</b>	100mA max.
<b>Dimensions</b>	3.2" (81.3 mm) x 3" (76.2 mm) x 1.75" (44.5 mm)
<b>RELAY CONTACTS</b>	
<b>Horsepower Rating</b>	1HP@120V
<b>Switching Capacity</b>	120VAC, 60 Hz; 15A tungsten 1800W
	277VAC, 60 Hz; 20A Ballast

The AA48 Auxiliary Relay is a low-voltage relay device for expanding the switching capacity of an AA47. It can be used to control loads connected to additional circuits in response to a signal from a connected sensor. It is essentially a relay with a SPST output controlled directly by the occupancy sensor. The auxiliary relay can be mounted inside or outside of an electrical junction box.

SPECIFICATIONS - AA48

<b>Storage Temperature</b>	-29° to 65°C (-20° to 150°F)
<b>Operating Temperature</b>	0° to 40°C (32° to 104°F)
<b>Maximum Humidity</b>	90% RH noncondensing
<b>Control Input</b>	24VDC, 36mA nominal
<b>Dimensions</b>	3.2" (81.3 mm) x 3" (76.2 mm) x 1.75" (44.5 mm)
<b>RELAY CONTACTS</b>	
<b>Horsepower Rating</b>	1HP@120V
<b>Switching Capacity</b>	120VAC, 60 Hz; 15A tungsten 1800W
	120/277VAC, 60 Hz; 20A ballast

ORDERING INFORMATION

Sensing Technology

- MSC  U = Ultrasonic  
 D = PIR + Ultrasonic  
 P = Passive Infrared (PIR)

Coverage

- 1000 = 1000 Sq. Ft. (Passive Infrared only)  
 2000 = 2000 Sq. Ft. (Ultrasonic or Dual technology only)



Example:

