

MSC SERIES

Uses the Latest Passive Infrared and Ultrasonic Technologies



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.

SPECIFICATIONS

Standards	UL and cUL Listed; FCC part 15 (Class B) for home and office use
Input Voltage	24 Vdc
Isolated Relay	Contact rating: 1 A@24 Vdc Resistive
Temperature	0 to 50 °C (32 to 122 °F)
Humidity	Max. 90% RH non-condensing

CURRENT CONSUMPTION @ 24 VDC*

PIR	21 mA nominal
Ultrasonic	34 mA nominal
Dual	37 mA nominal

DIMENSIONS

MSCU	4.6" (117 mm) diameter, 1.4" (35.1 mm) high
MSCD/MSCP	4.6" (117 mm) diameter, 1.8" (45.7 mm) high

WARRANTY

Limited Warranty	1 year
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AGENCY APPROVALS



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

Wide coverage

Up to 2000 square foot coverage area and 360-degree field of view for application versatility

Daylight sensing

Daylight level sensing (from 0.5 to 250 foot-candles)... avoids unnecessary lighting

Adjustable time delay

Adjustable time delay (preset time delays from 15 seconds [test] to 30 minutes)...provides ultimate flexibility

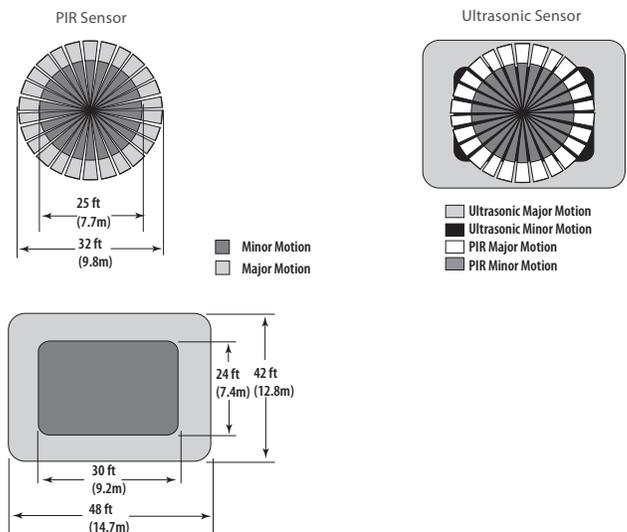
APPLICATIONS

- Lighting control based on occupancy
- Reducing energy usage
- Key component for LEED* certification programs retrofit installations
- 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

MSC SERIES

Coverage Patterns for 9 ft (2.8 m) Ceiling Height



Adjustable coverage

Adjustable coverage sensitivity (from 60 to 100%)

Auxiliary relay

Easily communicates with building control system

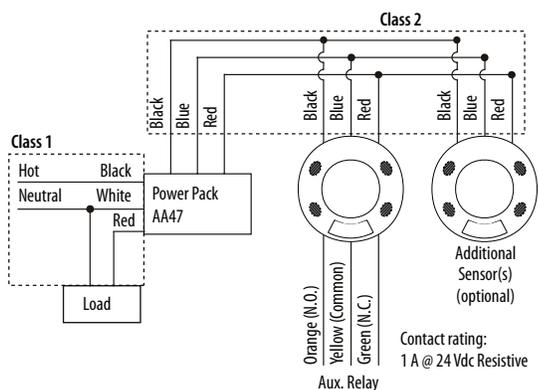
Tamper resistant cover

Adjustment compartment cover...tamper resistant



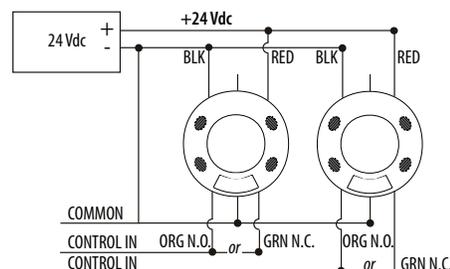
LOCAL LINE-POWER CONTROL MSC

Wiring Diagram



BUILDING CONTROL PANEL

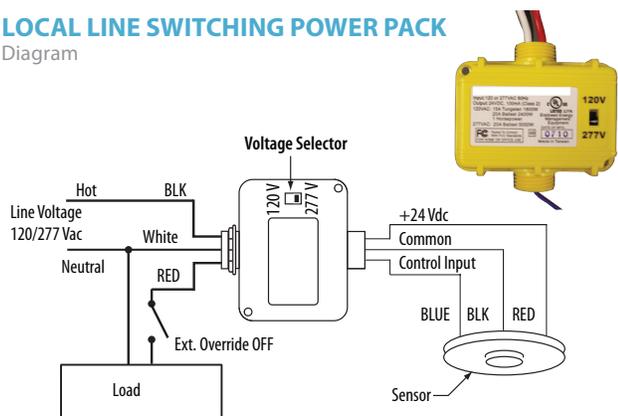
Wiring Diagram



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 120/277 Vac, 60 Hz line power directly to a Form A relay contact (SPST) to control a load and generates full-wave, 24 Vdc 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).

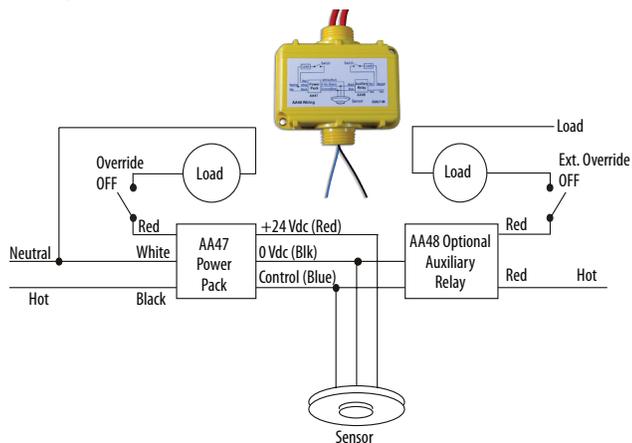
AA47 LOCAL LINE SWITCHING POWER PACK

System Diagram



AA48 AUXILIARY RELAY (OPTIONAL)

System Diagram



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:
MSC D 2000

SPECIFICATIONS

AA47

Storage Temp.	-29 to 65 °C (-20 to 150 °F)
Operating Temp.	0 to 40 °C (32 to 104 °F)
Maximum Humidity	90% RH non-condensing
AC Power Input	120/277 Vac ± 10%, 60 Hz
Output Voltage	24 Vdc
Output Current	100 mA max.
Dimensions	3.2" (81.3 mm) x 3" (76.2 mm) x 1.75" (44.5 mm)

RELAY CONTACTS

Horsepower Rating	1HP@120V
Switching Capacity	120 Vac, 60 Hz; 15 A tungsten 1800 W 277 Vac, 60 Hz; 20 A 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

Storage Temperature	-29 to 65 °C (-20 to 150 °F)
Operating Temperature	0 to 40 °C (32 to 104 °F)
Maximum Humidity	90% RH non-condensing
Control Input	24 Vdc, 36 mA nominal
Dimensions	3.2" (81.3 mm) x 3" (76.2 mm) x 1.75" (44.5 mm)

RELAY CONTACTS

Horsepower Rating	1HP@120V
Switching Capacity	120 Vac, 60 Hz; 15 A tungsten 1800 W 120/277 Vac, 60 Hz; 20 A ballast

