

# AHAC-U – MicroSet ultrasonic line voltage ceiling sensor

Project Name:	Prepared By:
Project Number:	Date:
Catalog Number:	Type:

## Description

The MicroSet ultrasonic line voltage occupancy sensing ceiling sensor is a motion lighting control that is used for energy savings and convenience.

## Design features

- MicroSet self-adjusting time delay and sensitivity
- Built-in light level sensor
- Units available for control of single or two separate loads
- Products tested to NEMA WD 7 - 2011 Occupancy Motion Sensors Standard



**Table 1. MicroSet ultrasonic line voltage ceiling sensor**

Catalog no.	Coverage	Field of view	Features
<input type="checkbox"/> AHAC-U-2000-MV	2000 sq. ft.	360°	With daylight sensor
<input type="checkbox"/> AHAC-U-2000-DMV	2000 sq. ft.	360°	Dual relay with daylight sensor
<input type="checkbox"/> AHAC-STEM	—	—	—

**Compliances, specifications and availability are subject to change without notice.**




*Powering Business Worldwide*

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## Applications

The ultrasonic sensor uses the Doppler principle. It produces a low intensity, inaudible sound and detects changes in sound waves caused by motion, such as walking into the room, reaching for a telephone, or turning in a chair. They are volumetric in nature and therefore not line-of-sight dependant. Since they fill the space with these sound waves, they are excellent in bathrooms with stalls, enclosed hallways, or other oddly shaped rooms. In addition, they are much more sensitive to smaller motions. The sensor includes self-adaptive technology that continuously self-adjusts sensitivity and time delay in real-time, maximizing the potential energy savings that are available in the particular application. The MicroSet ultrasonic line voltage ceiling sensor has an ambient light level sensor. When enabled, the daylighting feature prevents lights from turning ON when the room is adequately illuminated by natural light.

**Table 2. Specifications**

Catalog no.	AHAC-U series
<b>Technology</b>	Ultrasonic (US)
<b>Power Requirements</b>	120 to 347 V/AC, 50/60 Hz - Neutral Required <b>120 V/AC</b> Incandescent/Tungsten - 0 to 800W, 50/60 Hz Fluorescent/Ballast - 0 to 1200W, 50/60 Hz Motor Load: ¼ HP @ 125 V/AC <b>230 V/AC</b> Fluorescent/Ballast - 0 to 1200W, 50/60 Hz <b>277 V/AC</b> Fluorescent/Ballast - 0 to 2700W, 50/60 Hz <b>347 V/AC</b> Fluorescent/Ballast - 0 to 1500W, 50/60 Hz
<b>Time Delays</b>	Self-adjustable, 15 seconds/test (10 minutes Auto), or Selectable 5, 15, 30 minutes
<b>Coverage</b>	2000 sq. ft.
<b>Light Level Sensing</b>	0 to 300 foot-candles
<b>Operating Environment</b>	<b>Temperature:</b> 32°F - 104°F (0°C - 40°C) <b>Relative humidity:</b> 20% to 90%, non-condensing (For indoor use only)
<b>Housing</b>	Durable, injection molded housing. Polycarbonate resin complies with UL 94V-0
<b>Size</b>	1.42"H x 4.5"W (36.068mm x 114.3mm)
<b>Mounting</b>	Mounts directly to ceiling tile, to a 4" square box and round mud ring or to 4" octagon box
<b>LED Indicators</b>	Green LED for Ultrasonic detection
<b>Standards</b>	FCC Compliant cULus Listed RoHS Compliant 

**Table 3. Color information**

W (White)



White

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### Wiring Diagrams

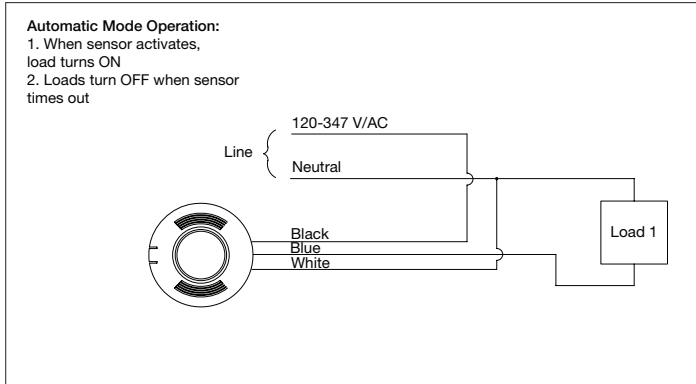


Figure 1. Single relay - line voltage series

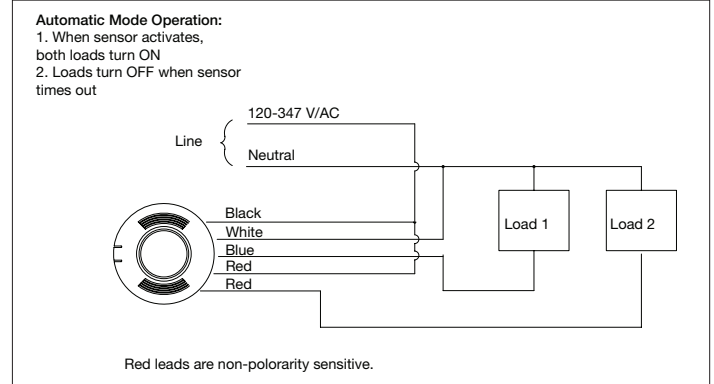
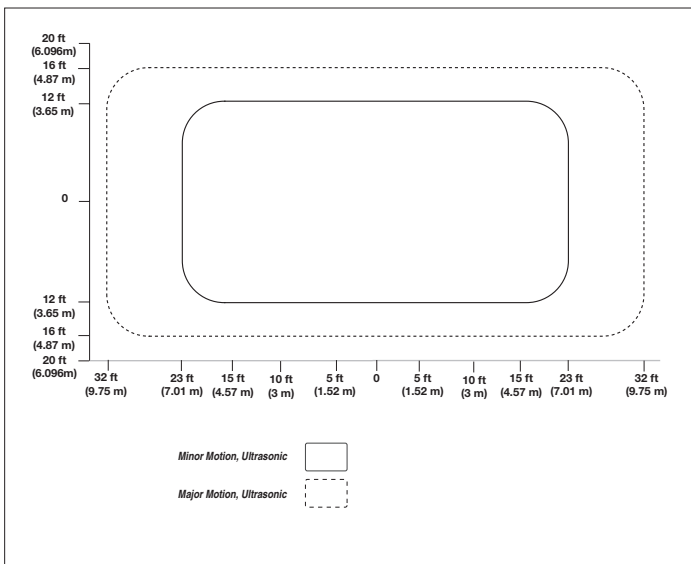


Figure 2. Dual relay - line voltage series

### Coverage



AHAC-U-2000 (-MV/-DMV)  
 2000 sq. ft.

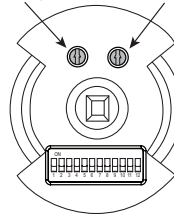
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## Controls

### DIP Switch Legend

	Time Delay		Not Used		Not Used	Walk-Through Mode	LEDs	Override	Not Used	Daylighting	Bathroom Mode	Relay Swap
DIP Switch	1	2	3	4	5	6	7	8	9	10	11	12
Auto*	▼	▼				Disable ▼	Enable ▼	Disable ▼		Relay 2 ▼	Disable ▼	Disable ▼
5 Minutes	▼	▲				Enable ▲	Disable ▲	Enable ▲		Relay 1 & 2 ▲	Enable ▲	Enable ▲
15 Minutes	▲	▼										
30 Minutes	▲	▲										

Daylight Sensor Adjustment      Ultrasonic Sensitivity Adjustment



(DMV model only) (DMV model only) (DMV model only)

\*Self-Adjusts to  
10 min. user  
mode

Default =

## Certifications & compliances

Catalog no.	cULus	RoHS
AHAC-U-2000-MV	•	•
AHAC-U-2000-DMV	•	•
AHAC-STEM		

KEY: cULus cULus RoHS RoHS

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Electrical Sector  
203 Cooper Circle  
Peachtree City, GA 30269  
United States  
Eaton.com  
Eaton.com/wiringdevices

Electrical Sector  
Canada Operations  
5925 McLaughlin Road  
Mississauga, Ontario, L5R 1B8  
Canada  
EatonCanada.ca  
Eaton.com/wiringdevices

Electrical Sector  
Mexico Operations  
Carr. Tlalnepantla -  
Cuautitlan Km 17.8 s/n  
Col. Villa Jardin esq.  
Cerrada 8 de Mayo  
Cuautitlan, Mexico CP 54800  
Mexico  
Eaton.mx  
Eaton.com/wiringdevices