

# AHAC-U – MicroSet ultrasonic low voltage ceiling sensor

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

## Ceiling sensor description

The MicroSet ultrasonic low 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
- Optional built-in light level sensor
- Optional BAS/HVAC isolated relay
- Products tested to NEMA WD 7 - 2011 Occupancy Motion Sensors Standard
- Selectable walk-through mode
- Dual relay control



AHAC-U



AHSP20-MV

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

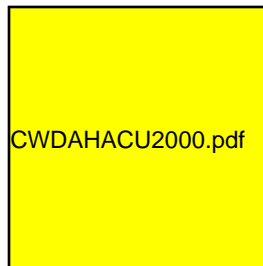
| Catalog no.                          | Coverage                                 | Field of view  | Frequency | Features                        |
|--------------------------------------|--|----------------|-----------|---------------------------------|
| <input type="checkbox"/> AHAC-U-2000 | 2000 sq. ft.<br>(56 ft x 16 ft corridor) | Two way (360°) | 32 kHz    | Dual relay with daylight sensor |
| <input type="checkbox"/> AHAC-U-1000 | 1000 sq. ft.                             | Two way (360°) | 32 kHz    | —                               |
| <input type="checkbox"/> AHAC-U-0501 | 500 sq. ft.                              | One way (180°) | 40 kHz    | —                               |
| <input type="checkbox"/> AHAC-STEM   | —  | —              | —         | —                               |

**Table 2. Heavy duty switchpack**

| Catalog no.                         | Description           | Features                       |
|-------------------------------------|-----------------------|--------------------------------|
| <input type="checkbox"/> AHSP20-MV* | Heavy duty switchpack | Capable of switching up to 20A |

\*For more information about switchpack visit our website at [www.eaton.com/wiringdevices](http://www.eaton.com/wiringdevices)

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




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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 dependent. 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. In Automatic ON mode, the lights turn ON when a person enters the room.

**Table 3. Specifications**

| Catalog no.                            | AHAC-U series  |
|--|--|
| <b>Technology</b>                      | Ultrasonic (US)  |
| <b>Power Requirements</b>              | <p><b>Input</b><br/>10-30 VDC from Greengate Switchpack or Greengate system<br/>Maximum current needed is 25mA per sensor</p> <p><b>Output</b><br/>Open collector output to switch up to ten Greengate Switchpacks<br/>Isolated Form C Relay Ratings: 1A 30 VDC/V/AC</p> |
| <b>Time Delays</b>                     | Self-adjustable, 15 seconds/test (10 minutes Auto), or Selectable 5, 15, 30 minutes, or Zero Time Delay  |
| <b>Coverage</b>                        | 500, 1000, and 2000 sq. ft. (56 ft x 16 ft. corridor)  |
| <b>Light Level Sensing (-R Models)</b> | 0 to 300 foot-candles  |
| <b>Operating Environment</b>           | <p><b>Temperature:</b> 32°F - 104°F (0°C - 40°C)<br/> <b>Relative humidity:</b> 20% to 90%, non-condensing<br/>                     (For indoor use only)</p>  |
| <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<br>cULus Listed<br>RoHS Compliant  <b>RoHS</b>  |

**Table 4. Color information**

W (White)

|   |
|---|
| w |
|---|

White

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## Wiring diagrams

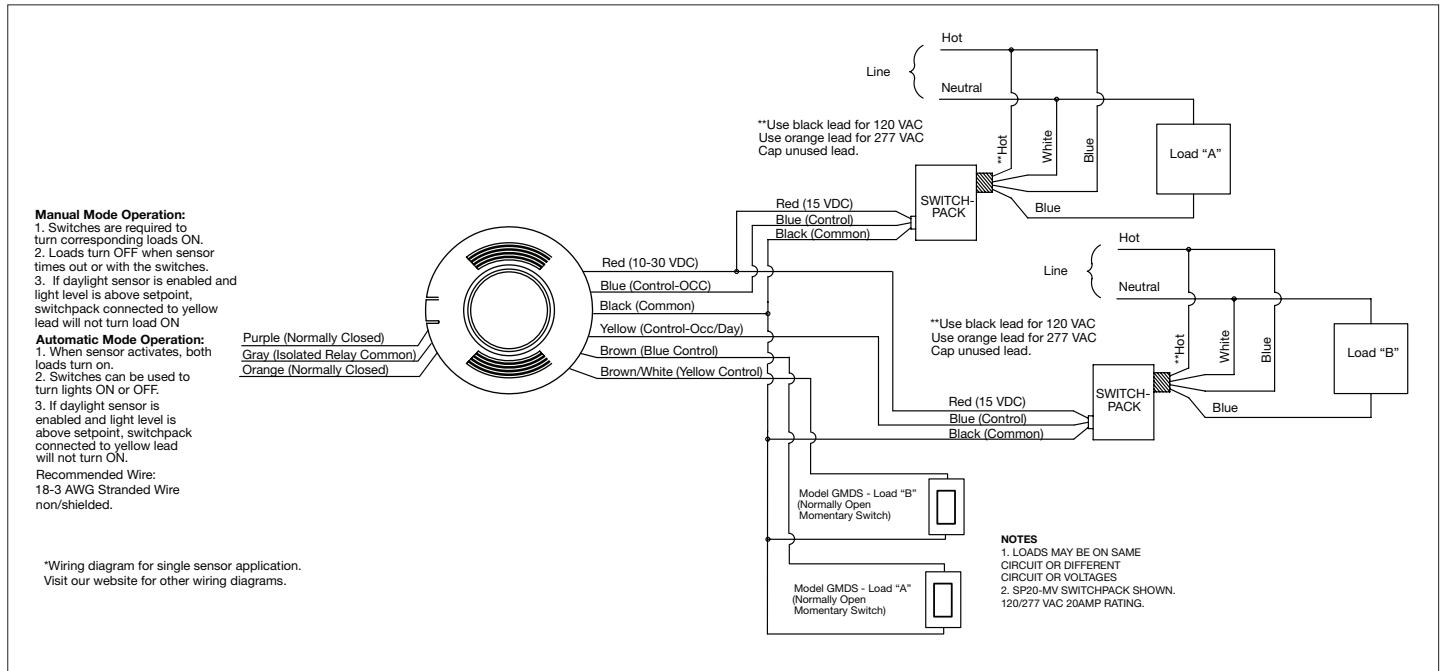
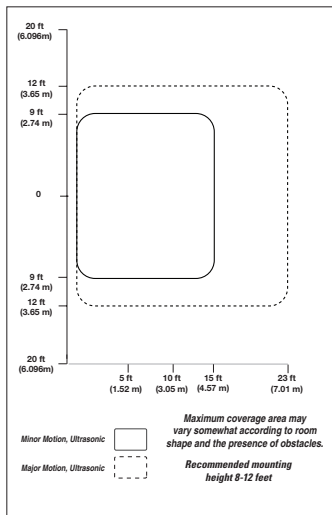
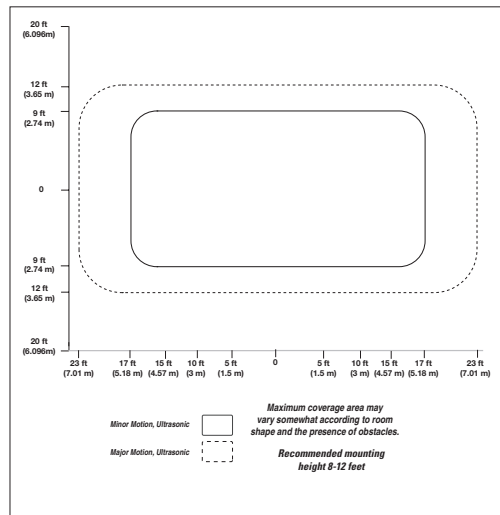


Figure 1. AHAC-U-2000, AHAC-U-1000, AHAC-U-0501 Models

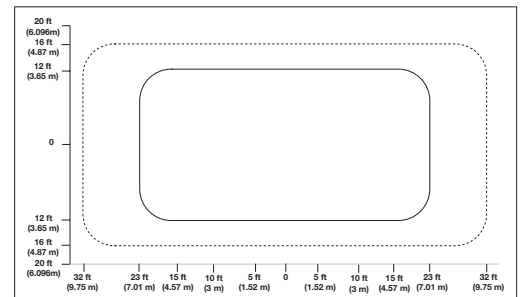
## Coverage



AHAC-U-0501  
500 sq. ft.



AHAC-U-1000  
1000 sq. ft.



AHAC-U-2000  
2000 sq. ft.

\*When creating a sensor coverage layout in a cubicle space, best practice is the use of the minor motion coverage pattern as maximum coverage area. Results may vary based on cubicle height and ceiling height. (Cubicle wall height should not exceed 71 inches).