The Daintree® Wireless High-Bay Sensor (WHS20) is a sensing and control module within the Daintree wireless building control solution. It enables standalone or networked control of individual luminaires. The WHS20 provides cost-effective occupancy and ambient light detection with full range dimming. An optional built-in BLE beacon with Apple® iBeacon™ technology can be used for position and proximity detection.

The WHS20 Control Module is equipped with a passive infrared (PIR) sensor for Occupancy Detection and an ambient light sensor for Ambient Light Detection to adjust the luminaire based on external light levels from daylight and other fixtures to ensure consistent lighting at the task level. With innovative methodology, Occupancy and Ambient Light Detection can be synchronized to provide dynamic continuous dimming performance to maximize energy efficiency.

Available in both a bottom mount and side mount version, the WHS20 is an extremely versatile solution for a wide range of fixture types including low, mid, and high bay luminaires. Perfect for industrial warehouses and raked aisles, the WHS20 has an optional snap-on aisle mask for directed occupancy detection that makes for simple and easy installation. With a wide operating temperature range, the WHS20 is well suited for more demanding environments such as manufacturing spaces, high bay retail, warehouses and parking garages.

Lighting parameters can be customized to fit with be lighting strategy of the building by operating in one of the following modes:

1) As Daintree® ONE standalone control module with occupancy and ambient light detection, configured with the Daintree Wireless Handheld Remote (WHR1)
2) As Daintree® EZ Connect zonal based control with occupancy and ambient light detection, configured with the Daintree® EZ Connect app, available for download on the Apple® App Store.
3) As a component of the Daintree® Networked solution - a highly scalable system for lighting and building control, monitoring, and optimization.

Note: Sensor can be upgraded from Daintree ONE to the other Daintree platforms with an Over-the-Air (OTA) firmware update.

Description

The Daintree® Wireless High-Bay Sensor (WHS20) is a sensing and control module within the Daintree wireless building control solution. It enables standalone or networked control of individual luminaires. The WHS20 provides cost-effective occupancy and ambient light detection with full range dimming. An optional built-in BLE beacon with Apple® iBeacon™ technology can be used for position and proximity detection.
Daintree® Wireless High Bay Sensor (WHS20)

Ordering Information
WHS20 sensors are available in Albeo High Bay Fixtures. For current catalog logic please reference the Albeo cut sheets for availability

<table>
<thead>
<tr>
<th>Catalog #</th>
<th>Material #</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHR1</td>
<td>93131632</td>
<td>Wireless Handheld Remote</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93134984</td>
<td>Snap On Aisle Mask</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93134985</td>
<td>Snap On Aisle Mask</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>93134982</td>
<td>Internal Mount Aisle Mask</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93134983</td>
<td>Internal Mount Aisle Mask</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>93134996</td>
<td>Angle Adjuster</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93134997</td>
<td>Angle Adjuster</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>93134998</td>
<td>Low Lens</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93134999</td>
<td>Low Lens</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>93135000</td>
<td>Medium Lens</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93135001</td>
<td>Medium Lens</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>93135002</td>
<td>High Lens</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>93135003</td>
<td>High Lens</td>
<td>10</td>
</tr>
</tbody>
</table>

Product Dimensions

Bottom Mount

- 1/2 in. NPS Threads
- .78 in. (19.8mm)
- 1.33 in. (33.8mm)

Side Mount

- 3.15 in. (80mm)
- 1 in. (25.4mm) Knockout Clips
- 3.93 in. (100mm)
Daintree® Wireless High Bay Sensor (WHS20)

### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupancy Detection</td>
<td>PIR</td>
</tr>
<tr>
<td>Ambient Light Detection</td>
<td>ALS</td>
</tr>
<tr>
<td>Wireless Technology</td>
<td>Zigbee PRO (HA, BA) Bidirectional IR</td>
</tr>
<tr>
<td>Radio</td>
<td>2.4GHz  +10dBm transmit power</td>
</tr>
<tr>
<td>BLE Beacon</td>
<td>iBeacon™</td>
</tr>
<tr>
<td>Driver Compatibility</td>
<td>Digital Addressable (DA) Digital Power Bus</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>&lt; 0.5Wz</td>
</tr>
<tr>
<td>DA Input</td>
<td>24VDC, 250mA Max</td>
</tr>
<tr>
<td>LED Indicators</td>
<td>Green: Occupancy Detection Red: Off for Normal Operation</td>
</tr>
<tr>
<td>Lenses</td>
<td>2.5m, 6m, and 12m (8ft, 20ft, and 40ft) 360º or Aisle</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>-40ºC to +70ºC (-40ºF to +158ºF) 5 to 90% RH, Non-Condensing</td>
</tr>
<tr>
<td>Enclosure</td>
<td>NSF, IP66 and IP69K Rated (when installed in similarly rated fixture)</td>
</tr>
</tbody>
</table>
| Compliance                    | FCC Part 15  
FCC ID: QOQMGM12PO  
IC ID: 5123A-MGM12PO  
CAN ICES-3 (B)/NMB-3(B)  
UL Listed: E337125 |
| Warranty                      | 5 Years |

### Labels

Every WHS20 includes the necessary labels for Daintree Networked commissioning.

**Unit Label**

WHS20 comes with unit label affixed.

**Fixture Label**

When attaching WHS20 to a fixture, attach fixture label to the fixture and visible to maintain regulatory compliance.

**Plan Label**

The plan label is useful for attaching to a paper facility map or tracking sheet.
Daintree® | Wireless High Bay Sensor (WHS20)

**WHS20 Commissioning**

Daintree WHS20 sensors can be ordered and commissioned in Daintree® ONE Stand alone mode, when ordered with Albeo fixtures using “FB” controls catalog logic. Daintree® EZ Connect provides zonal based control of Daintree sensors with “DF” controls catalog logic and can be commissioned with the Daintree® EZ Connect app available on the Apple® App Store. Full featured scheduling and monitoring is capable with the Daintree® Networked platform when ordered with the ”NA” catalog logic. Commissioning and upgrading to Daintree® Networked is capable via an OTA firmware upgrade by using the Daintree WHR1 Remote.

**Daintree One® Default Performance**

When in standalone Daintree® ONE mode, the default operation of the WHS20 is as follows:

<table>
<thead>
<tr>
<th>Occupancy Detection</th>
<th>Ambient Light Detection</th>
<th>Dimming Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupied Output</td>
<td>Low Ambient Threshold</td>
<td>Max Dim Output</td>
</tr>
<tr>
<td>Idle Output</td>
<td>High Ambient Threshold</td>
<td>Min Dim Output</td>
</tr>
<tr>
<td>Vacant Output</td>
<td>High Ambient Output</td>
<td>Min Output</td>
</tr>
<tr>
<td>Occupied Time</td>
<td>Ambient Light Sensitivity</td>
<td>OFF</td>
</tr>
<tr>
<td>Idle Time</td>
<td>Ambient Transition Time</td>
<td></td>
</tr>
<tr>
<td>Occupancy Sensitivity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition Rise Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition Fall Time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Available in the following Albeo® Luminaires ABV Series and ABN Series. For a complete list of fixtures with Integrated Fixtures, please download our Integrated Fixture Guide at gecurrent.com
### Daintree® Wireless High Bay Sensor (WHS20)

#### Daintree EZ Connect Mode - Default Performance

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settling Time</td>
<td>The time (measured in sec) that occupancy must be detected for a fixture to transition from Background state to Task state.</td>
<td>0 sec</td>
<td>300 sec</td>
<td>5 sec</td>
</tr>
<tr>
<td>Hold Time</td>
<td>The time (measured in minutes) that occupancy must NOT be detected for a fixture to transition from Task state back to Background state.</td>
<td>0 min</td>
<td>60 min</td>
<td>10 min</td>
</tr>
<tr>
<td>Group Hold Time</td>
<td>The time (measured in minutes) that any fixture in a room or zone of fixtures must NOT detect occupancy for the entire of fixtures to transition from Background state to Standby state.</td>
<td>0 min</td>
<td>60 min</td>
<td>10 min</td>
</tr>
<tr>
<td>Grace Time</td>
<td>Set to 0 for Automatic-Detection mode. Otherwise, the room is programmed to operate in Vacancy-Detection Mode, and the fixture will transition from the Standby state to the OFF state if occupancy is NOT detected within the Grace Time (measured in seconds).</td>
<td>0 sec</td>
<td>30 sec</td>
<td>0 sec</td>
</tr>
<tr>
<td>Partial Off/Standby</td>
<td>The output power level in Standby state – in percentage of the full power.</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Background Level</td>
<td>The output power level in Background state – in percentage of the full power.</td>
<td>0%</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Task Level</td>
<td>The output power level in Task state – in percentage of the full power.</td>
<td>0%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Daylight Harvesting</td>
<td>This parameter enables the Daylight Harvesting functionality.</td>
<td>0 (disabled)</td>
<td>1 (enabled)</td>
<td>1 (enabled)</td>
</tr>
<tr>
<td>Low Ambient Output</td>
<td>The light level above which daylight harvesting dimming will start, given as a percentage of the fixture's own light output.</td>
<td>10%</td>
<td>500%</td>
<td>250%</td>
</tr>
<tr>
<td>High Ambient Output</td>
<td>The light level above which daylight harvesting dimming will start, given as a percentage of the fixture's own light output.</td>
<td>0 (off)</td>
<td>1 (min dimming)</td>
<td>0 (off)</td>
</tr>
<tr>
<td>Occupancy Sensitivity</td>
<td>The sensitivity of the motion sensor. between 1 (lowest) and 5 (highest).</td>
<td>0 (disabled)</td>
<td>5 (highest)</td>
<td>5 (highest)</td>
</tr>
<tr>
<td>Occupancy Indicator</td>
<td>This parameter switches between Indicator OFF (0) Indicator ON (1) mode.</td>
<td>0 (disabled)</td>
<td>1 (enabled)</td>
<td>1 (enabled)</td>
</tr>
</tbody>
</table>

### Daintree® Networked Mode - Default Performance

When in Daintree® Networked mode, the default operation is as follows:

#### Default Operation
- The WHS20 will keep the luminaire on at the Max Dim Output until commissioned.

#### Daintree® Network Connected

- **Not Commissioned**
  - The WHS20 will still keep the luminaire on at Max Dim Output setting.
- **Commissioned to a Zone**
  - The WHS20 will follow the zone control of the Daintree Network, configurable via ControlScope software.

#### Daintree® Networked Connection Lost

- The WHS20 will return the luminaire to Max Dim Output after a period of lost connection.
- Once connection is restored, the WHS20 will return to the zone control configurable via Daintree ControlScope software.
Convenient Commissioning

WHR1 is the Daintree® ONE Wireless Handheld Remote control that provides easy commissioning of Control Modules from the ground with bi-directional IR communication. The interface is intuitive and graphical to make configuration easy in the field.

For zonal control of your Albeo High Bay Fixtures, use the Daintree® EZ Connect app. The app allows you to group fixtures into zones and customize the settings of the fixtures. The zoned fixtures will work in concert with each other based on parameters set in the app depending on occupancy and light level detection.

Effortlessly upgrade your Daintree® devices from Daintree® ONE to Daintree® Networked utilizing the WHR1. See WHR1 spec sheet for additional details.

Accessories

Accessories are available for customization and can be ordered separately.

Aisle Mask (Snap On)

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>93134984</td>
<td>1 PC</td>
</tr>
<tr>
<td>93134985</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Aisle Mask (Internal)

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>93134982</td>
<td>1 PC</td>
</tr>
<tr>
<td>93134983</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Angle Adjuster

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>93134996</td>
<td>1 PC</td>
</tr>
<tr>
<td>93134997</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Low Lens

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>93134998</td>
<td>1 PC</td>
</tr>
<tr>
<td>93134999</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Mounting Height: 2.5m (8 ft.)

Medium Lens

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>93135000</td>
<td>1 PC</td>
</tr>
<tr>
<td>93135001</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Mounting Height: 6m (20 ft.)

High Lens

<table>
<thead>
<tr>
<th>SKU</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>93135002</td>
<td>1 PC</td>
</tr>
<tr>
<td>93135003</td>
<td>10 PC</td>
</tr>
</tbody>
</table>

Mounting Height: 12m (40 ft.)
Coverage patterns for different lens and mounting heights.

Low Lens: 2.5m (8ft)
20ft Radius/40ft Diameter

High Lens: 10m (33ft)
27ft Radius/54ft Diameter

Med Lens: 6m (20ft)
30ft Radius/60ft Diameter

The WHS20 comes with the High Lens as standard. Low and Medium lenses can be ordered separately.