SAM15V/BLE

Bluetooth HF Highbay Sensor | 0–10V Dimming | Zhaga Book 18 Standard



Benefits

Standardized: Zhaga Book 18 with IP65 for reliable highbay integration

All-in-one: Occupancy, Daylight and Circadiam Rhythm, Photocell Advance

Wireless: Bluetooth Mesh enabling flexible wireless commissioning

Applications

For highbay luminaire up to 15m height

Warehouse/ Logistic

Outdoor/Street lights

Check Out the Complete System Solution on the Website:
https://www.hytronik.com/product/SAM15V-BLE

Product Description

SAM15V/BLE is a Bluetooth highbay HF motion sensor with 0–10V output, supporting dimming and daylight control for industrial and outdoor lighting applications. Featuring dual photocell technology, it can differentiate natural and artificial light for more accurate daylight sensing. Compliant with Zhaga Book 18 and rated IP65, it supports a typical mounting height of up to 15 m. Bluetooth Mesh enables wireless communication between luminaires without additional control wiring, reducing installation complexity while improving system flexibility. All configuration and commissioning can be completed easily via the app.

Functions and Features

See additional details at the end of datasheet

0-10V Dimming

Daylight Harvest

Human Centric Lighting (HCL)

IP65 Protection

Photocell Advance

Robust HF Antenna Design

Tri-level Dimming

Zhaga Book 18 Standard

Specifications

Main Capabilities	
Dimming (Output) Interface	0-10V
Connector Type	Zhaga book 18

Sensor Data	
Detection angle	360°
Lux range	0~1000 lux
Max. Detection range (Diameter)	20.0 m
Maximum Mounting Height	15.0 m
Detection area	314 m^2
Sensitivity	10%/ 30% /50% /75%/ 100%
HF operating frequency (Ghz)	5.8Ghz+/-75MHz
Detection Methods	Microwave (MW)

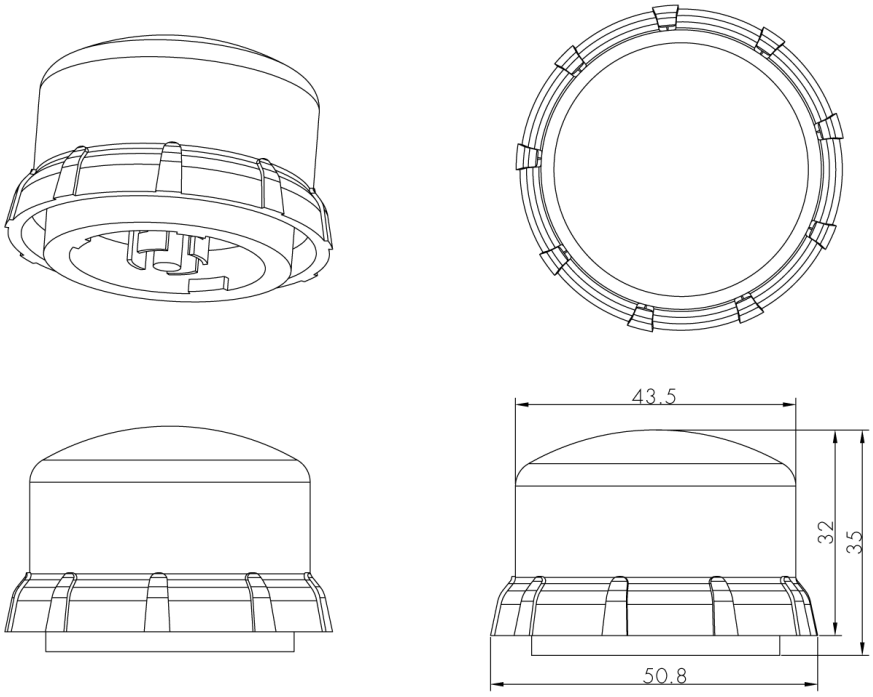
Electrical Data	
Bluetooth Platform	Nordic nRF52832
Bluetooth frequency	2.4 GHz - 2.483 GHz
Bluetooth range (Phone to Device)	10-30m
Bluetooth transmit power	4 dBm
Bluetooth system	Koolmesh
Operating voltage range	12-36 VDC
Output Voltage	0~10 V
Sink Current	Max.100mA
Source Current	Max. 2mA
Stand-by power (Psb)	<0.5W

Specifications

Technical	
Product weight	40.0 g
Product height	35.0 mm
Product length	50.8 mm
Product width	43.5 mm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-25 ~ +55 °C
Humidity max	20 ~ 90%
IP Rate	IP65

Standard	
EMC	EN 61547
LVD	EN 61347-1, EN 61347-2-11
RED	EN 300328, EN 300440, EN301489-1, EN 301489-1/-17, EN 50663

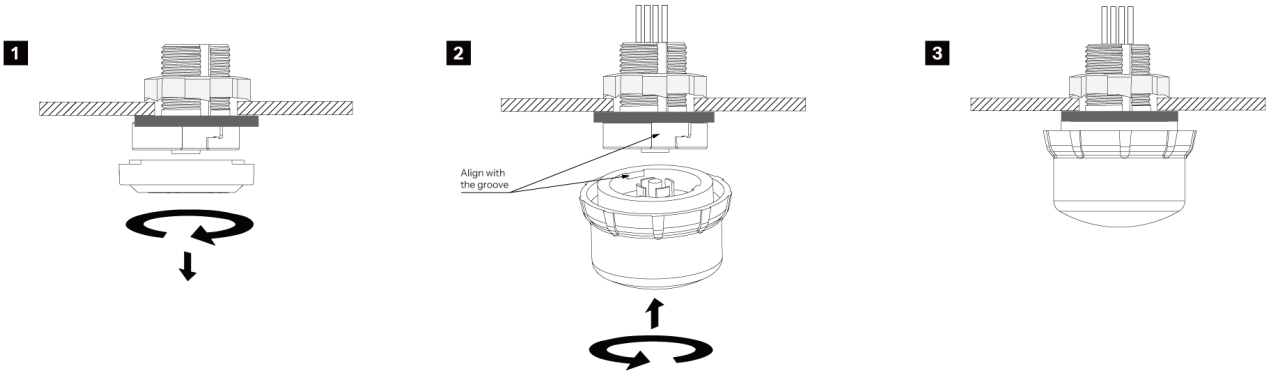
Technical Drawing



Application Example



Installation Process



Detailed Installation Instructions

1. Remove the receptacle cap

Unscrew and remove the protective cap from the receptacle before installation.

2. Install the sensor

Align the large groove on the receptacle with the corresponding large protrusion on the sensor. Push the sensor upward firmly until fully seated, then rotate counterclockwise until a clear click is heard. Ensure the sensor cannot be pulled out to confirm it is securely locked.

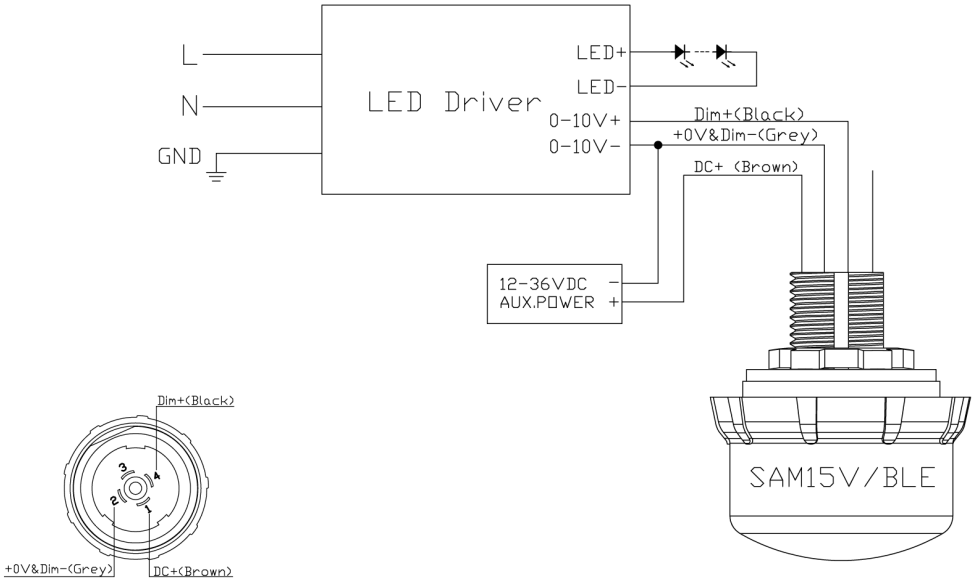
3. Installation complete

Note:

• Any luminaire that complies with the Zhaga Book 18 standard allows plug-and-play connection by simply mating the pins with the base.

• Socket not included, it must be supplied by the customer or purchased separately.

Wiring Diagram



Commissioning Instructions and Precautions

A. Installation Notes

1. This product should be installed by a qualifed electrician.

B. Wiring Diagram Notes

1. Terminal block 3 is left unpopulated by default. No wiring required.

C. Detection Range Notes

1. The detection range is heavily influenced by sensor placement (angle) and different walking paces. It may be reduced under certain conditions.

Warning: For additional important documents, including installation precautions, product guidelines, and guarantee conditions, please refer to the official downloads.

https://hytronik.com/service/downloads

Options

Compatible products (for full functionality)



HA18SKT

Receptacle | Zhaga Book 18 Standard | Black Color
www.hytronik.com/product/HA18SKT

Koolmesh - Operating guide

Bluetooth

Smartphone(ios) Smartphone (Android) iPad Web

For additional information, including project and network, device, and scenes, please refer to: http://faq.koolmesh.com/

Shared Koolmesh App Features

- Alert for excess lux / temperature / humidity via multi-meter HBLM01
- Astro timer (sunrise and sunset)
- Bulk commissioning (copy and paste settings)
- Compatible with Shelly energy metering
- Continuous development in progress...
- Device firmware update over-the-air (OTA)
- Device social relations check
- Different permission levels via authority management
- Floorplan feature to simplify project planning
- Grouping luminaires via mesh network
- Internet-of-Things (IoT) featured
- Koolmesh Pro iPad for on-site configuration
- Network sharing via QR code or keycode
- Offline commissioning
- One-key device replacement
- Quick setup mode & advanced setup mode
- Remote control via Hytronik gateway & touch screen HPAD-TSJASE1
- Scenes
- Schedule
- Staircase function for quick setup
- Test mesh network connection quality
- Web platform for project deployment & data analysis

Device-specific Koolmesh App features

- Adjustable motion & static sensitivity & adjustable sensing distance
- Compatible with EnOcean kinetic switches
- Detailed motion sensor settings
- Dusk/Dawn photocell (twilight function)
- Dynamic daylight harvest auto-configuration
- Motion sensor range test
- Motion sensor trigger diagnosis

Bluetooth Mesh Network Installation & Device Access Range

1. Phone/Pad to Device Range (Bluetooth Connection)

During commissioning, the installer must remain within Bluetooth range of the target device when adding it via the App.

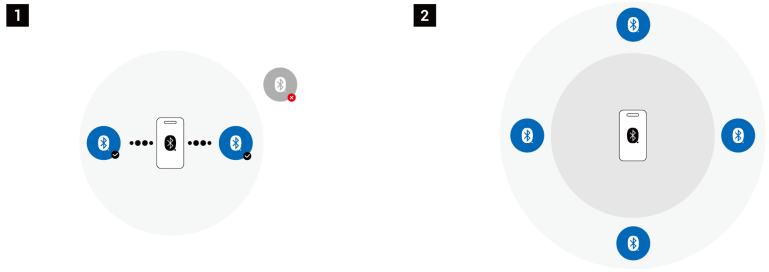
2. Device to Device Range (Mesh Network Communication)

Once commissioned, devices communicate through the wireless mesh network. Users can access and control all devices within the network when connected to any active mesh node.

Note:

a. Bluetooth range varies by product. Refer to the Specification section for details.

b. Actual communication range may vary depending on product type, obstacles, environmental conditions, and luminaire construction.



Bluetooth Network Components



HBGW02

Bluetooth Mesh Gateway | Ethernet or Wi-Fi 2.4GHz | wall/flat surface mounting
www.hytronik.com/product/HBGW02



HBGW02/D

Bluetooth Mesh Gateway | Dual-band Wi-Fi | wall/flat surface mounting
www.hytronik.com/product/HBGW02-D



HBGW03/R

BACnet Gateway | Dual-band Wi-Fi or Ethernet | DIN rail/wall/flat surface mounting
www.hytronik.com/product/HBGW03-R

HBKS01/W

Bluetooth Kinetic Switch | One-gang | Wireless Control
www.hytronik.com/product/HBKS01-W



HBKS01D/W

Bluetooth Kinetic Switch | Single Rocker | White Color
www.hytronik.com/product/HBKS01D-W

HBKS02/W

Bluetooth Kinetic Switch | Two-gang | White Color
www.hytronik.com/product/HBKS02-W



HBKS02D/W

Bluetooth Kinetic Switch | Double Rocker | White Color
www.hytronik.com/product/HBKS02D-W

HBKS03/W

Bluetooth Kinetic Switch| Three-gang | White Color
www.hytronik.com/product/HBKS03-W



HBLM01

Multi-meter | Bluetooth & NFC | Lux Measurements
www.hytronik.com/product/HBLM01



HPAD-TSJASE1

Bluetooth Touch Tablet | Gateway Integrated | Switch Boxes
www.hytronik.com/product/HPAD-TSJASE1

Functions and Features

0-10V Dimming

0–10V dimming provides an analog control interface that allows luminaires to dim smoothly down to their minimum rated light level. At 0 V, the luminaire remains on at its lowest brightness, as the 0–10V interface does not support switching off via the control signal and requires mains power switching for on/off control.This widely adopted standard ensures stable and consistent dimming performance when used with compatible LED drivers.

Daylight Harvest

Right time, right place and the right amount of light! Daylight harvest (Also known as daylight regulating or daylight interaction) is a must in the future lighting norms. It automatically measures available natural light and adjusts artificial lighting output to maintain the target illuminance level. Using daylight sensor feedback, control signals are transmitted to the LED drivers via DALI or 0–10V interfaces, ensuring the required light output is delivered only when needed, improving visual comfort and reducing energy consumption.

Human Centric Lighting (HCL)

Human Centric Lighting (HCL) helps reduce energy consumption while supporting human wellbeing and productivity in artificially lit environments. Through Hytronik's decentralised tunable white control with integrated time-based operation, HCL enables cost-effective circadian rhythm lighting without the complexity of centralised lighting systems.Designed as a simple and flexible solution, it is ideal for offices, schools, and healthcare applications requiring dynamic white light adjustment throughout the day.

IP65 Protection

This product features an IP65-rated enclosure, providing complete protection against dust ingress and low-pressure water jets to ensure reliable operation in demanding indoor and outdoor environments. The robust environmental sealing supports long-term stability and consistent performance in applications such as warehouses, parking areas and industrial facilities.

Photocell Advance

This advanced daylight sensing function accurately measures ambient light levels while minimising interference from the luminaire itself, ensuring reliable dusk-to-dawn control and daylight priority over motion detection. It automatically switches lighting on and off and dynamically adjusts brightness in response to available natural light, delivering visual comfort and improved energy efficiency.

Robust HF Antenna Design

The touch panel supports both manual and automatic adjustment of the display brightness. In automatic mode, the screen adapts its brightness according to the surrounding ambient light to maintain optimal visibility and energy efficiency. In manual mode, users can set the preferred screen brightness level directly on the device, ensuring clear viewing under various installation conditions.

Tri-level Dimming

Hytronik's tri-level dimming products offer 3 levels of light control: 100% dimmed light off, with settable time periods between each phase, as well dimming level and daylight threshold.
*All Hytronik's tri-level dimming products can also be configured as bi-level control (by setting the stand-by period to infinity), so that the light always remains in the dimmed mode in absence for areas where there are safety, security or enhanced comfort requirements.

Zhaga Book 18 Standard

This product complies with the Zhaga Book 18 standard, providing a standardised mechanical, electrical and digital interface for indoor and outdoor luminaires, including high-bay and exterior applications. It enables plug-and-play interchangeability of sensor and connectivity modules, ensuring interoperability, future-ready upgrades and reliable operation in demanding installation environments.

Check out for further explanation of features

https://hytronik.com/solutions/lighting-control-features