

SAM20

HF Lowbay | Daylight Harvest | RJ12 connector to control body



Benefits

Compact: Standard rectangular Plug&Play sensor design

Innovative: Robus HF antenna design against wireless interface

Easy configuration: Wireless Bluetooth 5.0 SIG-Mesh

Applications

Luminaire build-in integration, Surface mount

Offices

Classrooms

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/SAM20>

Product Description

SAM20 is a HF sensor head and compatible with the Photocell Advance. It can work with the linear shaped control base such as HC038V/BT and HCD038/BT. It offers powerful number of Plug'n'Play feature options to expand the flexibility of luminaires design.

Functions and Features

See additional details at the end of datasheet



Daylight Harvest



Human Centric
Lighting (HCL)



Photocell
Advance



RJ12 Connection



Robust HF
Antenna Design



Tri-level Dimming

SAM20

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Specifications

Main Capabilities

Connector Type	RJ12
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Sensor Data

Detection angle	30° - 150°
Max. Detection range (Diameter)	12.0 m
Maximum Mounting Height	3.0 m
Detection area	113 m ²

Electrical Data

Bluetooth frequency	2.4 GHz
Bluetooth range	10-30m
Bluetooth transmit power	4 dBm
Operating voltage range	5 VDC
Warming-up	20 s

SAM20

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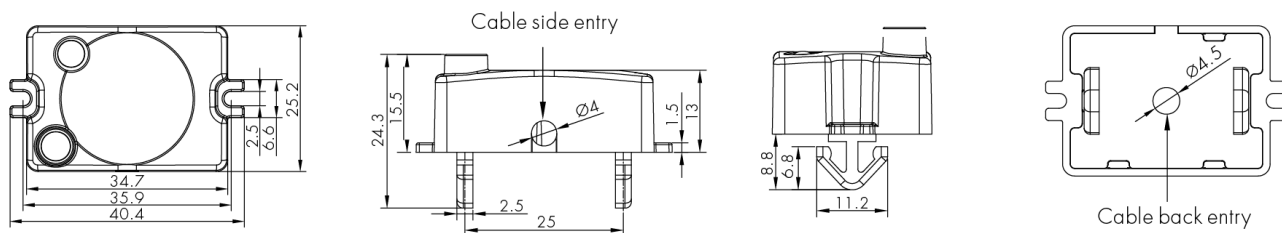
Specifications

Technical	
Product weight	20.0 g
Product height	15.5 mm
Product length	40.4 mm
Product width	25.2 mm
Mounting hole	2.5 mm
Ambient temperature	-20 ~ +55 °C
IP Rate	IP20

SAM20

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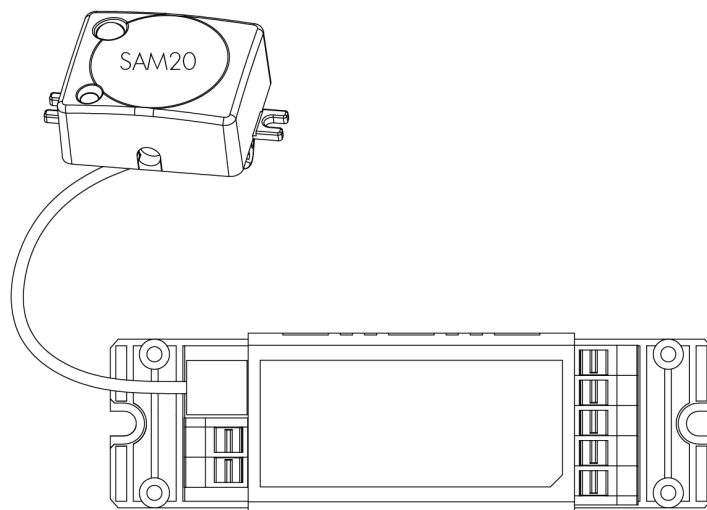
Technical Drawing



SAM20

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Wiring Diagram

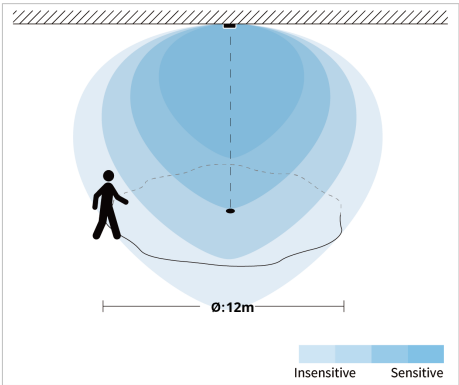


Detection Range

Single Person Walk (Ceiling mount)

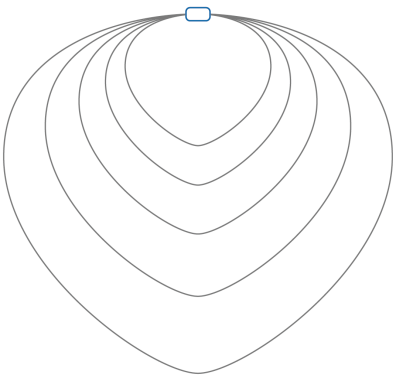
- The data below is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C

Detection example 3m mounting height:



Sensitivity	
H[m]	100%
	Ø[m]
3	12

Detection schematic diagram



Commissioning Instructions and Precautions

A. Installation Notes

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

B. Sensor Combination

1. This model of sensor head is a non-BLE model. Only when the sensor is connect to the Bluetooth control base can it realize bluetooth function.

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)



HBEM01

Integrated Mains & Emergency Control | Max. (Main 25W / EM 3W) | Attachable sensor heads
www.hytronik.com/product/HBEM01



HBEM02

Emergency Inverter Max.4W | Bluetooth remote control | Attachable sensor heads
www.hytronik.com/product/HBEM02



HBEM03

Mains & EM Control | Max. EM 4W output | Attachable sensor heads
www.hytronik.com/product/HBEM03



HBEM038

DALI/Bluetooth Converter | 30mA DALI Broadcast Output | Attachable sensor heads
www.hytronik.com/product/HBEM038



HBEM04

Emergency Inverter Max.5W | DALI Dimmable | Attachable sensor heads
www.hytronik.com/product/HBEM04



HBEM05

Emergency Inverter Max.12W | DALI Dimmable | Attachable sensor heads
www.hytronik.com/product/HBEM05



HBEM06

Emergency Sign Maintained Max.4w | Bluetooth control | Attachable sensor heads
www.hytronik.com/product/HBEM06



HC038V/BT

Control body | Bluetooth with 0/1-10V | Attachable sensor heads
www.hytronik.com/product/HC038V-BT



HC438V/BT

Control body | Bluetooth & 0/1-10V | Attachable sensor heads | US Certified
www.hytronik.com/product/HC438V-BT



HCD038/BT

Control unit | Bluetooth DALI with PSU | Attachable sensor heads
www.hytronik.com/product/HCD038-BT



HCD438/BT

Control body | Bluetooth & DALI | Attachable sensor heads | US Certified
www.hytronik.com/product/HCD438-BT



HED6040/BT

Bluetooth LED Driver 40W (CC) Dimmable | Plug'n'Play | Built-in
www.hytronik.com/product/HED6040-BT



HED6045/BT

Bluetooth LED Driver 45W (CC) Dimmable | Plug'n'Play | Built-in/Stand-alone
www.hytronik.com/product/HED6045-BT



HED6060/BT

Bluetooth LED Driver 60W (CC) Dimmable | Plug'n'Play | Built-in
www.hytronik.com/product/HED6060-BT



HED7030/BT

Bluetooth LED Driver 30W (CC) Dimmable | Plug'n'Play | Built-in version
www.hytronik.com/product/HED7030-BT



HED8040/BT

Bluetooth LED Driver 40W (CC) Tunable white | Plug'n'Play | Built-in
www.hytronik.com/product/HED8040-BT



HED8045/BT

Bluetooth LED Driver 45W (CC) Tunable white | Plug'n'Play | Built-in/Stand alone
www.hytronik.com/product/HED8045-BT



HED8060/BT

Bluetooth LED Driver 60W (CC) | Tunable white | Built-in
www.hytronik.com/product/HED8060-BT

SAM20

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Options

Compatible products (for full functionality)



HED8080/BT

Bluetooth LED Driver 80W (CC) | Tunable white | Built-in

www.hytronik.com/product/HED8080-BT

Functions and Features



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.



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.



RJ12 Sensor Connection

The product features an RJ12 plug-and-play connection interface, enabling quick, tool-free installation and easy maintenance. The standardized connector supports flexible integration between drivers, sensor bases and sensor heads, ensuring reliable communication and simplifying replacement or system expansion. This modular connection method enhances installation efficiency and reduces wiring complexity in both new and retrofit applications.



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.

Check out for further explanation of features

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