

SAM21

HF Lowbay | Circadian Rhythm | RJ12 connector to control body | IP65

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Standard rectangular Plug&Play sensor design

Versatile: Tri-level dimming + Daylight harvest + Circadian Rhythm

Easy configuration: Wireless control via Bluetooth control base

Applications

Luminaire build-in installation, Conduit screws

Classrooms

Offices

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/SAM21>

Product Description

This sensor features microwave (HF) detection and is designed for M16 * 3mm conduit installation. It includes tri-level dimming, daylight harvesting, and supports Human Centric Lighting/Circadian Rhythm with DT8 drivers for tunable white control after connective with DALI control base like HCD038/BT. It has a robust HF antenna design to minimize wireless interference, a photodiode (PD), active lux switching, and is IP65 rated. Suitable for installations up to 3m high with a detection range up to Ø = 12m.

Functions and Features

See additional details at the end of datasheet



Daylight Harvest



Human Centric
Lighting (HCL)



Robust HF
Antenna Design



Tri-level Dimming

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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

Operating voltage range	5 VDC
Warming-up	20 s

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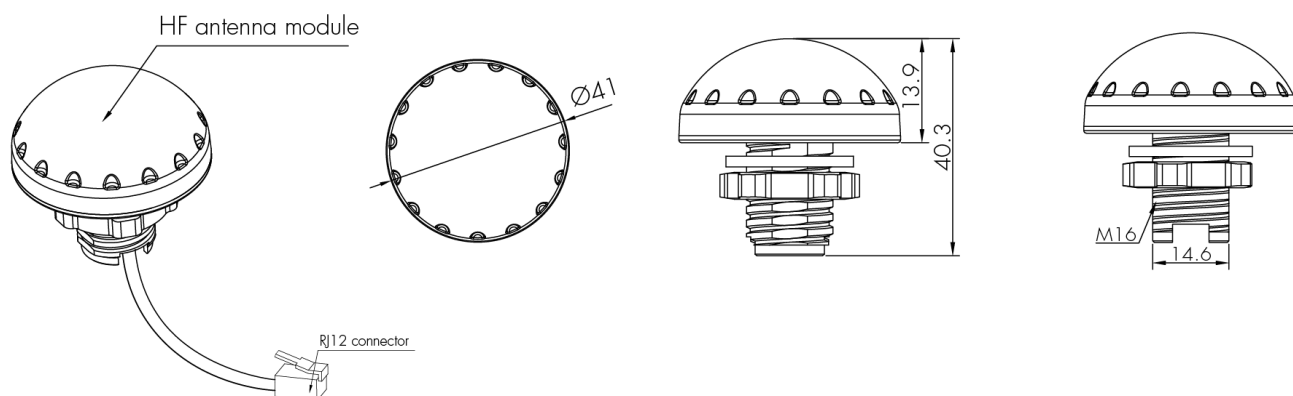
Specifications

Technical	
Product weight	21.0 g
Product height	40.3 mm
Product length	41.0 mm
Product width	41.0 mm
Ambient temperature	-20 ~ +55 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
IP Rate	IP65

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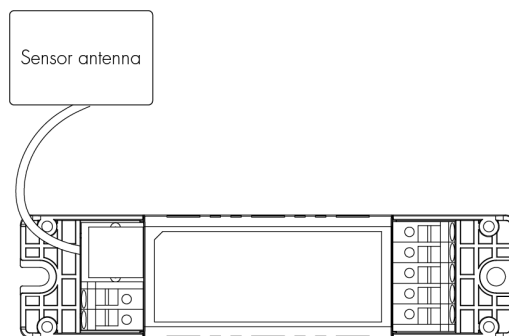
Technical Drawing



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Wiring Diagram

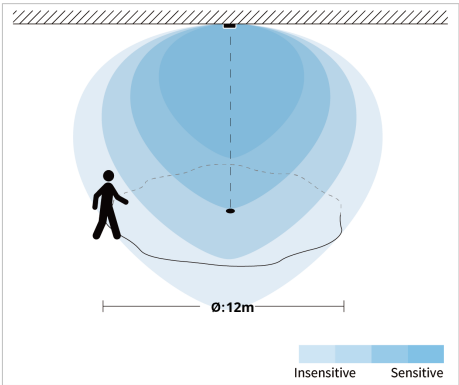


Detection Range

Single Person Walk (Ceiling mount)

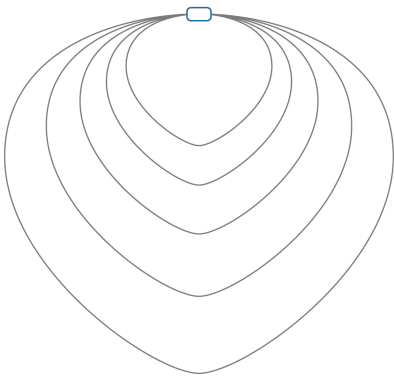
- The data below is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C

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

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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.



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>