

SAM13

HF Lowdbay | ON/OFF | RJ12 connector to control body

HYTRONIK®
SENSORS & LIGHTING CONTROL



Benefits

Compact: Standard rectangular Plug&Play sensor design

Innovative: Robust HF antenna design against wireless interference

Easy: Sensor setting via DIP-switches

Applications

Master luminaire with sensor

Classrooms

Offices

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/SAM13>



Product Description

SAM13 is a HF sensor head and compatible with the On/Off Contro. It can work with the linear shaped control base HC038 and HC438. 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



Ambient Daylight
Threshold



Manual Override



ON/OFF Control



Semi-Automatic
Mode (Absence
Detection)

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Specifications

Main Capabilities

Connector Type	Standard 2 cables
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Sensor Data

Detection angle	30° - 150°
Max. Detection range (Diameter)	12.0 m
Maximum Mounting Height	6.0 m
Detection area	113 m²
Sensitivity	10% / 50% / 75% / 100%
HF operating frequency (Ghz)	5.8Ghz+/-75MHz
Detection Methods	Microwave (MW)

Electrical Data

Operating voltage range	5 VDC
Warming-up	20 s

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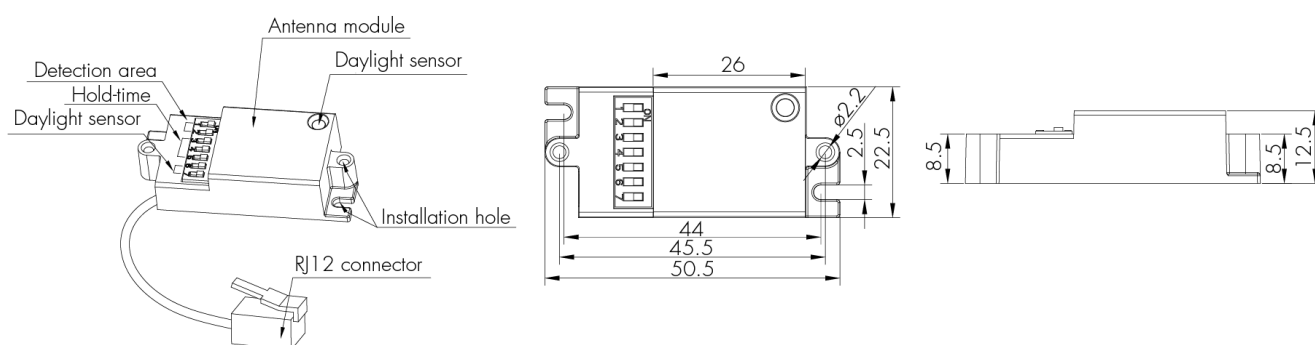
Specifications

Technical	
Product weight	15.0 g
Product height	12.5 mm
Product length	50.5 mm
Product width	22.5 mm
Mounting hole	2.5 mm
Ambient temperature	-20 ~ +55 °C
Case Temp.max	80.0 °C
IP Rate	IP20

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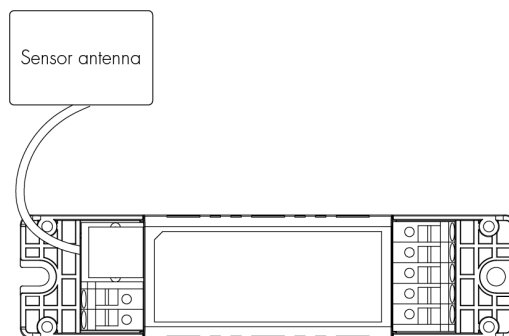
Technical Drawing



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Wiring Diagram

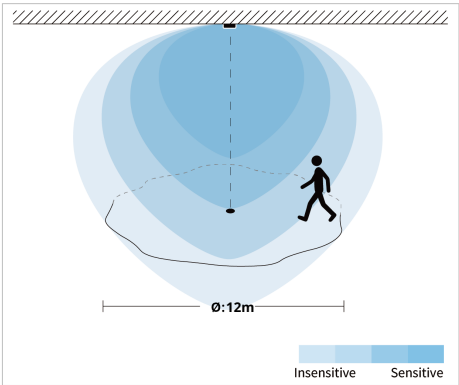


Detection Range

Single Person Walk (Ceiling mount)

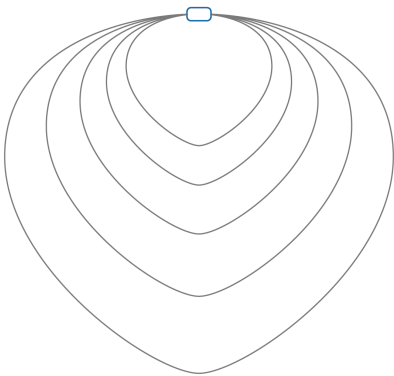
- The data below is tested under following conditions:
- Single person walking
 - Sensor not connected to any driver that may have soft-on period
 - Testing temperature Ta = 20°C

Detection example 6m mounting height:



Sensitivity	
H[m]	100%
	Ø[m]
6	12

Detection schematic diagram



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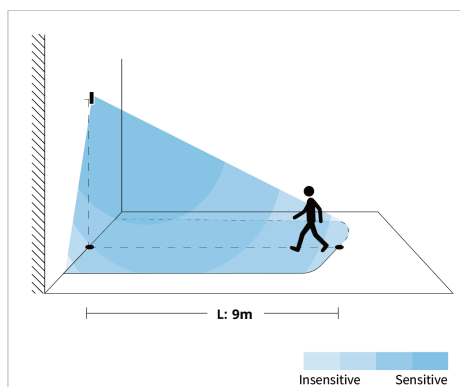
Detection Range

Single Person Walk (Wall 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 $T_a = 20^\circ\text{C}$

Detection example 4m mounting height:



Sensitivity	
H[m]	100%
	L[m]
4	9

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Commissioning Instructions and Precautions

A. Installation Note

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

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

<https://hytronik.com/service/downloads>

DIP Switch Settings

	1	2	
I	●	●	100%
II	●	○	75%
III	○	●	50%
IV	○	○	10%



Detection Area

Sensor sensitivity can be adjusted by selecting the combination on the DIP switches to fit precisely for each specific application.

	3	4	5	
I	●	●	●	5s
II	●	○	●	30s
III	●	○	○	1min
IV	○	●	●	5min
V	○	●	○	10min
VI	○	○	●	20min
VII	○	○	○	30min



Hold Time

Select the DIP switch configuration for the light on-time after presence detection.

This function is disabled when natural light is sufficient.

	6	7	
I	●	●	Disable
II	●	○	50Lux
III	○	●	10Lux
IV	○	○	2Lux



Daylight Sensor

Set the level according to the texture and environment. The light will not turn on if ambient lux level exceeds the daylight threshold preset.

Please note that the ambient lux level refers to internal light reaching the sensor.

Disabling the daylight sensor will put the sensor into occupancy detection only mode.

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Options

Compatible products (for full functionality)



HC038

Control body | ON/OFF | Attachable sensor heads
www.hytronik.com/product/HC038



HC438

Control body | ON/OFF | Attachable sensor heads
www.hytronik.com/product/HC438

Functions and Features



Ambient Daylight Threshold

This feature allows users to set a custom daylight-harvesting target lux level based on the actual ambient light at the installation site. After manually adjusting the luminaire to a comfortable brightness, the user can record the current lux value as the new daylight threshold via the remote controller or the Koolmesh app. The sensor will then use this stored value as the reference for daylight-dependent dimming, ensuring a personalized and accurate daylight harvesting performance.



Manual Override

With the help of a push switch, the sensor can be manually overridden by the end user to switch the light on/off or adjust the target lux level, providing greater flexibility and improved user experience.

Short press (<1s): On/Off control

On Off: The light turns off immediately and cannot be re-triggered by motion until the preset hold-time expires, after which the sensor returns to normal operation.

Off On: The light turns on and enters sensor mode, regardless of the ambient light level.

Long press (>1s): Target lux adjustment

The target lux level can be adjusted by dimming the light up or down.

Adjustments via push switch and remote control can overwrite each other, with the last setting stored in memory.

Note: If manual override is not required, the "PUSH" terminal can be left unconnected.



ON/OFF Control

The product supports basic ON/OFF control of the connected luminaire, allowing the light to be switched fully on or off through the sensor's detection logic or an external control input. This provides straightforward lighting control for applications that do not require dimming functionality.



Semi-Automatic Mode (Absence Detection)

In semi-automatic mode, the sensor operates as an absence detector, where the lighting must be switched on manually via a wall push switch and remains on while occupancy is detected.

Once the area is vacated, the sensor automatically switches off the lighting after the preset hold-time, improving energy efficiency and ensuring controlled operation.

Manual ON: The light will not turn on automatically and must be switched on manually via the wall switch. The sensor remains inactive while the light is off.

Auto OFF: After the light is switched on, the sensor becomes active and monitors occupancy. When no presence is detected, the light will automatically switch off after the defined delay time.

Note: The wall switch can be configured either for Manual Override or Semi-automatic Mode (Absence Detection), but not both simultaneously. The default setting is Manual Override.

Check out for further explanation of features

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