

HYTRONIK SAM24 Control HF Motion Sensor



# HYTRONIK SAM24 Control HF Motion Sensor Owner's Manual

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# HYTRONIK

## HYTRONIK SAM24 Control HF Motion Sensor



## Applications

Occupancy detector with DALI-2 control suitable for indoor use:

- Office / Commercial Lighting
- Classroom
- Meeting Room

Use for new luminaire designs and installations

## Features



DALI-2 input device



Compliant to IEC62386\_101, 103, 303, 304



Robust HF antenna design against wireless interference



5-Year Warranty

## Technical Specifications

Input Characteristics	
Input	220-240VAC 50/60Hz
Current Consumption	Max. 2mA from DALI Bus
Power Consumption	<1W
DALI Input voltage	9.5~22.5V

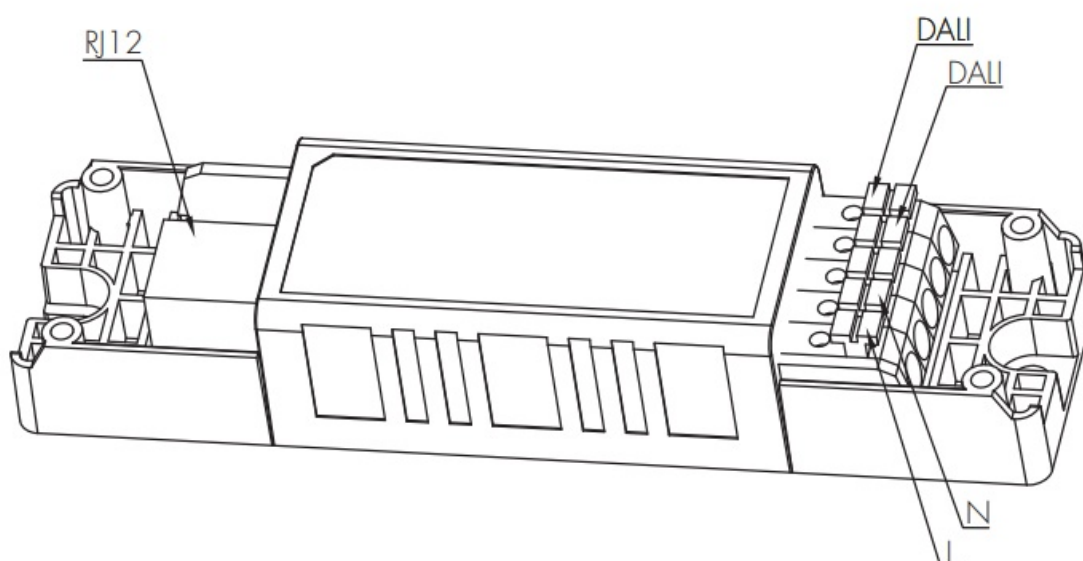
Environment	
Operation temperature	Ta: -20OC ~ +60OC
Case temperature (Max.)	Tc: +70OC
Storage temperature	-35°C ~ 70°C
Relative humidity	20 ~ 90%
IP rating	IP20
Insulation	Class II

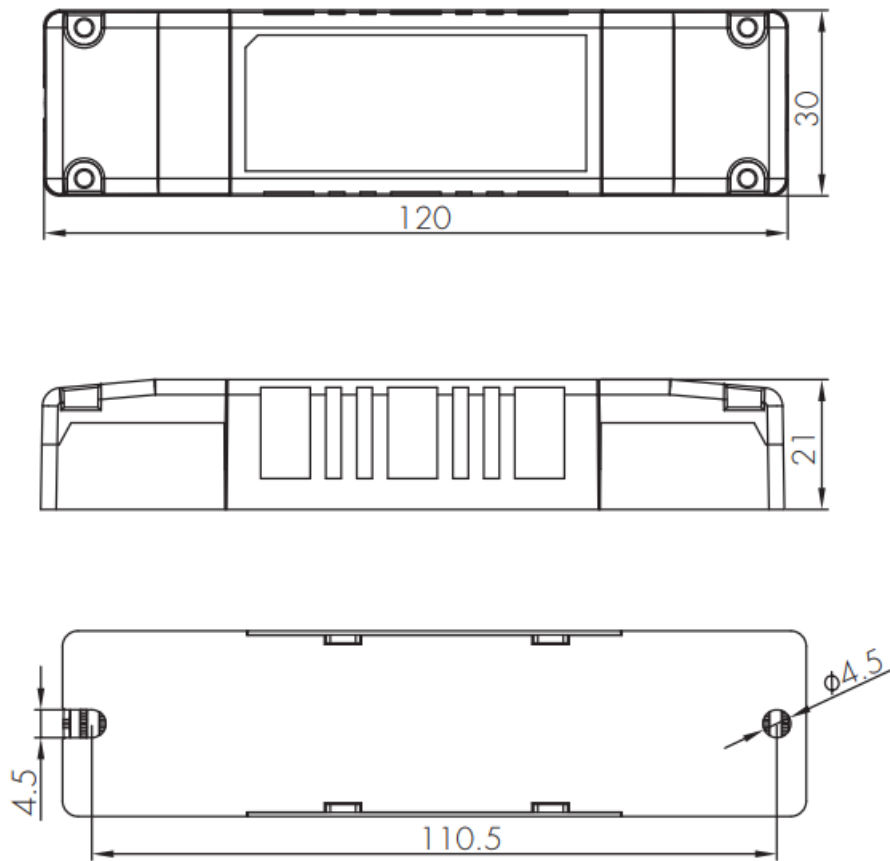
Safety and EMC	
EMC standard (EMC)	EN55015, EN61547, EN61000-3-2, EN61000-3-3
Safety standard (LVD)	EN61347-1/-2-11
Radio Equipment (RED)	EN300440, EN301489-1/-3, EN50663
	CE , RCM , UKCA
Compliance	IEC62386_101, 103, 303, 304

HF Sensor Propertie	
Sensor principle	High Frequency (microwave)
Operation frequency	5.8GHz +/- 75MHz
Transmission power	<0.5mW
Detection range	Installation height: 3m Max. Diameter(Ø):12m
Detection angle	300 ~ 1500

## Mechanical Structure & Dimensions

### Model HCD038/D2





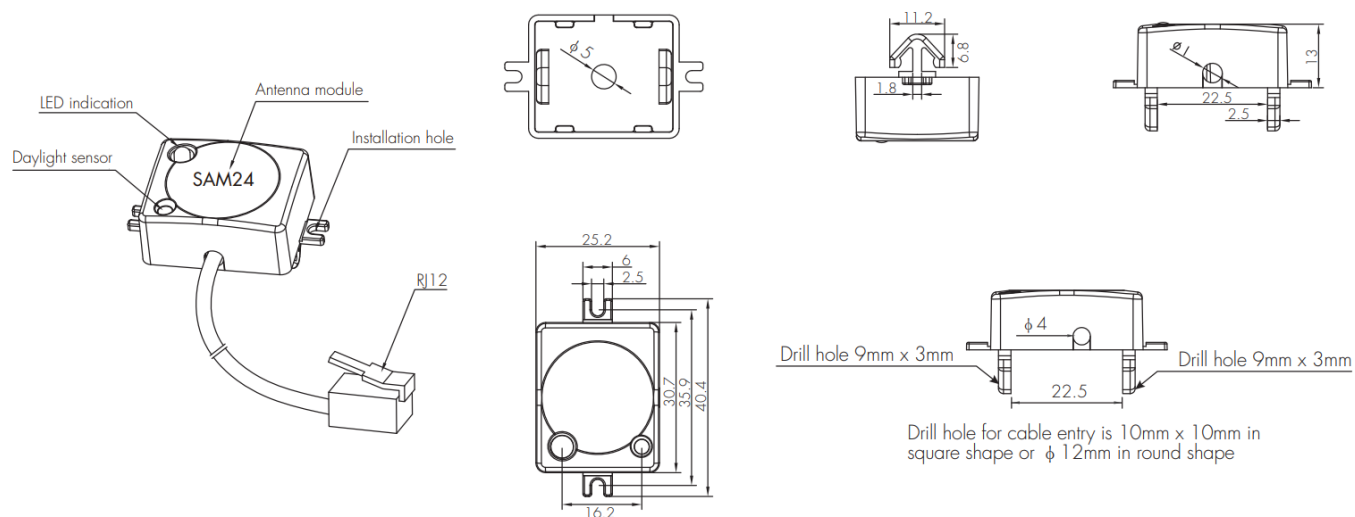
## Wire Preparation



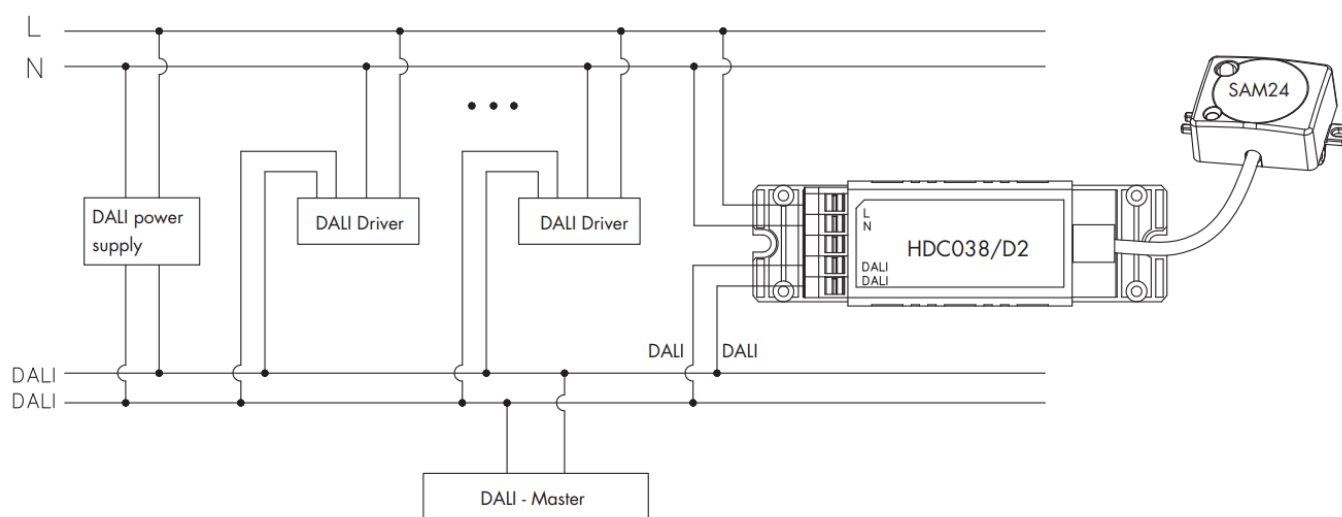
To make or release the wire from the terminal, use a screwdriver to push down the button.

1. 200 metres (total) max. for 1mm<sup>2</sup> CSA (Ta = 50°C)
2. 300 metres (total) max. for 1.5mm<sup>2</sup> CSA (Ta = 50°C)

## HF SensorDIMTM Model SAM24

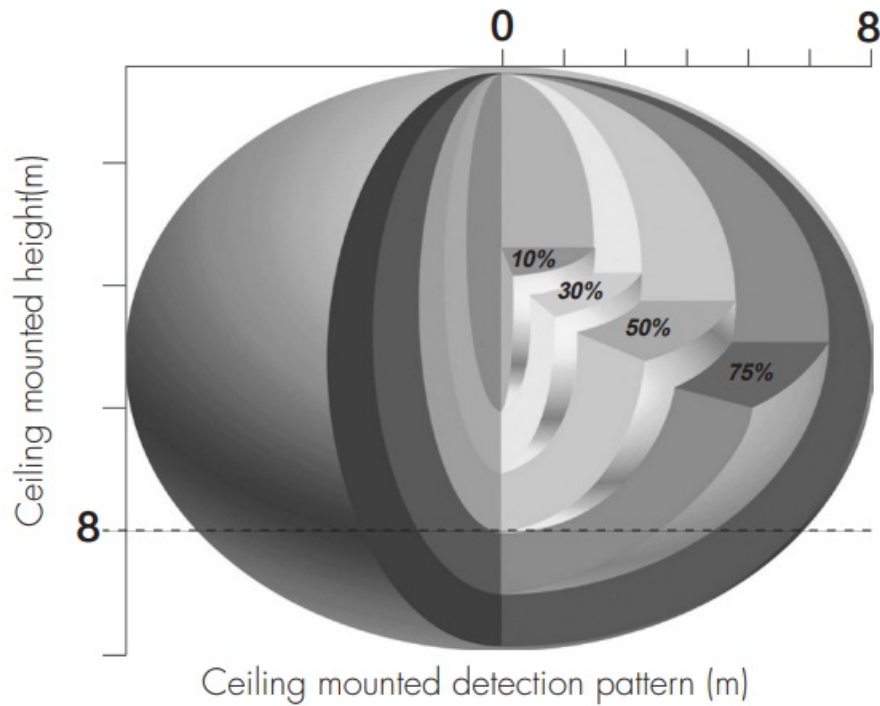


## Wiring Diagram



## Detection Range

## Model SAM24



Height (m)	Sensitivity			
	100%	75%	50%	10%
	Diameter ( Ø :m )			
8	8	6	4	none
5	10	8	6	2
3	12	10	8	4

### Sensitivity Adjustment

Setting the sensitivity can be achieved through the following command combination:

1. "ENABLE WRITE MEMORY": Enable BANK write function.
2. "DTR1:DRT0=0x1:0x2, WRITE MEMORY LOCATION =0x55": Set the Lock byte of BANK1 to 0x55. Here a total of 2 instructions are used. 0x1(binary) = 1(decimal), 0x2(binary) = 2(decimal), 0x55 (binary) = 85(decimal).
3. "DTR1:DRT0=0x1:0x11, WRITE MEMORY LOCATION = sensing gear value": set the sensitivity of BANK1 to "sensing gear value". 0x11(binary) = 17(decimal). Sensing gear value can be selected from 0x1 to 0x4, 0x1 is the weakest, 0x4 is the strongest.

Before writing to the bank, two locks need to be unlocked to write normally.

- The first lock is the big lock for all banks. Unlock it with the command "ENABLE WRITE MEMORY".
- The second lock is that each bank has its own Lock byte. When the written value is 0x55, the small lock is unlocked.

BANK is a memory space freely defined by the manufacturer. Writing a value after unlocking has two steps:

- Specify the write address, and pass in the address through DTR0 and DTR1.
- Pass in the written value with the write command "WRITE MEMORY LOCATION". This command will return the written value after the write is successful. Write fails without return value.

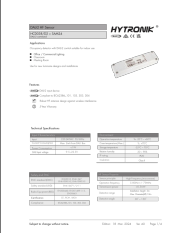
The following is an example of an instruction to set the sensitivity to 100%.

Type	Address	Command	Data	Delay	Answer
DALI24	BCast	ENABLE WRITE MEMORY		100...	
DALI24	BCast	ENABLE WRITE MEMORY		100...	
DALI24		DTR1:DTR0	1:2	100...	
DALI24		WRITE MEMORY LOCATION	85	100...	85
DALI24		DTR1:DTR0	1:17	100...	
DALI24		WRITE MEMORY LOCATION	4	100...	4

## Additional Information / Documents

1. Regarding precautions for Photodiode/Photocell Usages, please kindly refer to [www.hytronik.com/download->knowledge->Precautions](http://www.hytronik.com/download->knowledge->Precautions) for Photodiode/Photocell Usages
2. The data sheet is subject to change without notice. Please always refer to the most recent release on [www.hytronik.com/products/Motion](http://www.hytronik.com/products/Motion) Sensors ->Built-in HF Sensor
3. Regarding Hytronik standard guarantee policy, please refer to [www.hytronik.com/download->knowledge->Hytronik](http://www.hytronik.com/download->knowledge->Hytronik) Standard Guarantee Policy
  - Subject to change without notice.
  - Edition: 18 Mar. 2024
  - Ver. A0

## Documents / Resources

	<a href="#">HYTRONIK SAM24 Control HF Motion Sensor</a> [pdf] Owner's Manual SAM24 Control HF Motion Sensor, SAM24, Control HF Motion Sensor, HF Motion Sensor, Sensor
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## References

- [User Manual](#)

