

True Occupancy Smarter Control



Human breath and heart beat



Head Counting



Motion Tracking



Occupancy Rate





Detects Human Heat, Heartbeat and Breathing

The light stays on, even when you're perfectly still.

Most “motion sensors” only react to movement – often switching off too early and leaving people in the dark, or staying on and wasting energy.

Hytronik Occupancy Sensors – [Beyond Motion Detection](#)

Hytronik offers a range of occupancy sensing technologies for presence recognition, and people-counting capability – to ensure accurate detection even when occupants remain still during reading, typing, or meetings.

Lights stay on when people are truly present and switch off when spaces are empty, delivering both comfort and energy savings.

Why Motion Sensors Just aren't Enough?

In offices, bathrooms, stockrooms or hospitals, motion sensors often fall short:

Lights turning off while people are still inside
Interruptions during presentations or focused work
Frustrated users waving their arms to bring the lights back on



Scene 1
Conference Room Disruption
"Presentation Interrupted"



Scene 2
Restroom Lights Off
"Unexpected Darkness"



Scene 3
Office Lights Dimmed
"Focus Interrupted"

These all-too-familiar frustrations highlight one thing clearly :
people are expecting a lighting system that truly understands when they are present.



"Can't detect me here."

Yet motion sensors only see movement, not presence.



"Don't waste my time."

Installers spend hours adjusting sensitivity, only to get a "barely acceptable" result.



"Stop wasting energy."

Extending hold times keeps lights on in empty rooms — defeating the purpose entirely.



"Stop making me look bad."

Every blackout becomes a complaint call, hurting the installer, the facility manager, and even the luminaire brand.

A lighting system that truly understands when someone is in the room.

The truth is simple:

No complicated settings.

No endless timers.

No waving arms.

That's what Hytronik occupancy sensors are designed to do.

Solve Real Problems



- No more lights switching off while people are still inside.
- No wasted energy in empty spaces.
- No risk of non-compliance with building standards.

Smarter Detection



- Capable of sensing not just movement, but the unique signals of human heat, heartbeat, and breathing.
- Daylight harvesting → dim or switch off based on natural light.
- Wide mounting options for offices, classrooms, corridors, and healthcare.

Easy Integration



- Available in Bluetooth, DALI-2, and On/Off relay control.
- Works seamlessly with drivers, dimmers, and building management systems.

Where It Make a Difference



Offices



Meeting Room



Classroom



Study Spaces



Healthcare



Hygiene Areas

True Occupancy Sensor Range

Hytronik offers a comprehensive occupancy sensor range designed to match diverse project requirements:



On/Off control



DALI / DALI-2



Bluetooth Mesh

Thermal Detection



Human heat detection
Static presence
Head counting



PIR Minor Movement Detection

Passive Infrared (PIR) Detection



Microwave (HF) Detection



For Human Heartbeat
and Breathing

Product Overview

Thermal Detection

Products	Input Voltage	Output	Detection method	Install Height	Daylight Sensor Dimming Function	IP Rate	Active Lux Switching	Page
 NEW  HBTS01	220-240 VAC	Bluetooth	Thermal	Low-bay max. 3m	Photocell	IP20	✓	7 P

Passive Infrared (PIR) Detection

Products	Input Voltage	Output	Detection method	Install Height	Daylight Sensor Dimming Function	IP Rate	Active Lux Switching	Page
 NEW  HBIR29/WM	220-240 VAC	DALI 80mA DALI PSU	PIR (New Robust Antenna)	Low-bay max. 3m	Photocell Tri-level Control Daylight Harvest	IP20/IP54 (IP54 only to facial part)	✓	8 P

Microwave (HF) Detection

Products	Input Voltage	Output	Detection Method	Install Height	Daylight Sensor	IP Rate	Active Lux Switching	Page
  HBMW28/PRO	220-240 VAC	On/Off 800VA/1200W	HF (New Robust Antenna)	Low-bay max. 3m	Photodiode	IP20	✓	9 P
  HBMW29/PRO	220-240 VAC	DALI-2 I guaranteed : 30mA I max : 50mA U rated : 15VDC	HF (New Robust Antenna)	Low-bay max. 3m	Photocell Tri-level Control Daylight Harvest Circadian Rhythm	IP20	✓	10 P
  HBMW28DCVFC/PRO	220-240 VAC	Bluetooth	HF (New Robust Antenna)	Low-bay max. 3m	Photocell	IP20	✓	11 P

*Please always check the latest datasheet for technical requirements-----<http://hytronik.com>

Thermal Detection



Low-bay

Bluetooth Transceiver



NEW



HBTS01

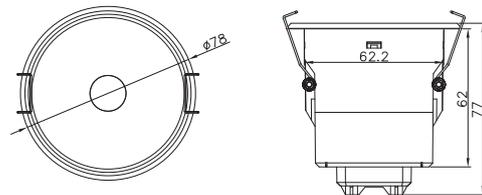
Key Benefits

- Bluetooth commissioning, simple and fast device setup
- Directional awareness, detects movement direction with precision
- Privacy protected, camera-level sensing without visual data
- Head counting, accurately counts people within detection range
- Heatmap generation, visualizes human occupancy and dwell patterns
- MQTT configurable, flexible parameter settings via broker
- Zone management, multiple configurable sensing areas
- Data integration, combines sensor data for area statistics

Detection Range

Recommended Mounting Height	3m
Field of View (FOV)	140° x 100° (H x V)
Infrared Resolution	20 x 15 pixels

Note: Pixel resolution does not represent physical coverage area.



Main Functions



Head Counting



Motion Tracking



Occupancy Rate



Space Management



Data Intelligence Analysis

Technical Specifications

Output	Operating voltage	Stand-by power	Infrared resolution	Field of View (FOV)
Bluetooth Output	220~240VAC 50/60Hz	<1w	20 x 15 pixels	140° x 100° (H x V)
Frame rate	Spectral detection range	Thermal sensitivity (NETD)	Operating temperature range	IP rating
7.5 Hz (typical)	8-12 μm (LWIR)	< 80 mK NETD @ 7.5 Hz	0°C~35°C	IP20

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Passive Infrared (PIR) Detection

DALI/DALI-2



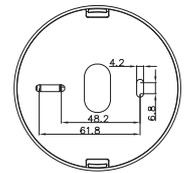
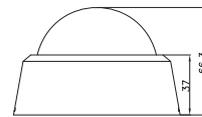
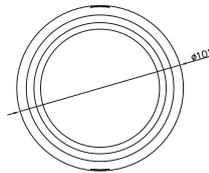
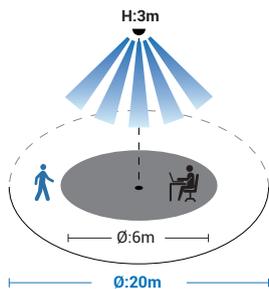
HBIR29/WM

Key Benefits

- Integrated High-sensitive PIR occupancy sensor and light sensor
- Allow for subtle motion detection, designed specifically for offices and quiet public spaces
- 2 Push inputs for flexible control
- Accessories available for surface/ ceiling mounting styles
- Upgrade DALI fixtures with Bluetooth control without extra wirings
- Supports reading luminaire, energy, and diagnostics data provided by the connected D4i drivers
- Wireless configuration via Koolmesh App

Detection Range (Max.)

Height
3m
Range Ø
20m



Main Functions

DALI broadcast output	Minor movements detection	Support D4i & DT8 LED Drivers	Daylight harvest	Tri-level control	2 Push inputs	RTC real time clock	Circadian rhythm (HCL)

Technical Specifications

Output	Operating voltage	Stand-by power	Warming-up	IP rating
DALI/DALI-2 80mA DALI PSU	220~240VAC 50/60Hz	<1w	20s	IP20/IP54

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Microwave (HF) Detection

On/Off Control



HBMW28/PRO

Key Benefits

- Detect the breathing and heartbeat of static occupants
- Adjustable for motion / static sensitivity & detection range
- Zero crossing detection circuit
- Meets the latest RED standards of certification
- Wireless commissioning via Koolmesh App

Detection Range

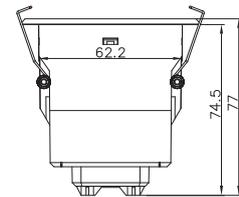
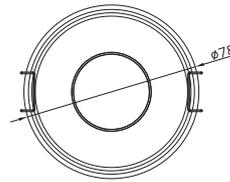
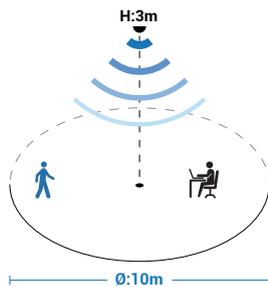
(Max.)

Height

3m

Range Ø

10m



Main Functions



On/off control



Zero cross detection



Adjustable detection

Technical Specifications

Output	Operating voltage	Max. withstandable in-rush current	Stand-by power	Warming-up
On/off 800VA (capacitive) 1200W (resistive)	220~240VAC 50/60Hz	120A @ 160 µs	< 0.5W	20s

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Microwave (HF) Detection

DALI/DALI-2



HBMW29/PRO

Key Benefits

- Detect the breathing and heartbeat of static occupants
- Adjustable for motion / static sensitivity & detection range
- Zero crossing detection circuit
- Tri-level control & Daylight harvest
- Meets the latest RED standards of certification
- Supports reading luminaire, energy, and diagnostics data provided by the connected D4i drivers
- Wireless commissioning via Koolmesh App

Detection Range

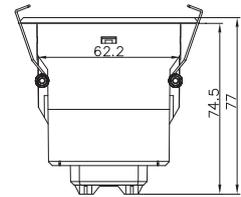
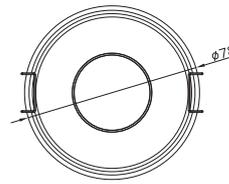
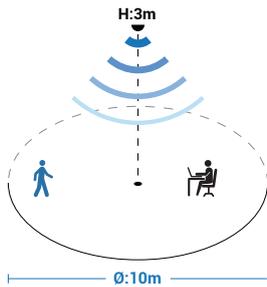
(Max.)

Height

3m

Range Ø

10m



Main Functions



DALI output



Adjustable detection



Support D4i & DT8 drivers



RTC real time clock



Daylight harvest



Tri-level control

Technical Specifications

Output	Operating voltage	Max. withstandable in-rush current	Stand-by power	Warming-up
DALI bus power supply I guaranteed : 30mA I max : 50mA U rated : 15VDC	220~240VAC 50/60Hz	/	<1W	20s

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Microwave (HF) Detection



Bluetooth Output



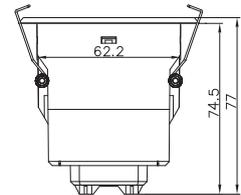
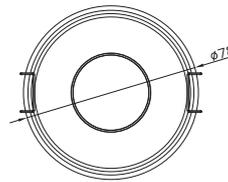
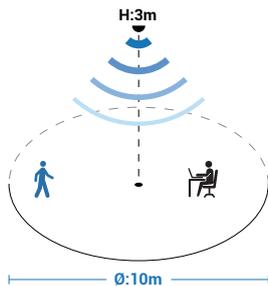
HBMW30/PRO

Key Benefits

- Detect the breathing and heartbeat of static occupants
- Adjustable for motion / static sensitivity & detection range
- Meets the latest RED standards of certification
- Wireless commissioning via Koolmesh App

Detection Range (Max.)

Height
3m
Range Ø
10m



Main Functions



Adjustable detection



Daylight harvest



Tri-level control

Technical Specifications

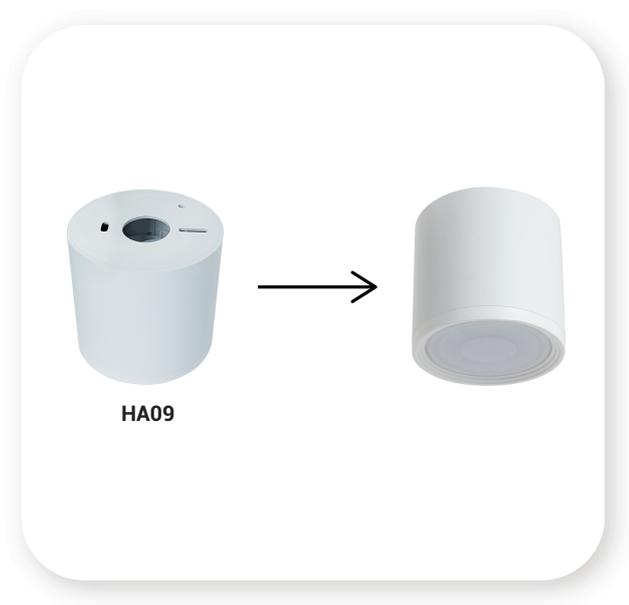
Output	Operating voltage	Max. withstandable in-rush current	Stand-by power	Warming-up
Bluetooth	220~240VAC 50/60Hz	/	<0.3W	20s

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Accessories



Ceiling/surface metal mounting box (IP54 options)



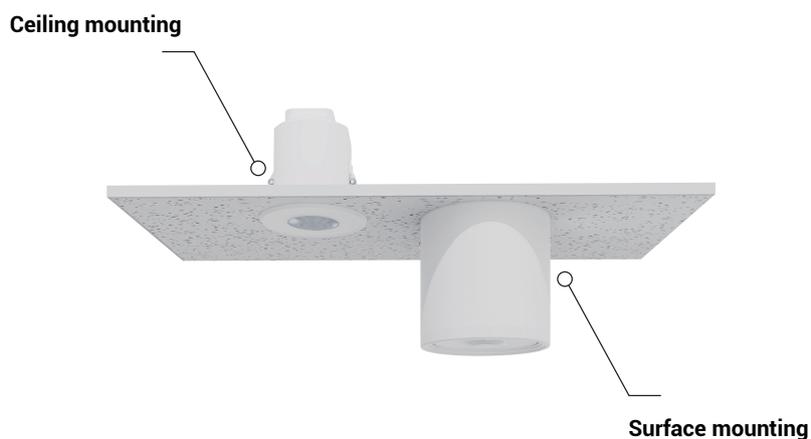
Silicon gasket (for IP54 protection)



Three color options



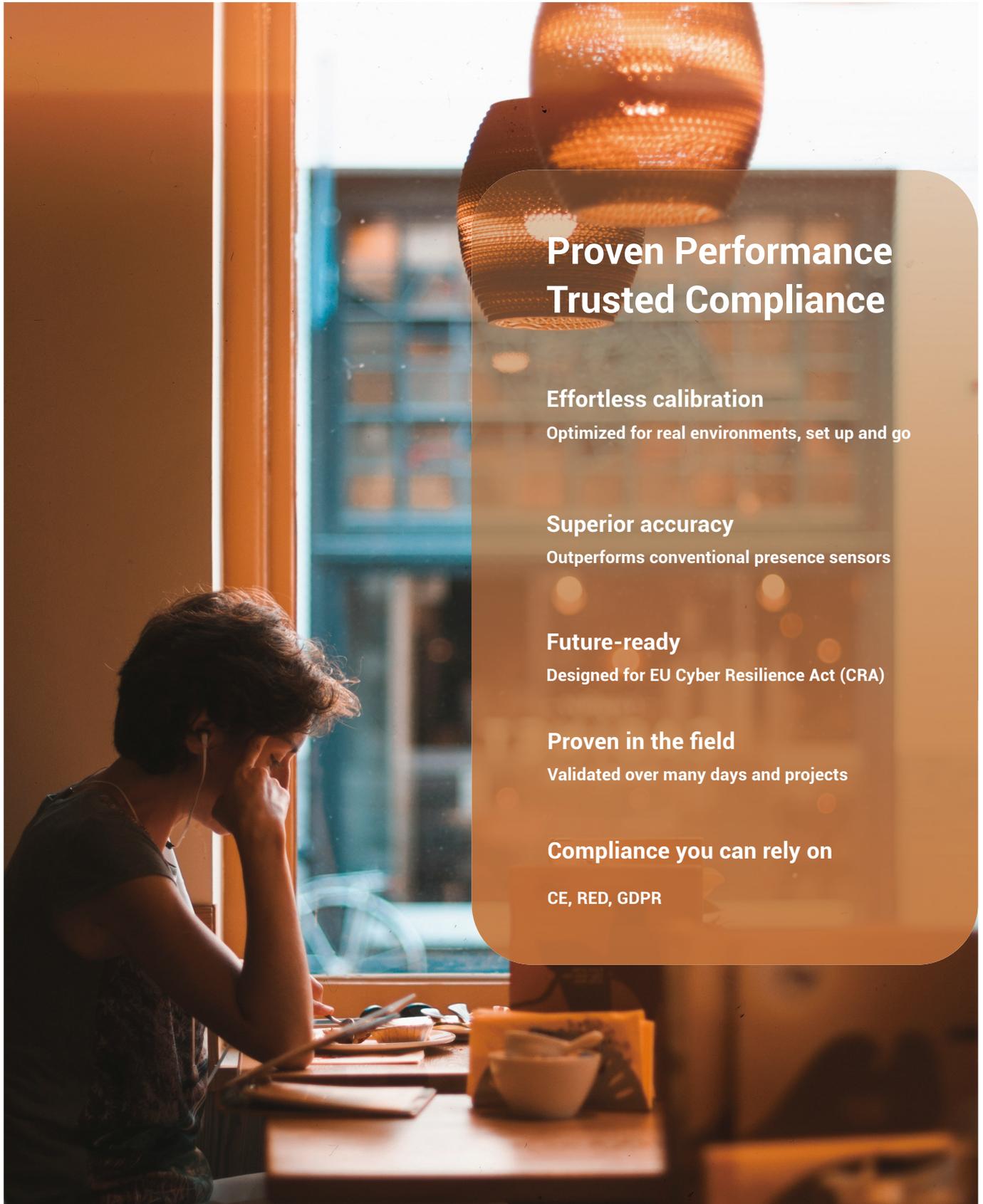
Installation Application



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Build Confidence with Hytronik

Trusted by lighting control integrators and building automation specialists who need occupancy detection that behaves predictably on site.



Proven Performance Trusted Compliance

Effortless calibration

Optimized for real environments, set up and go

Superior accuracy

Outperforms conventional presence sensors

Future-ready

Designed for EU Cyber Resilience Act (CRA)

Proven in the field

Validated over many days and projects

Compliance you can rely on

CE, RED, GDPR

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Don't settle for motion.



Choose true occupancy detection.



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SENSORS & LIGHTING CONTROL

Koolmesh®
— TAILOR MAKE YOUR SOLUTION

Learn how the technology works:

<https://hytronik.com/solutions/lightingcontrol-features/trueoccupancy-detection>

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