

HYTRONIK®

SENSORS & LIGHTING CONTROL - BENELUX B.V.

STAND-ALONE PRODUCT GUIDE

2018-2019

HYTRONIK INDUSTRIAL LIMITED



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Detection Technologies



Detection of movement by PIR & HF

Advantage

- * Sensitive to minor motion.
- * Sensitive to radial and axial movement.
- * Can be reflected by objects and hence covering big detection area.
- * Resilient to heat source, smoke and air conditioner.



Advantage

- * No penetration, confined detection area.
- * Sensitive to tangential and radial movement.
- * Resilient to motion object which has no heat radiation.

Disadvantage

- * Penetrates walls, picks up motion outside of the office area;
- * Back wave detection, false trigger by motion from ceiling above. Can be false triggered by ventilation fans, water pipe, elevators etc. in industrial application.

Disadvantage

- * Can be false triggered by air conditioner, smoke and other heat sources.

The remedy is to create DUALsense™ by combining both of above technologies to make use of the advantage and bypass the disadvantage.

4 optional detection modes via DIP switch or remote control:

- * Microwave only
- * PIR mode only
- * Either PIR or microwave mode, to increase the detection capability and detection area;
- * Both PIR and microwave mode, to decrease the detection capability and detection area. Only when both detections are activated, the motion is considered valid. This is to prevent the sensor from false trigger by heat source, air conditioner, ventilation fans, water pipe and elevators etc..



Detection of movement by radar

Commonly known as 'Microwave sensors', Hytronik has gained an enviable reputation for being one of the leading manufacturers of this technology, holding international patents on our core technology. Microwave sensors do not require line of sight and can 'see' through pillars and partitions. Microwave sensors have a wider detection range and increased sensitivity to that of PIR.

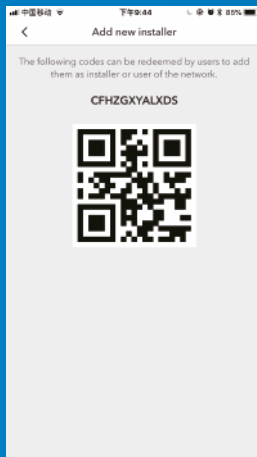


Detection of movement by heat

Passive Infrared (PIR) is a long-established means of occupancy detection. It still is the first choice for cost effective lighting control and simple installation in domestic and office environments. This technology remains the best choice for outdoor applications.



Hytronik APP Introduction

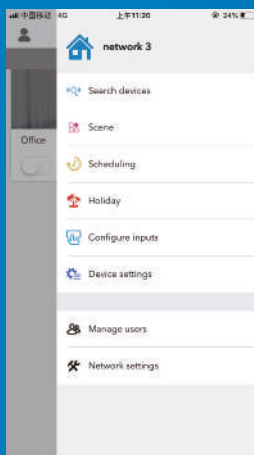


◀ Secure Account Management

- ※ Structured permissions-based network management.
- ※ Control of lights and settings is restricted to only invited users.
- ※ Secure, cloud-based network storage and back-up.
- ※ Multiple language support

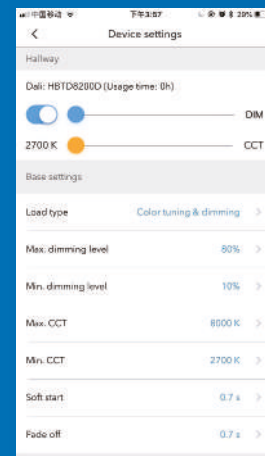
Easy Commissioning ▶

- ※ Search and add devices via guided step-by-step screen prompts
- ※ Create 'rooms' (groups) during the set-up process - prevents device identification issues
- ※ Set-up manual switch configurations, sensors and daylight controls
- ※ Fine tune device settings to the luminaires



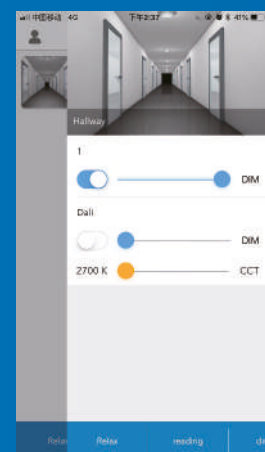
◀ Intuitive Set-up

- ※ Scene creation, with live control during set-up process - no guesswork!
- ※ Synchronised timer control functions, can recall scenes or individual lights
- ※ Holiday mode to over-ride and automate the system when the property is vacated.
- ※ Easily Manage the devices and network to adapt to any changes to the property - Future proof!



Simple End-user Control ▶

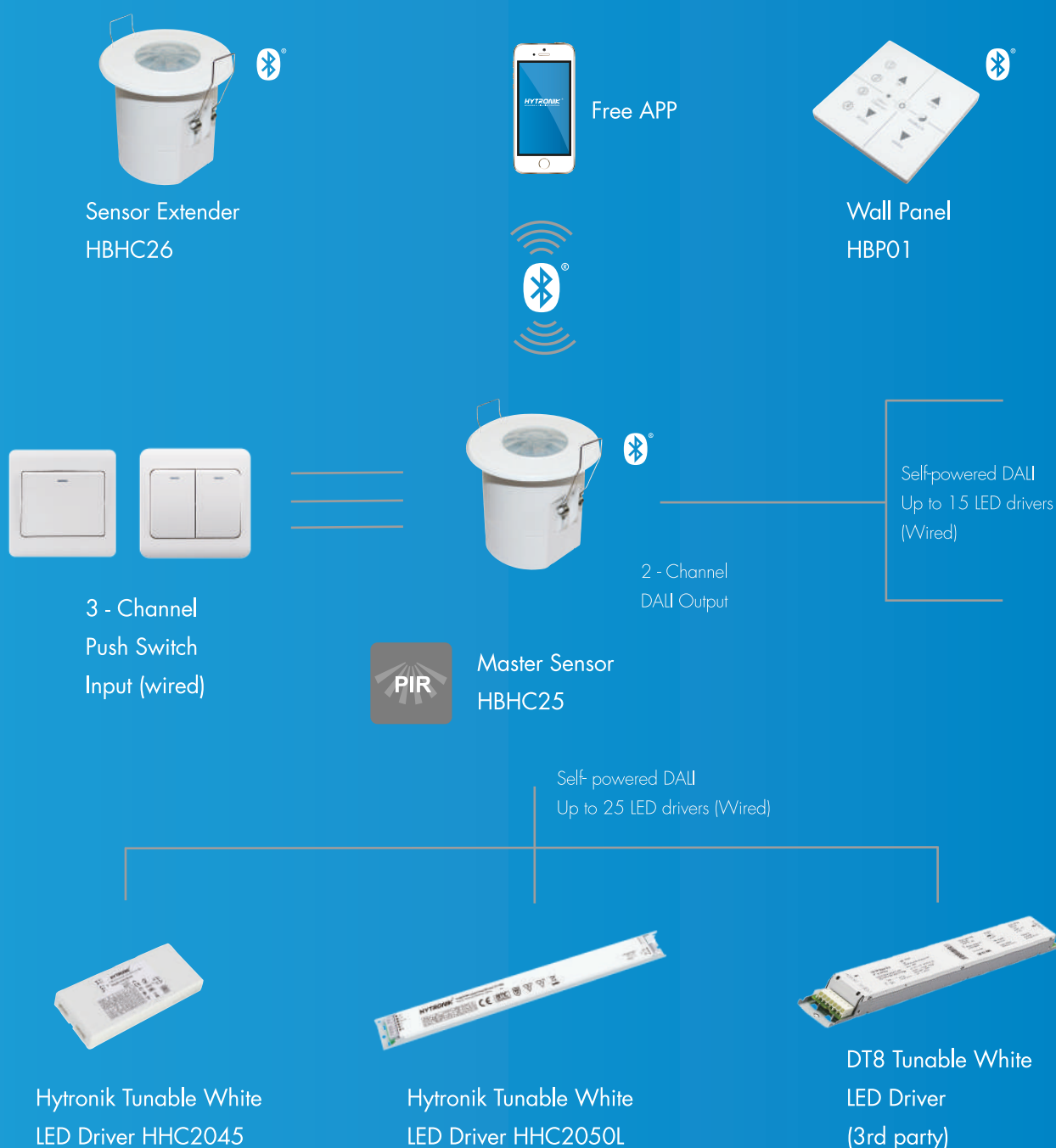
- ※ Attractive and simple to use graphical user interface.
- ※ Recall scenes, change the brightness or colour and turn on/off lights at the touch of a button.
- ※ Network owners may invite other users so that they can operate the lights via the APP.
- ※ 'Basic' users can recall scenes and operate the lights, but may not make any set-up changes.



Hytronik Human Centric Lighting

Bluetooth[®] Enabled Sensors

Introducing the latest additions to the Hytronik Human Centric family, the HBHC25 and HBHC26 provide effortless wireless commissioning and communications to other sensors to allow groups to be made. Supported by our wireless wall panel, the system is quick to install and remains flexible to the changing needs of the space. The hard-wired DALI outputs and conventional switch inputs allow the possibility of upgrade/retrofit of existing DALI installations with most of the existing wiring retained.



Hytronik HYtelligence™ Using Bluetooth® Mesh Network

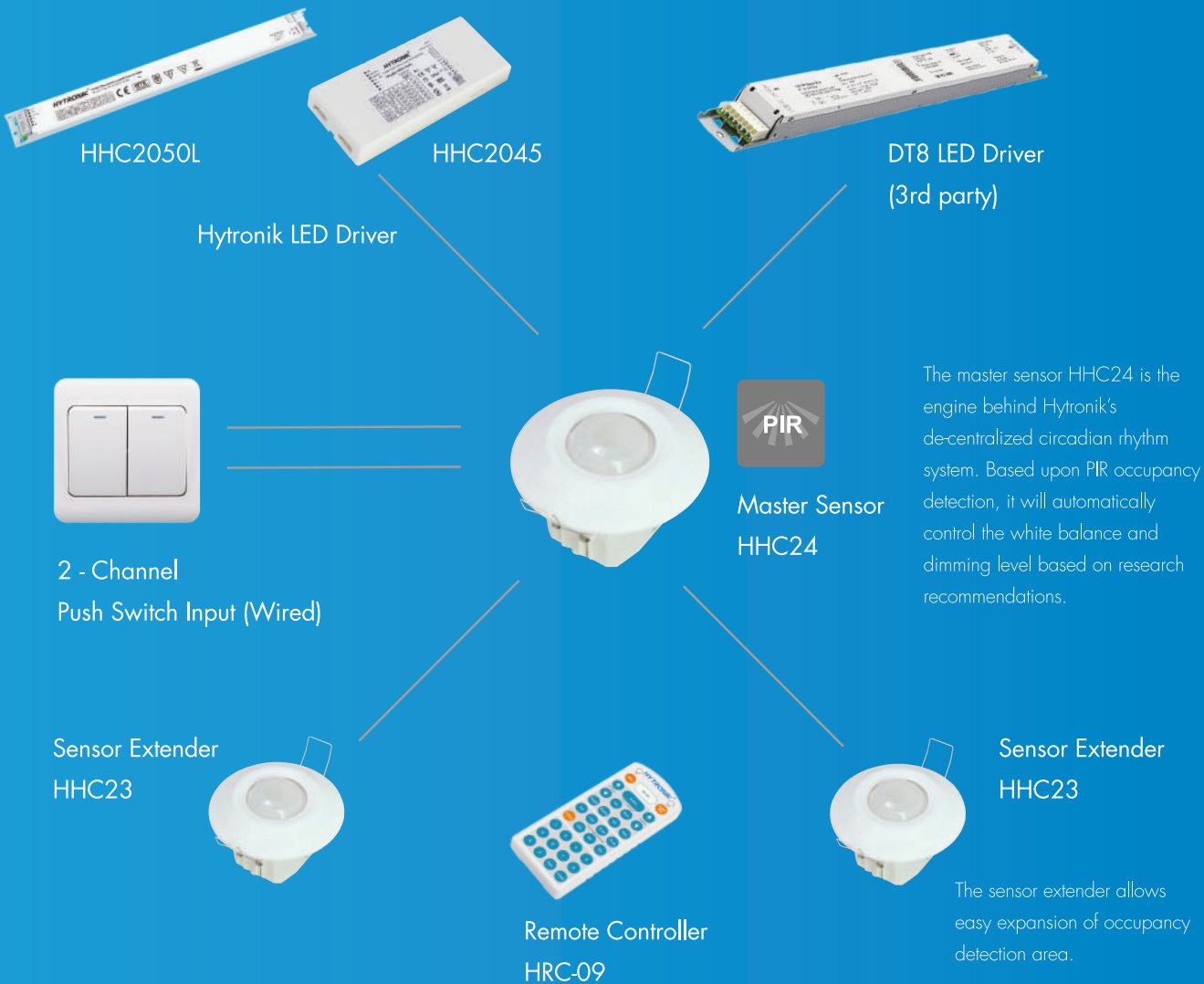
Wireless controls utilising mesh network technologies, such as bluetooth now provides a real alternative to traditional wired systems. They offer simple APP based commissioning and are more flexible for future room renovation than addressable systems. Hytronik has developed a range of controls which can be incorporated directly onto the project room designs, be pre-wired into the fixtures, or even a mixture of both! The product family is completely compatible and all programmed from the same APP. Whether the application is domestic, commercial, industrial or educational, we have a solution - and the range is still growing!



Hytronik Human Centric Lighting

Open / Large Area

Lighting can reduce energy bills, it can also boost productivity and promote the wellbeing of humans in artificially lit environments. Hytronik has added to its de-centralised tunable white LED driver range with a new concept of time keeping for the most cost effective Human Centric Lighting.



| System Capacity | Component | DT8 Driver = 2mA | HHC23 Extender = 8mA |
|--------------------------------------|----------------------------|------------------|----------------------|
| HHC24 Includes 96mA max. DALI PSU | Max. No. of DT8 Drivers | 48 | 0 |
| | Max. No. of HHC23 Extender | 8 | 10 |

Hytronik Human Centric Lighting Single Point Luminaire Control



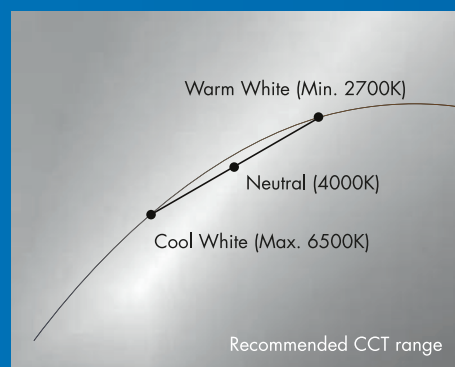
Offering the same functionality as the Hytronik Human Centric System in a package optimised for single office fixtures, such as tunable white recessed panels and linear lights. Applications may also be found where it is desirable that each occupant has control over his or her own lighting needs on a point-by-point basis.

This simple setup requires the following 3 elements:

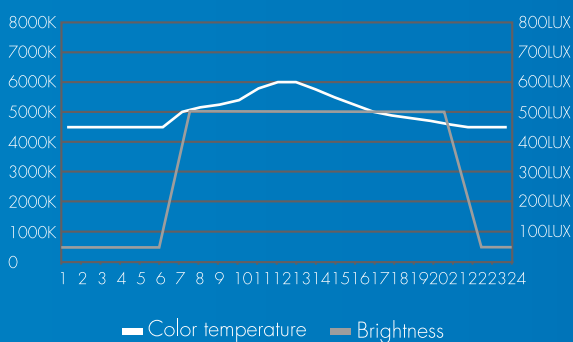
- ※ Choice of LED driver:
 - HER1045 - 45W (LED Panels, external mounting)
 - HER1050L - 20W (Linear, installed inside fixture)
- ※ HF or PIR occupancy sensor with following features:
 - IR receiver
 - Daylight harvest unit
 - Recess design fits into 41mm cut-out
- ※ Remote control HRC-09 for setup and user operation

Features:

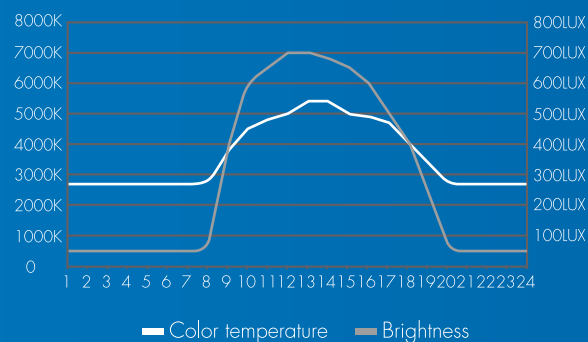
- ※ HER1045 - 45W, 2 - channel tunable white LED driver with multi-current selection to suit a wide range of luminaires
- ※ HER1050L - 50W, 2 - channel tunable white LED driver with single output current (can be customised to requirement).
- ※ HF occupancy sensor - detection range 1.2m (D) x 6m (H)
- ※ PIR occupancy sensor - detection range 6m (D) x 5m (H)
- ※ Daylight Harvest
- ※ Pre-programmed automatic colour tuning and brightness control - also sometimes known as circadian rhythm.



* For office application



* For health care application



Hytronik Smarti-Fi™

Domestic / Room-In-A-Box Intelligence

Great things come in small packages, and the Hytronik Smarti-Fi™ is no exception. Whether used for new build, retro-fit projects or for lighting manufacturers to add intelligent control to standard lighting fixtures, this extremely versatile range of products does it all.

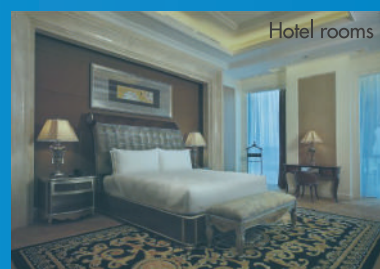
Hytronik Smarti-Fi™ your lighting!



Also Ideal for.....



Timing function for automatic on/off programming. A standard on/off sensor can also be configured to provide tri-level control (or corridor function) if the fixtures are dimmable.



Hotel rooms with multiple switching arrangements. Up to 32 scenes can be stored on each device!



HBTD8200T

- ※ 150VA trailing edge output
- ※ Bluetooth wireless grouping
- ※ 2-input Switch-Dim with synchronisation
- ※ Timer and alarm function
- ※ Holiday mode available



HBTD8200V

- ※ 1-10V output
- ※ Bluetooth wireless grouping
- ※ 2-input Switch-Dim with synchronisation
- ※ Timer and alarm function
- ※ Holiday mode available



HBTD8200D

- ※ 100mA broadcast DALI output for up to 50 LED drivers per node
- ※ Bluetooth wireless grouping
- ※ 2-input Switch-Dim with synchronisation
- ※ Timer and alarm function
- ※ Holiday mode available
- ※ Colour tuning
- ※ Bio-alarm



HBTD8200S

- ※ On/off control
- ※ Bluetooth wireless grouping
- ※ 2-input Switch-Dim with synchronisation
- ※ Timer and alarm function
- ※ Holiday mode available

Triac Example



Out with the old....

Replace the triac dimmer switch face plate with retractive switch type.



In with new....

The retractive switch inputs may be configured for on/off control, dimming control, and even scene recall!



Retractive switch



Bluetooth dimmer
HBTD8200T



Downlights



Bluetooth sensor



Free APP



Configure Inputs



Create Scenes



Set scheduling



Holiday Mode

Corridor



Occupancy sensors for corridors should provide safety and accuracy. To deliver the best performance and energy savings possible, passive infrared (PIR) is a good choice for most corridors as the detection area remains confined to the corridor space. Combined with automatic dimming, the best compromise of energy savings, comfort and safety can be realized. Consider the use of Dual Sense technology for more complex corridor networks, and HF for those with higher ceiling mounting heights.



HIR28

- ※ Fully automatic on/off control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available



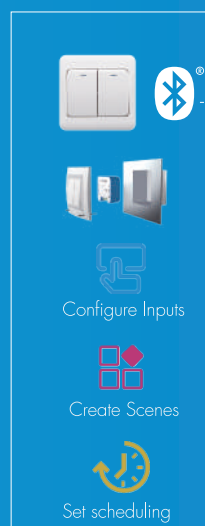
HMW21

- ※ Fully automatic 1-10V tri-level control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Discreet flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available



HIM17

- ※ Fully automatic on/off and trailing edge tri-level control
- ※ Compatible with dimmable fire-rated downlights, commonly used in corridors
- ※ DualSense™ sensor technology
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Dual flush or surface mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation



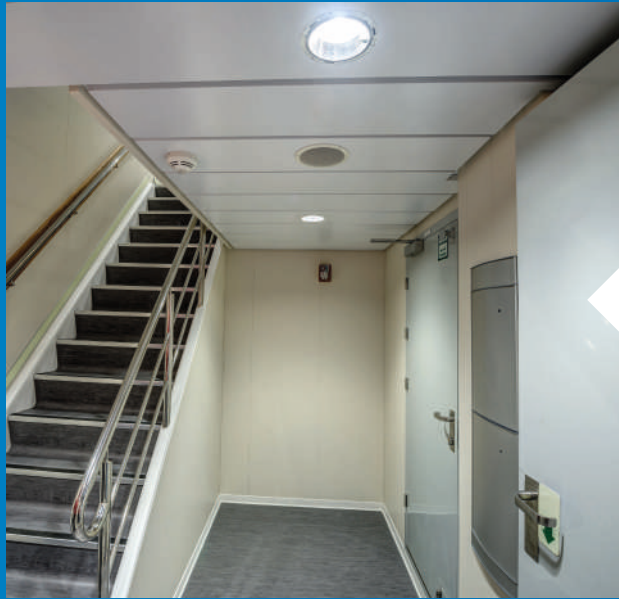
Hytronik Smart-Fi™
your Corridor!

- ※ Cleaners scene
- ※ Night security scene

Specification wishes which may have been lost to budget are now a thing of the past. Set scenes and timers via the APP and control how the sensor(s) operate the lighting in absence and presence.



Stairwell



Stairwell sensors require high sensitivity and fast reaction time to ensure the stairwell is adequately lit when in use. Hytronik Dual Sense and HF sensors both provide this characteristic, especially in stairwells with a high ceiling void. Dual Sense lends itself to high accuracy and surface mounting options, whilst HF provides the most cost effective solution. Combined with automatic dimming, the best possible energy savings and pedestrian safety are maintained.

DUALsense™



HIM11

- ※ Fully automatic on/off or 1-10V tri-level light control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Dual flush or surface mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI, daylight harvest and trailing edge phase dimming versions available



HMW21

- ※ Fully automatic on/off or 1-10V tri-level light control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Discreet flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available

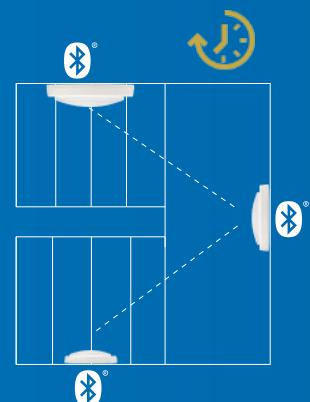


HIR28

- ※ Fully automatic on/off control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation

Add Hytronik HYtelligence™ to your Stairways!

- ※ Ensure Stairwells are lit when they need to be
- ※ Save energy with integral daylight controls when they don't need to be
- ※ Set hours of operation for enhanced safety
- ※ 'Predictive operation' - ensure the stairwell and landing above and below are always lit - the occupant will never walk into a dark space.
- ※ Wireless - no extra cabling
- ※ Specify Hytronik with your chosen lighting manufacturer



Small Office, Kitchen and Single Room



For smaller offices, kitchenette areas and other smaller closed spaces, passive infrared (PIR) technology provides the most accurate and cost effective solution. With our daylight harvesting sensors, a room may never be over-lit or the lights unnecessarily left on, meaning energy savings and user comfort are truly optimized for this type of space. Dual Sense should be considered in rooms with higher ceilings. Where occupancy sensing is not cost effective or viable, a simple daylight sensor maybe employed to ensure the small space is never over-lit.

Hytronik Human Centric Lighting

**HHC
HF/PIR**

**HER1045
(45W)**

- ※ 2-channel tunable white LED drivers with multi-current selection to suit a wide range of luminaires.
- ※ PIR occupancy Sensor - detection range 6m (D) x 5m (H)
- ※ Daylight Harvest
- ※ Pre-programmed automatic colour tuning and brightness control - also sometimes known as circadian rhythm.



**HER1050L
(50W)**

PIR

HIR22

- ※ Daylight harvest, makes use of natural light, 1-10V control
- ※ Daylight detection prior to motion detection
- ※ 360° maximum detection 10m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI version available



DS02/FM & DS02

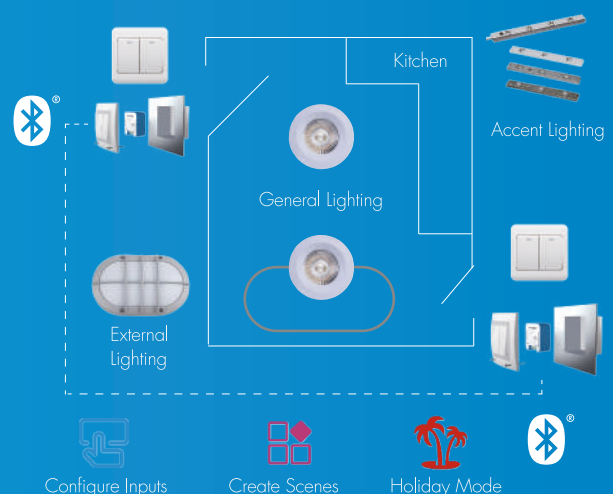
Where occupancy sensing is not cost effective or viable, a simple daylight sensor maybe employed to ensure the space is never over-lit.

HDP08

For small offices utilising DALI controls, Hytronik offer an attractive scene recall plate with 4 scene memories. Requires external DALI power supply.



Hytronik Smarti-Fi™



Open Office



Large open office spaces have many possibilities, including zonal occupancy control, making use of natural daylight, human centric lighting or simply detecting a large area with as few sensors as possible. Hytronik controls using Bluetooth wireless mesh technology easily fulfill all of these demands in a simple and cost effective way compared to that of wired addressable systems. Future re-configurations of the space are easily catered for, vastly reducing the cost of ownership.

Hytronik Human Centric Lighting



HBHC25 / HBHC26



HBP01



HHC2045



HHC2050L

Please see our product datasheet for further description. Contact your local Hytronik representatives to request further information / request presentation.



HIR27

- ※ Daylight harvest, makes use of natural daylight.
- ※ Self-powered DALI, up to 80mA (40 lights)
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control programmable with One-key commissioning
- ※ Group synchronisation

Hytronik HYtelligence™

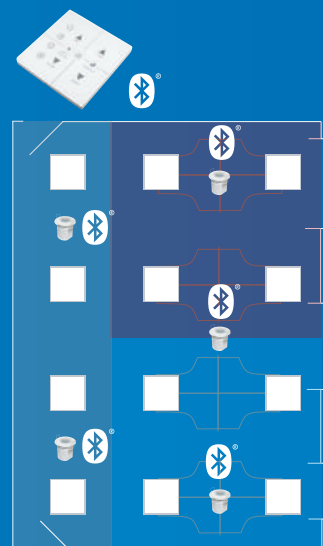


HBIR29



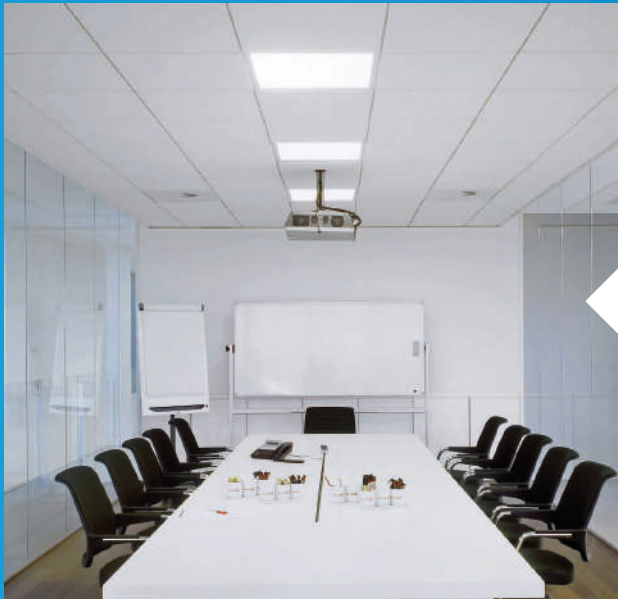
HBP01

- ※ Daylight harvest, makes use of natural daylight.
- ※ Self-powered DALI, up to 80mA (40 lights)
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Discreet flush mounting design
- ※ Free APP for setup and commissioning



- ※ HBIR29 provides occupancy detection and daylight control.
- ※ HBP01 allows scene selection and basic user control.
- ※ Manual control and scene selection is also achievable via standard momentary push switches.
- ※ Create virtual rooms (groups) using the Hytronik APP, such as in the shaded areas opposite.
- ※ All sensors can be configured to communicate with each other.
- ※ Up to 32 scenes may be created.
- ※ Timer functions are supported for full system automation.

Conference Room



A conference room will always require good lighting control, from maximizing the available light on the table to lighting areas of display and dimming control for projected presentations. Hytronik's range of system DALI or independent DALI products allow scenes to be easily selected by the end user. The combinations of occupancy control and daylight harvest also mean that the functionality of the lighting is met whilst still ensuring energy savings are made at all possible times.

Hytronik Human Centric Lighting

HHC
PIR



HCC23 / HHC24

HHC2045

HHC2050L

- ※ 2-channel tunable white LED drivers with multi-current selection to suit a wide range of luminaires.
- ※ PIR occupancy Sensor - detection range 10m (D) x 3m (H)
- ※ Daylight Harvest
- ※ Pre-programmed automatic colour tuning and brightness control - also sometimes known as circadian rhythm.

PIR



HIR27

- ※ Daylight harvest, makes use of natural daylight using simple self-powered DALI broadcast.
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ Independent DALI can supply up to 40 DALI drivers

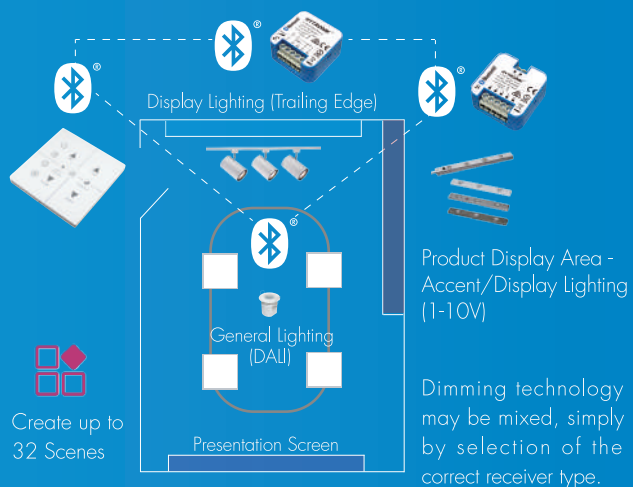
HF



HMW24

- ※ Daylight harvest, makes use of natural daylight using simple self-powered DALI broadcast.
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Discreet flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ Independent DALI can supply up to 20 DALI drivers
- ※ 1-10V dimming versions available

Hytronik HYtelligence™



Classroom



Classroom specifications can have many demands, including daylight harvest, semi-automatic occupancy control (absence detection), zonal dimming, and increasingly colour control for where human centric lighting is being implemented.

Hytronik Human Centric Lighting



HBHC25 / HBHC26 HHC2045 HHC2050L

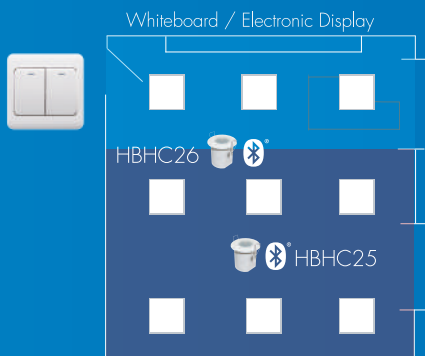
- ※ 2-channel tunable white LED drivers with multi-current selection to suit a wide range of luminaires.
- ※ PIR occupancy Sensor - detection range 10m (D) x 3m (H)
- ※ Daylight Harvest
- ※ Pre-programmed automatic colour tuning and brightness control - also sometimes known as circadian rhythm.



HIR27

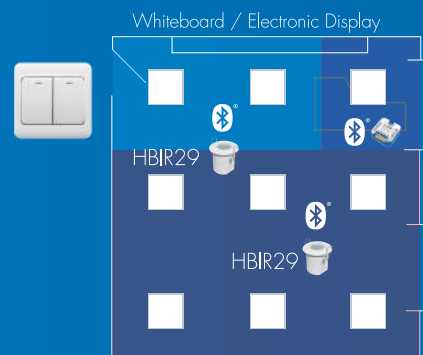
- ※ Daylight harvest, makes use of natural daylight using simple self-powered DALI broadcast.
- ※ Daylight detection prior to motion detection
- ※ 360° / maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ Independent DALI can supply up to 40 DALI drivers

Hytronik HYtelligence™



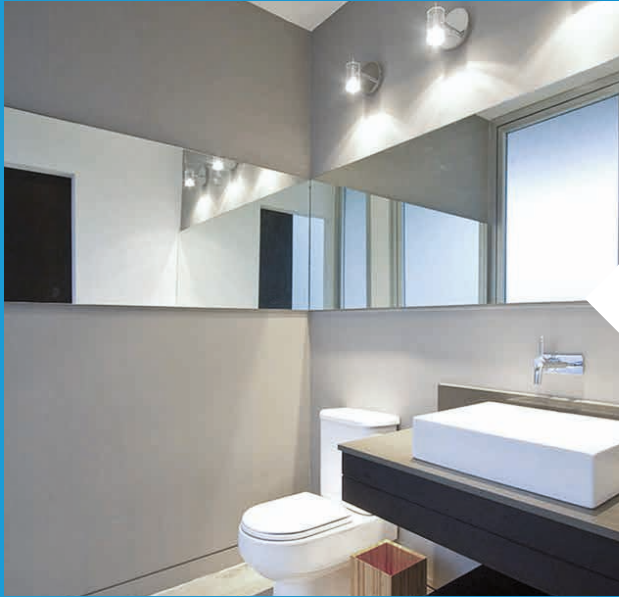
- ※ HBHC25 provides occupancy sensing, daylight control and circadian rhythm functions
- ※ HBHC26 used for occupancy detection range extension
- ※ 2 channel DALI output, switchable from wall switch
- ※ Commissioning via Hytronik APP

Hytronik HYtelligence™ - Non-colour Tune Version



- ※ HBIR29 used for occupancy sensing and daylight control
- ※ Addition receivers gives unlimited channels
- ※ Switches can be configured to recall scenes for multiple task settings
- ※ Semi-auto or 'Absence detection'
- ※ Commissioning via Hytronik APP

Washroom



Bathroom areas generally have partitions and HF sensing technology comes into its own as the most cost effective solution to provide sensing area coverage with as few sensors as possible. Where smaller WC's are adjacent to sleeping areas, such as in student accommodation, PIR is recommended. As natural daylight is not normally a feature in this kind of space, automatic dimming is an often overlooked feature and is recommended to provide extra comfort and safety.



HMW21

Recommended for large washroom

- ※ Fully automatic on/off or 1-10V tri-level light control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 12m (D) x 6m (H)
- ※ Discreet flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available



HIR28

- ※ Fully automatic on/off control
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available

Related OEM Products



HC008S/M



HIRO2
HC038V



SAM5/IP65
HEC7030

Car Park



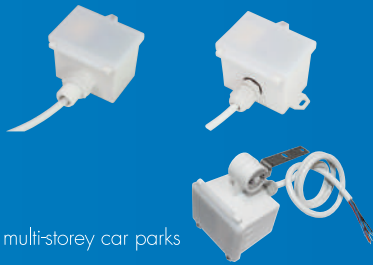
Car parks present interesting engineering challenges when adding occupancy and lighting controls, with wiring restrictions / alterations usually constricting the budget to provide a reasonable solution. Hytroniks range of RF wireless sensors provide the perfect solution for cost effective functionality and accuracy.



HMW39/RF

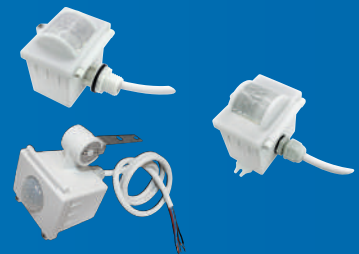
Recommended for large and multi-storey car parks

- ※ Independent DAI control with automatic dimming
- ※ Daylight detection prior to motion detection
- ※ 360°/maximum detection 10m (D) x 12m (H)
- ※ IP65, multi-mount enclosure
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ Wireless communication - create connected zones for progressive lighting response.



HIM39/RF

- ※ Wireless independent DAI control with automatic dimming
- ※ Wireless communication - create connected zones for progressive lighting response.
- ※ 1-10V dimming version available
- ※ Maximum detection 18m (D) x 15m (H)
- ※ Both microwave and PIR for high sensitivity and high accuracy
- ※ IP65, multi-mount enclosure
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation



Related OEM Products



SAM11
HC038V
HC034RF



SAM8/RC11
HC038V



SAM8/RC11
HED1050L

Equipment/Changing and Plant Rooms



Rooms which are generally in less frequent use present ideal opportunities to reduce energy costs by only lighting the space when necessary. Where these areas do not benefit from natural daylight, use of 2-step lighting control should be considered for comfort and safety of the occupants.



HIR28

- ※ Fully automatic on/off control
- ※ Daylight detection prior to motion detection
- ※ 360° maximum detection 7m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation



HIR21

- ※ Fully automatic 1-10V tri-level light control
- ※ Daylight detection prior to motion detection
- ※ 360° maximum detection 10m (D) x 3m (H)
- ※ Compact flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available

Related OEM Products



HIR01/FM
HED1045



HIR02
HC038V



HMW21

- ※ Fully automatic 1-10V tri-level light control
- ※ Daylight detection prior to motion detection
- ※ 360° maximum detection 12m (D) x 6m (H)
- ※ Discreet flush mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ DALI and daylight harvest versions available

Warehouse



Warehouse luminaire mounting infrastructure and wiring limitations demand sensors with innovative and flexible mounting options. Hytronik high bay solutions provide the designer with freedom to select and implement lighting controls in the most convenient and cost effective manner.



HMW31 / HMW32

- ※ 1-10V triLevel control (HMW31)
- ※ 1-10V Daylight harvest control (HMW32)
- ※ DALI version available



Features for All Models:

- ※ 360° maximum detection 10m (D) x 12m (H)
- ※ Dual Sense PIR open area also available
- ※ Daylight detection prior to motion detection
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation
- ※ IP65 rated; 3 options for installation:
 - Screw to the luminaire by conduit
 - Ceiling mount
 - Attach to luminaire shade by clamp

Related OEM Products



HA01



HCD038
HIR14 / HIR09

- ※ APP based commissioning
- ※ Specify Hytronik with your preferred lighting supplier



HIM31

- ※ Fully automatic 1-10V triLevel light control
- ※ DALI version available



HIM39/RF

- ※ Wireless independent DALI tri-level control
- ※ Wireless communication - create connected zones for progressive lighting response.
- ※ 1-10V dimming version available
- ※ Maximum detection 18m (D) x 15m (H)








HCD450VDSRC

- ※ Daylight harvest, makes use of natural daylight using simple self-powered DALI broadcast or 1-10V
- ※ Daylight detection prior to motion detection
- ※ Remote control programmable
- ※ Dry contact output
- ※ IP65 enclosure with bracket mount for flexible installation
- ※ 25m x 6m detection, maximum 15m mounting height
- ※ Independent DALI can supply up to 30 DALI drivers




Stand-alone Sensor Summary


Hytronik Dual Sense:

| Products | Model | Dimming Feature | Function |
|---|--|------------------|--------------------------------|
|  <p>HIM54 only For High Bay</p> | HIM11 | 1-10V | Tri-level control |
| | HIM12 | 1-10V | Daylight harvest |
| | HIM13 | System DALI | Tri-level control |
| | HIM14 | Independent DALI | Daylight harvest |
| | HIM15 | Independent DALI | Tri-level control |
| | HIM16 | Trailing edge | Daylight harvest |
| | HIM17 | Trailing edge | Tri-level control |
| | HIM54 | Independent DALI | Daylight harvest |
|  <p>For High Bay</p> | HIM31 | 1-10V | Tri-level Control |
| | HIM32 | 1-10V | Daylight Harvest |
| | HIM34 | Independent DALI | Daylight Harvest |
| | HIM35 | Independent DALI | Tri-level Control |
| | HIM38/RF | 1-10V | Tri-level Control, RF wireless |
| | HIM39/RF | Independent DALI | Tri-level Control, RF wireless |
|  |  HBHC25 (HCL) | Independent DALI | Daylight Harvest |
| | [°] HBHC26 (HCL) | / | Sensor Extender |
| | HIR27 | Independent DALI | Daylight Harvest |
| | HIR28 | / | On/off Control |
| |  HBIR29 | Independent DALI | Daylight Harvest |

Hytronik Passive Infrared (PIR):

| Products | Model | Dimming Feature | Function |
|---|-------------|------------------|------------------------|
|  | HIR20 | / | On/off Control |
| | HIR21 | 1-10V | Tri-level control |
| | HIR22 | 1-10V | Daylight harvest |
| | HIR23 | System DALI | Tri-level control |
| | HIR24 | Independent DALI | Daylight harvest |
| | HHC23 (HCL) | / | Sensor Extender |
| | HHC24 (HCL) | Independent DALI | Hytronik Human Centric |

Hytronik High Frequency (Microwave):

| Products | Model | Dimming Feature | Function |
|---|----------|------------------|--------------------------------|
|  <p>For High Bay</p> | HMW11 | 1-10V | Tri-level control |
| | HMW12 | 1-10V | Daylight harvest |
| | HMW14 | Independent DALI | Daylight harvest |
| | HMW15 | Independent DALI | Tri-level control |
| | HMW20 | N/A | On/off Control |
| | HMW21 | 1-10V | Tri-level control |
| | HMW22 | 1-10V | Daylight harvest |
| | HMW23 | System DALI | Tri-level control |
| | HMW24 | Independent DALI | Daylight harvest |
| | HMW25 | Independent DALI | Tri-level control |
| | HMW31 | 1-10V | Tri-level control |
| | HMW32 | 1-10V | Daylight harvest |
| | HMW34 | Independent DALI | Daylight harvest |
| | HMW35 | Independent DALI | Tri-level control |
| | HMW38/RF | 1-10V | Tri-level control, RF wireless |
| | HMW39/RF | Independent DALI | Tri-level control, RF wireless |

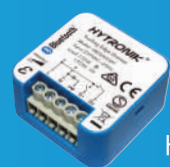
For detailed technical information, please refer to our product data sheets at www.hytronik.com



Retrofit and Upgrade Products

Hytronik offers an extended range of products to cater for upgrading existing installations. Simple retrofit devices for instant energy savings to advanced controls utilizing daylight offering enhanced comfort and further energy savings, there is a product to suit every budget.

Hytronik Smarti-Fi™ _ Lighting Control Using Bluetooth® Wireless Technology



HBTD8200T



HBTD8200D



HBTD8200V



HBTD8200S

Convert standard lighting fixtures into intelligent smart lamps, programmable and controllable from your smartphone or tablet.

- ※ Create up to 32 scenes and automatic timers
- ※ Dual push switch input - configurable for manual control and scene recall
- ※ Timer and alarm function
- ※ Holiday mode available
- ※ Supports occupancy sensor override
- ※ Trailing edge, DALI, 1-10V and on/off switch - can mix and match!

HC030S



Ideally suited to linear fixtures, these simple "bolt-on" sensors provide a quick retro-fit solution.

Surface-mount IP20 & IP65 sensor box



- ※ Suitable for most Hytronik built-in sensors, refer to guide for details.
- ※ Supplied with all necessary fixings and cable clamp.

HED1045



HED1045 with flush mount antenna is perfect for upgrading LED panels with high specification lighting control. Simply exchanging the existing driver can add occupancy control, dimming and even daylight harvest with the PIR antenna.

Dimming Driver Upgrades Switch-DIM and 1-10V



HE8030-A



HE8050-A

- ※ Multi-current selection, suitable for many LED applications.
- For DALI drivers, please see page 27.

Components for Trailing Edge Systems

Bluetooth® Dimmer Trailing Edge Version

- ※ 150VA trailing edge output
- ※ Wireless grouping
- ※ Create up to 32 scenes and automatic timers
- ※ Dual push switch input - configurable for manual control and scene recall
- ※ Timer and alarm function
- ※ Holiday mode available
- ※ Supports occupancy sensor override



Socket Mount



Fixture Mounting

Push-type Trailing Edge Dimmer HD2200



- ※ Easily convert trailing edge dimming driver to Switch-dim
- ※ Smooth flicker-free dimming
- ※ Adjustable for minimum load setting
- ※ Provides permanent memory to share last user setting
- ※ 50 x HD2200 can be connected to a single switch
- ※ Simple synchronization for uniform dimming of multiple fixtures



Occupancy Sensor + Dimmer

HIM16 (Daylight Harvest) HIM17 (Tri-level Control)

- ※ 200VA trailing edge output
- ※ 360° / maximum detection 12m (D) x 6m (H)
- ※ Dual flush or surface mounting design
- ※ Remote control or pre-set programmable
- ※ One-key commissioning for easy installation



Occupancy Sensor

HC402S/T



To add a motion sensor into a triac dimmer system is usually difficult. This sensor has been specially designed for this application. The output of the dimmer is simply passed through this motion sensor to the connected lights.

Hidden Sensors for False Ceiling

On/off Control HC009S /EXT

- ※ On-off control
- ※ Zero-cross relay operation
- ※ Synchronisation control
- ※ Maximum Load 400W capacitive 1200W resistive



Tri-level Control HC018V /EXT

- ※ Manual override access
- ※ Zero-cross relay operation
- ※ Tri-Level control
- ※ Maximum Load 800W capacitive 2000W resistive

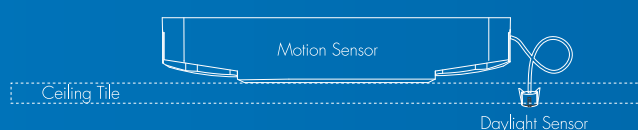


Synchronization Control HC019V /EXT

- ※ 2 or multiple sensors control the same group of receivers.
- ※ Zero-cross relay operation.
- ※ Tri-Level control.
- ※ Maximum load 800W capacitive 2000W resistive.



Installation





Accessories and Components

Wall Panel Featuring Bluetooth® Wireless Technology



Bluetooth® HBPO1

Compatible with all Hytronik Lighting control products using bluetooth wireless technology:

- a. Hytronik Human Centric (HHC) sensor HBHC25 (circadian rhythm and tunable white)
- b. HYtelligence™ - 'built-in' into fixture wireless lighting controls.
- c. Smart-Fi™ - Convert standard lights into smart lights

Add a touch of elegance to any room with glass finished touch screen.

Product Highlights:

- ※ Wireless communication (requires mains power).
- ※ Manual off control, on with one-touch scene recall button.
- ※ Manual real time brightness adjustment of any scene
- ※ 4 Scene memories with one-touch recall
- ※ Illuminated display panel (can be turned off if not required)

DALI Panel HDP08



DALI HDP08

HDP08 is a scene controller designed for use in DALI systems under separate power supply and master control. Attractive glass finish features 4, one-touch scene recall memories for great flexibility in environments such as hotel rooms, classrooms and conference rooms where it is desirable to accent the light according to task.

Product Highlights:

- ※ Manual off control, on with one-touch scene recall button.
- ※ Manual real time brightness adjustment of any scene
- ※ 4 Scene memories with one-touch recall
- ※ Illuminated display panel (can be turned off if not required)

Both HBPO1 and HDP08 can be customised, please contact your local Hytronik representative for further details.



DALI Dimmer HDD2200

For use in upgrade retrofit of trailing edge phase dimming controls, this dimmer will convert DALI control signals to the trailing edge drivers or transformers. It can realise savings on installation and wiring costs and will also reduce unnecessary waste of electronic equipment making it an environmentally sound solution for a lighting control upgrade.

Highlights:

- ※ Maximum load 200W
- ※ Synchronization
- ※ Permanent memory
- ※ Built-in or stand-alone



DALI Switch HDS2400

This on/off DALI controlled switch is ideally suited for retrofit where non-dimmable LED drivers, transformer or fluorescent ballasts have been used. Saving costs on installation, components and wiring this convertor is an extremely cost effective and environmentally sound solution to retrofit of simple lighting control.

Highlights:

- ※ Maximum load 400W
- ※ Built-in or stand-alone
- ※ Zero-cross relay operation

DALI Power Supply



HT-01

Highlights:

- ※ Built-in type
- ※ 240mA output capability
- ※ Isolated output 3000V



HT-02

Highlights:

- ※ Din rail mounting
- ※ 240mA output capability
- ※ Isolated output 3000V



HT-03

Highlights:

- ※ Compact linear body
- ※ 90mA output capability
- ※ Isolated output 3000V



LED Drivers

DALI 2 Series

At the forefront of our DALI driver range, these LED drivers are DALI 2 standard ready and have been designed for ultra low stand-by power consumption to reduce 'parasitic power' as defined by EuP/ErP. Other features such as flicker-free dimming operation, intelligent thermal management and many more features, they are the ideal choice for large high-end DALI projects, or for those who are designing for EuP/ErP compliance.

Technical Note:

We strongly recommend the use of fully isolated DALI Power Supply Units (including those integrated into DALI master units) such as the Hytronik HT-02. Comprehensive data sheets for each model are available on our website.

HED6010 HED6020



- ※ Maximum 10W (HED6010) / 20W (HED6020)
- ※ Selectable output currents from 350 - 900mA
- ※ Size (L x W x H): 150 x 53 x 30mm

HED6045 HED6045L



- ※ Maximum 45W
- ※ Selectable output currents from 500 - 1400mA
(350 - 900mA for HED6045L)
- ※ Size (L x W x H): 140 x 79 x 23mm

Constant Current

HED6060 HED6060L



- ※ Maximum 60W
- ※ Selectable output currents from 1.05 - 2.1A
(350 - 900mA for HED6060L)
- ※ Size (L x W x H): 220 x 58 x 42mm

Features

- ※ Stand-by power < 0.5W
- ※ Intelligent thermal management
- ※ Flick-free dimming
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ In compliance with DALI 2 standard
- ※ Insulated terminals suitable for external mounting

HED4030-A



- ※ Maximum 30W
- ※ Constant voltage 12V
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 150 x 53 x 30mm

HED6030-A



- ※ Maximum 30W
- ※ Constant voltage 24V
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 150 x 53 x 30mm

Constant Voltage

HED2075-A



- ※ Maximum 75W
- ※ Constant voltage 12V
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 220 x 58 x 42mm

HED3075-A



- ※ Maximum 75W
- ※ Constant voltage 24V
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 220 x 58 x 42mm

Features

- ※ Thermal, short-circuit and overload protection
- ※ Insulated terminals suitable for external mounting
- ※ Manual override
- ※ 0 - 100% dimming range
- ※ Permanent memory
- ※ Switch-DIM synchronisation



LED Drivers

DALI Economy Series

The economy range of DALI drivers are designed as a value-added choice for DALI systems which do not utilise any of the extended features of DALI, such as fault feedback. This range is perfectly suited for connection to DALI controls which operate using only broadcast commands, however they may also be addressed and grouped via a DALI Master if required.

Technical Note:

We strongly recommend the use of fully isolated DALI Power Supply Units (including those integrated into DALI master units) such as the Hytronik HT02. Comprehensive data sheets for each model are available on our website.

HED2020



- ※ Maximum 20W
- ※ Selectable output currents from 350 - 900mA
- ※ Selectable for constant voltage 12V, 24V
- ※ DALI and switch-DIM
- ※ Size (L x W x H): 150 x 52 x 28mm

HED2040



- ※ Maximum 40W
- ※ Selectable output currents from 350 - 1100mA
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 123 x 79 x 30mm

Constant Current

HED2050



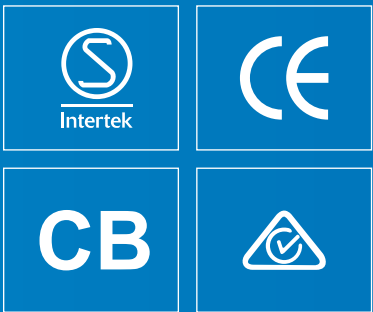
- ※ Maximum 50W
- ※ Selectable output currents from 700 - 1400mA
- ※ DALI, switch-DIM and 1-10V dimmable
- ※ Size (L x W x H): 123 x 79 x 30mm

HED2060



- ※ Maximum 60W
- ※ Selectable output currents from 1.05 - 2.1A
- ※ DALI and switch-DIM
- ※ Size (L x W x H): 220 x 58 x 42mm

Approvals and Warranty



Approvals

Hytronik products are designed to international safety and performance standards as applicable and are manufactured in our ISO9001 factory to our own stringent requirements.

It is our policy to seek 3rd party certification with a recognised international body on our standard product range so you can supply with confidence.



Warranty

All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. With today' s multi-national sourcing strategies, we offer an unrivalled universal warranty with support available in regions where Hytronik has its own office or authorised representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim.



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