

HIR17/R

PIR Midbay | Daylight harvest | RJ12 connector to control body

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Standard rectangular Plug&Play sensor design

Versatile: Tri-level dimming + Daylight harvest + Tunable white control

User-Friendly: With one-key commissioning with IR controller

Applications

Conduit thread: M 22x1.5mm

Office/Commercial Lighting

School/Classrooms

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HIR17-R>

Product Description

This PIR sensor features a conduit thread of M22 * 1.5mm and is designed for tri-level dimming and daylight harvesting. It supports DT8 drivers with tunable white control and includes a photodiode (PD) and active lux switching. Sensor settings can be adjusted via the handset HRC-11, and it is IP65 rated for protection of the lens/facia part.

Hardware Features

See additional details at the end of datasheet



5-year warranty



Active Lux
Switching



Ambient daylight
threshold



DALI broadcast
output



Manual Override



One key
commissioning

Functions and Features

See additional details at the end of datasheet



Daylight Harvest



Tri-level (Corridor
Function)

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Connector Type	RJ12

Sensor Data

Detection angle	360°
Max. Detection range (DxH)	20 m
Maximum Mounting Height	12 m
Detection area	314 m ²

Electrical Data

Warming-up	20 s
Operating Voltage	5 VDC

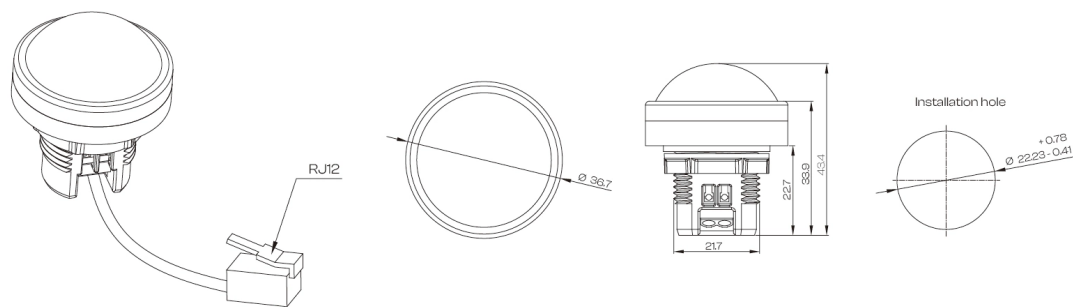
Technical

Product weight	21.0 g
Product height	43.4 mm
Product length	36.0 mm
Product width	36.0 mm
Mounting hole	22.0 mm
Cable length	30.0 cm
Ambient temperature	-20 ~ +50 °C
Storage temperature	-40 ~ +70 °C
Humidity max	10 ~ 90%
Case Temp.max	75.0 °C
IP Rate	IP20

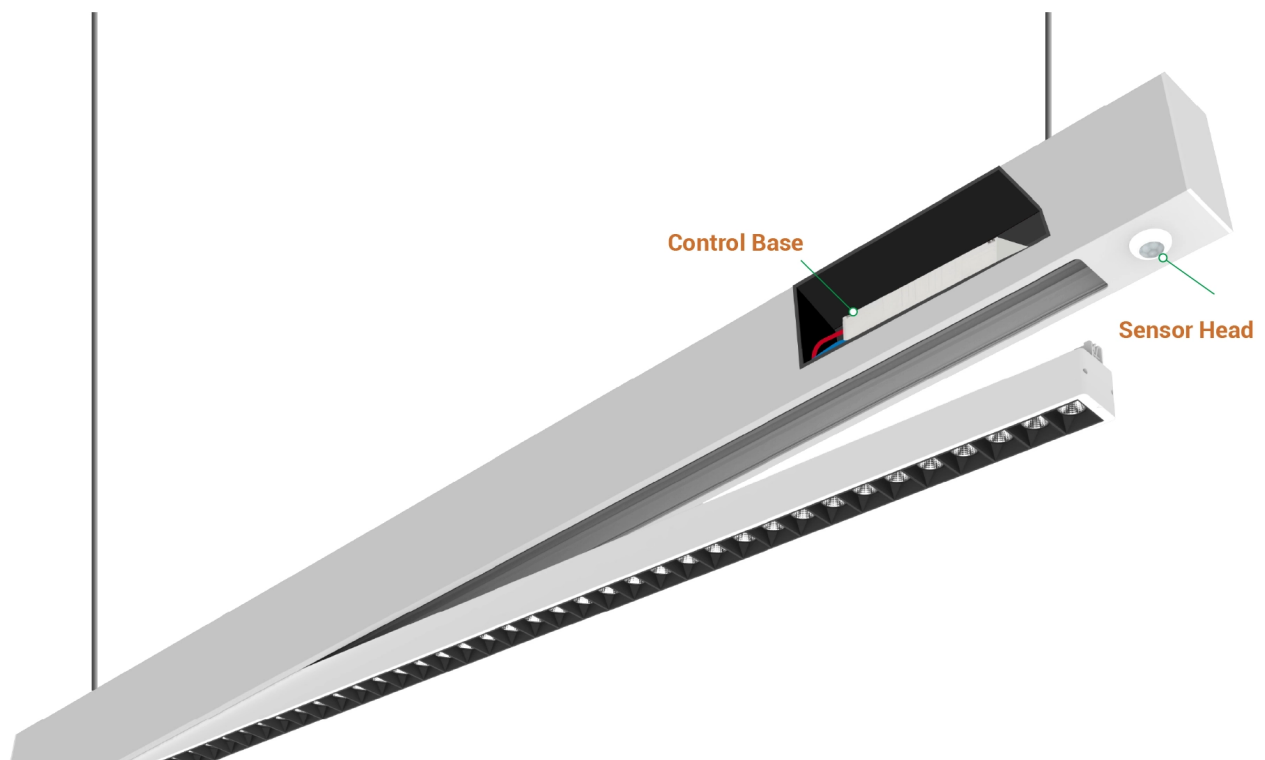
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Technical Drawing



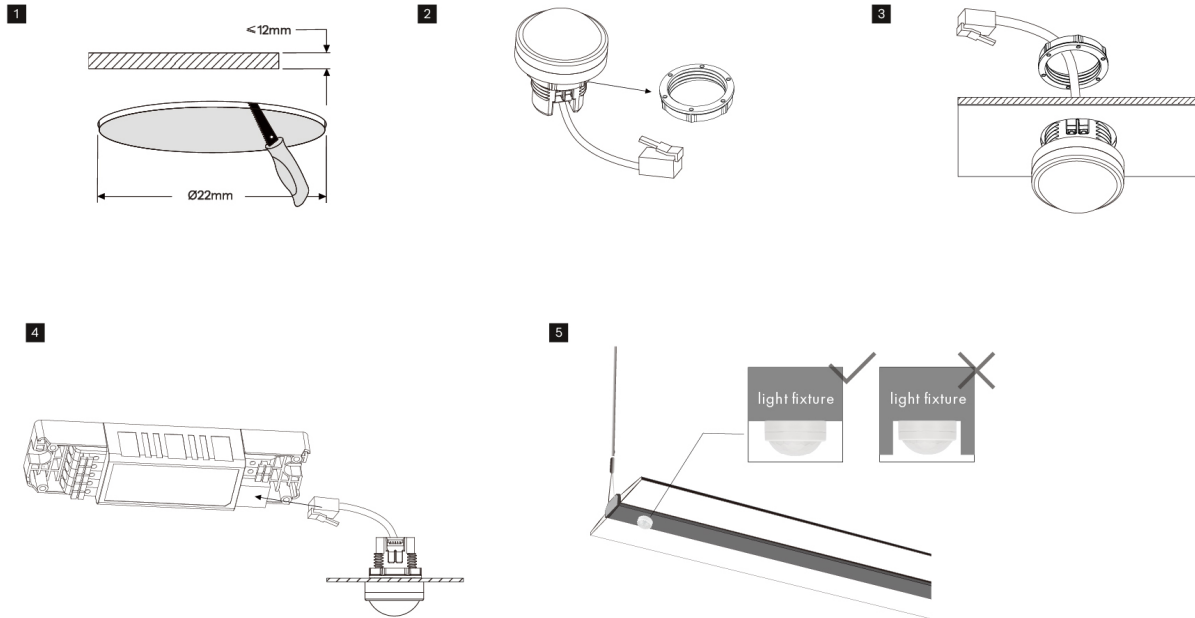
Picture Application Example



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Installation Process



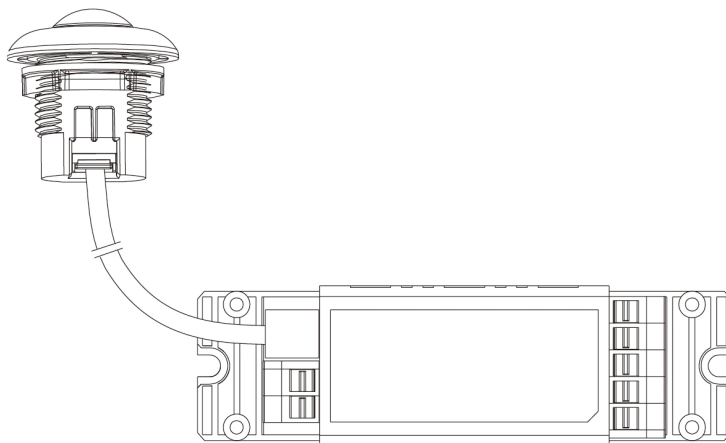
Detailed Installation Instructions

1. Drilling hole in the light fixture (Ø22mm).
2. Remove the plastic nut accessories by turning the knob.
3. Pass the sensor head & cable through the hole. Use plastic nut to secure the light fixture and sensor tightly.
4. Connect to the RJ12 cable.
5. Keep the sensor lens part beyond the light fixture surface for better detection.

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Wiring Diagram



Commissioning Instructions and Precautions

A. Installation Preparation

1. This product should be installed by a qualified electrician.
2. To ensure better detection, keep the sensor lens part beyond the surface of the light fixture.

B. Sensor Placement

1. The sensor head can be used only after it is connected to the control body or the LED driver via RJ12 connection.
2. When HIR17 or HIR17/R plug with HCD038/P, only one push terminal can be activated for configuration.
3. When loaded with D4i driver, please disable the PSU of D4I drivers and the total maximum bus supply current in the same DALI bus line shall not exceed 250 mA, hence Max 3pcs HCD038/P allowed.

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

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

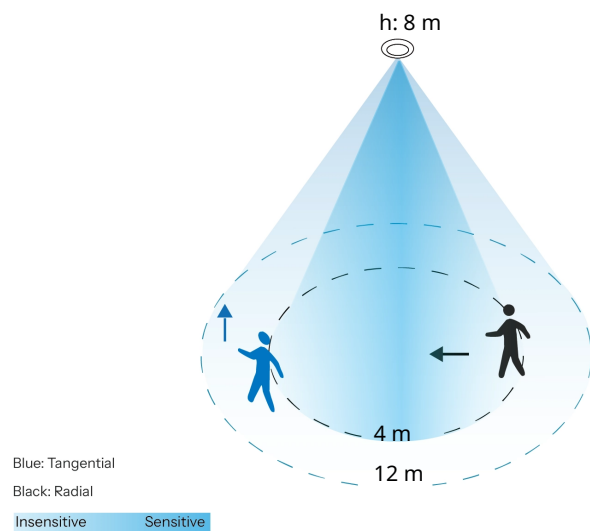
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Detection Range

Person

Mounting Height: 3 m - 8 m



Tangential

H[m]	3	4	5	6	7	8
Ø[m]	7	8	8	9	11	12

Radial

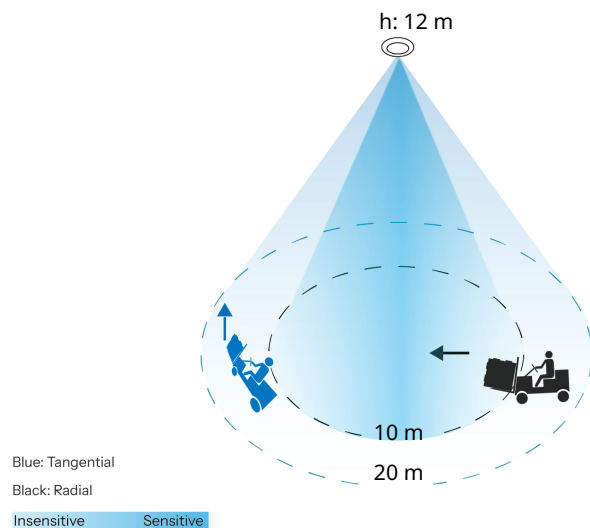
H[m]	3	4	5	6	7	8
Ø[m]	3	3	3	4	4	4

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 $T_a = 20^\circ\text{C}$
- The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.

Forklift

Mounting Height: 8 m - 12 m



Tangential

H[m]	8	9	10	11	12
Ø[m]	16	17	18	20	20

Radial

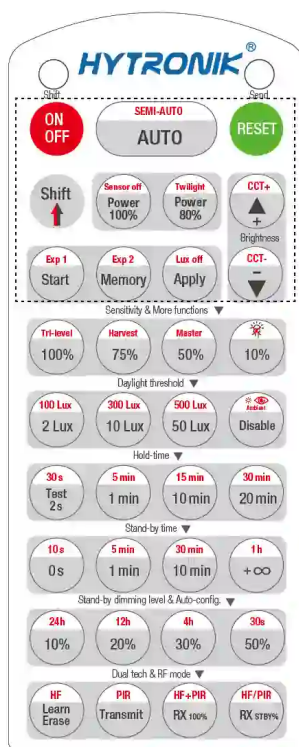
H[m]	8	9	10	11	12
Ø[m]	8	8	9	10	10

The data below is tested under following conditions:

- Forklift driving at a speed of 10km/h
- Sensor not connected to any driver that may have soft-on period
- Testing temperature $T_a = 20^\circ\text{C}$
- The testing is conducted in an open and spacious indoor field, without noticeable obstacles or influences that may affect PIR performances.

Commissioning via Remote Control - Page 1

Settings (Remote Control HRC-11)



HRC-11

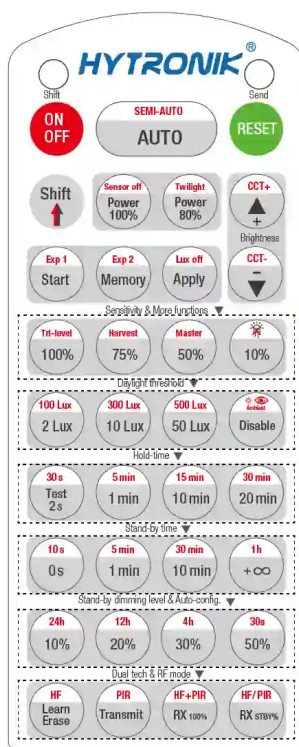
ON/OFF	Press button "ON/OFF" to select permanent ON or permanent OFF mode. * Press button "AUTO" / "RESET" to exit this mode.
RESET	Press button "RESET", all settings go back to default values (Tri-level Control mode). Detection range: 100%; Hold-time: 5min; Stand-by period: 10min; Stand-by dimming level: 10%; Lux disabled
Shift	Press button "Shift", the LED on the top left corner is on to indicate mode selection. All values / settings in RED are valid for 20 seconds.
AUTO	Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF; <i>Note: To initiate automatic mode under semi-auto mode, please press button "RESET" first.</i>
SEMI-AUTO	1. Press button "Shift", the red LED on. 2. Press button "SEMI-AUTO" to initiate Semi-auto mode. The sensor is only activated with the manual press of push switch. To exit this mode, simply press button "AUTO". <i>For Sensor LED indicator references: Remains on 2s, initiate "Semi-auto" mode from "Auto" mode.</i>
Power 100% 80%	Press buttons in zone "Power out" to select the light output at 80% (at initial 10,000 hours) or 100%.
Sensor off Twilight	1. Press button "Shift", the red LED on. 2. Press button "Sensor off", the function of movement detection is disabled, the function of photocell is also disabled. OR Press button "Twilight", the function of movement detection is disabled, but the function of photocell is still working, and the product becomes a pure dusk/ dawn daylight sensor. To exit from "Sensor off" / "Twilight" mode, press button "AUTO" / "SEMI-AUTO" / "RESET".
▲ ▼	Press these two buttons to adjust the light output brightness and set a new target lux level. The daylight sensor can measure ambient daylight level and ignore the LED light, so as to calculate how much artificial light is needed to maintain the target lux level.
CCT+ CCT-	1. Press button "Shift", the red LED on. 2. Press "CCT+" or "CCT-" button to adjust colour turning.
Start Memory Apply	1. Press button "Start" to program. 2. Select the buttons in "Detection range", "Daylight threshold", "Hold-time", "Stand-by time", "Stand-by dimming level" to set all parameters. 3. Press button "Memory" to save all the settings programmed in the remote control. 4. Press button "Apply" to set the settings to each sensor unit(s). <i>For example, to set detection range 100%, daylight threshold Disable, hold-time 5min, stand-by time +∞, stand-by dimming level 30%, the steps should be: Press button "Start", button "100%", "Disable", "Shift", "5min", "Shift", "+∞", "30%", "Memory". By pointing to the sensor unit(s) and pressing "Apply", all settings are passed on the sensor(s).</i>
Lux off	The "Lux off" function is activated as default. When the ambient lux level exceeds the target level continuously for more than 5 minutes, the lights will be turned off. In AUTO /SEMI-AUTO/Twilight modes, to disable "Lux off": 1. Press "Shift" button first, the red LED on. 2. Press "Lux off" button, the "Lux Off" function will be deactivated. The lights will not turn off even when the ambient lux level exceeds the target lux level but will dim down the brightness to the stand-by time level. <i>For Sensor LED indicator references: 1. Fast flash 1s, "Lux off" function activated. 2. Remains on 2s, "Lux off" function deactivated.</i>
Exp 1 Exp 2	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.

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Commissioning via Remote Control - Page 2

Settings (Remote Control HRC-11)



HRC-11

Sensitivity & More functions	
100% 75% 50% 10%	This key is not applicable on this product.
Tri-level Harvest	1. Press button "Shift", the red LED on. 2. Press buttons "Tri-level" or "Daylight harvest" to shift between Tri-level control mode and Daylight harvest mode.
Master	1. Press button "Shift", the red LED on. 2. Press button "Master" to select a DALI sensor in a DALI line to be a "master", so that all other DALI sensors in the same DALI line will perform daylight harvesting / tri-level control based on the lux reading from this "master" sensor's daylight sensor.
	Deactivate the sensor's indicator light. <i>The light will remain off during sensor operation.</i>
Daylight threshold	
2 Lux 100 Lux 10 Lux 300 Lux 50 Lux 500 Lux Disable	Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux/500Lux / Disable. <i>Note: To set daylight sensor at 100Lux / 300Lux/500Lux, press "Shift" button first.</i>
	1. Press button "Shift", the red LED on. 2. Press button "Ambient", the surrounding lux level is sampled and set as daylight threshold / target Lux level.
Hold-time mode	
Test 2s 30s 1 min 5 min 10 min 15 min 20 min 30 min	In AUTO /SEMI-AUTO modes, press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min. <i>Note: 1. To set hold-time at 30s / 5min / 15min / 30min, press "Shift" button first. 2. 2s is for testing purpose only, stand-by period and daylight sensor settings are disabled in this mode.</i> *To exit from Test mode, press button "RESET" or any button in "Hold-time".
Stand-by time mode	
0s 10s 1 min 5 min 10 min 30 min +∞ 1h	Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞. <i>Note: 1. To set stand-by time at 10s / 5min / 30min / 1h, press "Shift" button first. 2. "0s" means on/off control; 3. "+∞" means bi-level control, the fixture is 100% on when there is motion detected, and remains at the stand-by dimming level when no presence after motion hold-time. Only when the stand-by time is set in "+∞" and the ambient lux level is below the target lux level, the lux will auto-on.</i>
Stand-by dimming level & Auto-config.	
10% 20% 30% 50%	Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%.
24h 12h 4h 30s	1. Press button "Shift", the red LED on. 2. Select a time period and the sensor will do light level measurement and determine/save the lowest light level (commission line) with 100% light on, so as to set the target lux level automatically. <i>Note: 1. Make sure the light level measurement covers the night time. 2. The fixture will go into sensor mode after the measurement, all sensor setting remain unchanged.</i>
Dual tech & RF mode	
Learn Erase Transmit	This key is not applicable on this product.
RX 100% RX 50%	This key is not applicable on this product.
HF PIR HF+PIR HF/PIR	This key is not applicable on this product.

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Options

Compatible products (for full functionality)



HC038V

Control unit | 1-10V | Attachable sensor heads
www.hytronik.com/product/HC038V



HEC7030/BF

DALI DT6 LED Driver (CC) 30W | Dimmable | Built-in version
www.hytronik.com/product/HEC7030-BF



HC438V

Control unit | 1-10V Dimming | Attachable sensor heads
www.hytronik.com/product/HC438V



HED1025

DALI LED Driver 25W (CC) | Dimmable | Built-in version
www.hytronik.com/product/HED1025



HCD038

Control unit | DALI with PSU | Attachable sensor heads
www.hytronik.com/product/HCD038



HED8045

DALI-2 DT8 LED Driver 45W (CC) | Tunable white |
Built-in/Stand alone
www.hytronik.com/product/HED8045



HCD038/P

Control unit | DALI with PSU | Attachable sensor heads
www.hytronik.com/product/HCD038-P



HRC-11

Sensor remote controller | Diverse function | White color
www.hytronik.com/product/HRC-11

Functions and Features



5-year Warranty

All Hytronik products are supplied with a 5-year warranty against defect in design or manufacture. The warranty applies to all electronic control gears supplied by Hytronik and is applicable to the party to which the sale was made. The warranty is not transferable to a 3rd party and compatibility with external components are the responsibility of the finished goods manufacturer. 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 authorized representation, regardless of where the Hytronik product was purchased. Furthermore, we operate a 24-hour response policy to any claim. The full warranty policy is available upon request or from our website.



Active Lux Switching

The built-in photocell will also automatically turn off the light when the ambient light exceeds the programmed lux level for more than 5min, regardless of whether motion is detected or not.



Manual Override

With the help of push-switch, this sensor can be over-riden by the end-user to manually switch on/off the light, which makes the product more user-friendly and offers more options to fit some extra-ordinary demands:



One-key Commissioning

It simplifies complex processes with a single click for users to complete the commissioning. Saves time and effort, operates systems or devices smoothly, boosts productivity and user experience.



Semi-auto Mode

Absence detector: motion sensor is employed, but only activated on the manual press of the push-switch, the light keeps being ON in the presence, and switches off in the long absence.



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. The daylight sensor measures the available surrounding natural light and calculates how much artificial light is needed to reach the target lux level. The control output is passed to the drivers by DALI or 0/1-10V signals which then deliver the needed amount of light.



Tri-level (Corridor Function)

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://www.hytronik.com>