

HCD418/I

DALI HF Lowbay | Photocell Advance | Dip-Switch

HYTRONIK[®]
SENSORS & LIGHTING CONTROL



Benefits

Compact: Super compact size - with photocell advance

Professional: DALI-2 dimming with PSU

Simple: Sensor settings via Dip-switch/IR controller

Applications

For round shape luminaire up to 6m height

Offices

Classrooms

Check Out the Complete System Solution on the Website:
<https://www.hytronik.com/product/HCD418-I>



CB

CE

emc



RED

UK
CA

Product Description

HCD418D2/I is a low-bay HF sensor with DALI-2 control, featuring built-in tri-level dimming, daylight harvesting, and a human-centric lighting (circadian rhythm) program. It also supports tunable white control.

Functions and Features

See additional details at the end of datasheet



DALI Broadcast
Output



Daylight Harvest



Manual Override



One-key
Commissioning



Photocell
Advance



Semi-Automatic
Mode (Absence
Detection)



Synchronization
Control



Tri-level Dimming

HCD418/I

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Specifications

Main Capabilities

Dimming (Output) Interface	DALI/DALI-2
Connector Type	Standard 2 cables

Sensor Data

Detection angle	30° - 150°
Lux range	0 ~ 500 lux
Max. Detection range (Diameter)	12.0 m
Maximum Mounting Height	5.0 m
Detection area	113 m ²

Electrical Data

Operating voltage range	220-240 VAC 50/60 Hz
Stand-by power (Psb)	<0.5W
Warming-up	20 s
DALI bus maximum rated current (I _n max)	40 mA
DALI bus nominal DC voltage range (Un)	15 V
DALI bus nominal current (I guaranteed)	32 mA
HF Transmission power	<0.2mW (HF)

HCD418/I

DALI HF Lowbay | Photocell Advance | Dip-Switch

Specifications

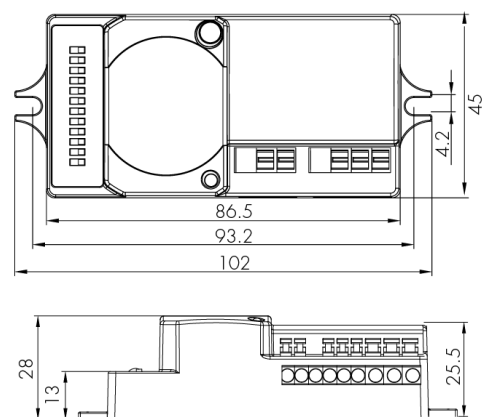
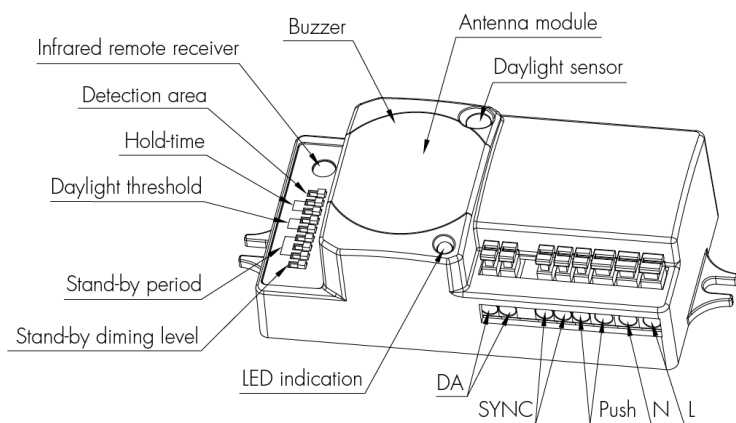
Technical	
Product weight	55.0 g
Product height	28.0 mm
Product length	102.0 mm
Product width	48.0 mm
Mounting hole	4.2 mm
Ambient temperature	-20 ~ +60 °C
Storage temperature	-35 ~ +80 °C
Humidity max	0 ~ 90%
IP Rate	IP20

Standard	
EMC	EN 55015, EN 61000
LVD	AS/NZS 60669, EN60669
RED	EN 300440, EN301489, EN 62479

HCD418/I

DALI HF Lowbay | Photocell Advance | Dip-Switch

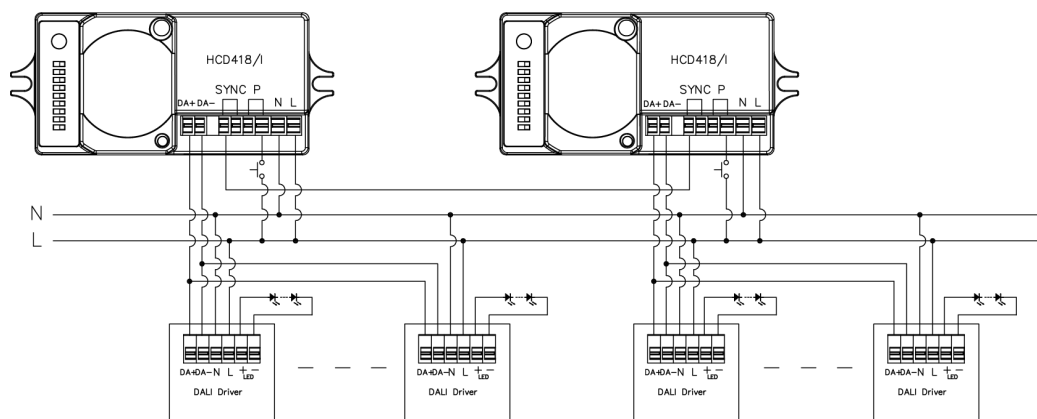
Technical Drawing



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Wiring Diagram



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Commissioning Instructions and Precautions

A. Installation Notes

1. This product should be installed by a qualified electrician.
2. This sensor is specially designed for small scale, decentralised retrofit project, which contains a DALI power supply circuit and gives DALI output to the DALI driver to carry out on/off and dimming command. No extra DALI power supply is needed.

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	
I	●	100%
II	○	50%



Detection Range

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

	2	3	
I	●	●	5s
II	●	○	3min
III	○	●	10min
IV	○	○	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

	4	5	
I	●	●	Disable
II	●	○	50lux
III	○	●	10lux
IV	○	○	2lux



Daylight Threshold

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 the ambient lux level refers to internal light reaching the sensor. Disabling the daylight sensor will put the sensor into occupancy detection only mode.

	6	7	8	
I	●	●	●	0s
II	●	●	○	10s
III	●	○	●	1min
IV	●	○	○	5min
V	○	●	●	10min
VI	○	●	○	30min
VII	○	○	●	1h
VIII	○	○	○	+∞



Stand-by period (corridor function)

This is the time period you would like to keep at the low light output level before it is completely switched off in the long absence of people.

Note: "0s" means on/off control;

"+" means the stand-by time is infinite and the texture is effectively controlled by the daylight sensor, automatic on/off operation based upon daylight). Selecting other time periods will disable 'automatic on' operation and the photocell is used only to turn off the fixture automatically.

	9	
I	●	10%
II	○	30%



Stand-by dimming level

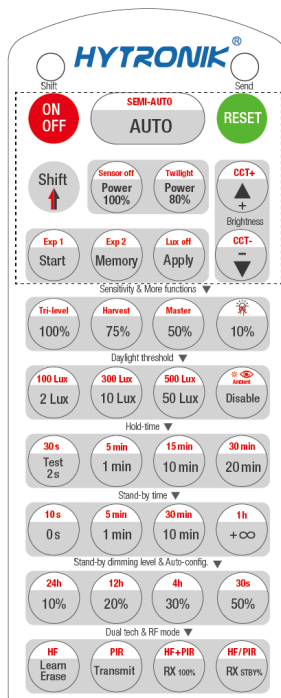
The setting is used to select the desired dimmed light level used in periods of absence for enhanced comfort and safety.

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DALI HF Lowbay | Photocell Advance | Dip-Switch

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" / "Ambient" to exit this mode.
RESET	In any state, Press button "RESET", the detector receiver will reset all settings and go back to the default: Exit ON/OFF mode; SEMI-AUTO mode; Twilight mode; Restore to DIP Settings. The default DIP Switch setting is: Induction range 100%, induction delay 5S, waiting time 10S, waiting brightness 10%, light control is not controlled <i>The default settings can be customized.</i>
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 exit ON/OFF mode and SEMI-AUTO mode and initiate AUTO mode.
SEMI-AUTO	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 "RESET" or "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	This key is not applicable on this product.
▲ ▼	Press these two buttons to adjust the light output brightness.
CCT+ CCT-	This key is not applicable on this product.
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	This key is not applicable on this product.
Exp 1 Exp 2	"Exp" refer to Expansion, these two buttons are reserved functions and pending future development.

HCD418/I

DALI HF Lowbay | Photocell Advance | Dip-Switch

Commissioning via Remote Control - Page 2

Settings (Remote Control HRC-11)

	Sensitivity & More functions	
	100% 75% 50% 10%	In AUTO /SEMI-AUTO modes, press buttons in zone "Detection range" to set detection range at 100%/75%/50%/10%.
	Tri-level Harvest	This key is not applicable on this product.
	Master	This key is not applicable on this product.
	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>
	Ambient	1. Press button "Shift", the red LED on. 2. Press button "Ambient", the surrounding lux level is sampled and set as daylight threshold.
	Hold-time mode	
	Test 30s 2s 1min 5min 10min 15min 20min 30min	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. *To exit from Test mode, press button "RESET" or any button in "Hold-time".</i>
	Stand-by time mode	
	0s 10s 1min 5min 10min 30min +∞ 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.

HRC-11

HCD418/I

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Options

Compatible products (for full functionality)



HRC-11

Sensor remote controller | Diverse function | White color

www.hytronik.com/product/HRC-11

Functions and Features



DALI Broadcast Output

This product supports DALI broadcast output, allowing control commands to be sent simultaneously to all devices on the DALI bus without individual addressing.

This enables simple group control, synchronized operation, and fast commissioning within a DALI lighting system.



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. It automatically measures available natural light and adjusts artificial lighting output to maintain the target illuminance level. Using daylight sensor feedback, control signals are transmitted to the LED drivers via DALI or 0-10V interfaces, ensuring the required light output is delivered only when needed, improving visual comfort and reducing energy consumption.



Manual Override

With the help of push-switch, this sensor can be over-ridden 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

This feature allows commissioning to be completed with a single key operation on the remote controller. A predefined configuration sequence is executed automatically, enabling quick setup and reducing the time and effort required for on-site adjustments. One-key commissioning simplifies complex procedures and supports efficient, reliable deployment of lighting control systems.



Photocell Advance

This advanced daylight sensing function accurately measures ambient light levels while minimising interference from the luminaire itself, ensuring reliable dusk-to-dawn control and daylight priority over motion detection. It automatically switches lighting on and off and dynamically adjusts brightness in response to available natural light, delivering visual comfort and improved energy efficiency.



Semi-Automatic Mode (Absence Detection)

In semi-automatic mode, the sensor operates as an absence detector, where lighting is switched on manually via a push switch and remains on while occupancy is detected. The lighting automatically switches off after a defined period of vacancy, providing controlled operation and improved energy efficiency.



Synchronization Control

The product supports synchronized operation across multiple sensors, allowing several units to control the same luminaires reliably in both wired and wireless applications. Synchronization can be achieved through high-voltage sync terminals, parallel L'connections or wireless communication methods such as Bluetooth mesh or RF (433 MHz / 868 MHz FSK). The hardware and software are designed to filter electrical noise and communication interference, ensuring stable and consistent performance when multiple sensors operate together.



Tri-level Dimming

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