

Tri-level Control & Daylight Harvest Sensor

HCD038/P + SAM7/I

Detached Linear Version with Remote Control



Applications

Occupancy detector with tri-level dimming control suitable for indoor use:

- Office / Commercial Lighting
- Classroom
- Meeting Room

Use for new luminaire designs and installations



Features

- DALI-2 certified
- Daylight harvest function to regulate light output for maintaining required lux level
- Active Lux Switching daylight threshold prior to motion detection
- Tri-level dimming control based upon occupancy (also known as corridor function)
- One-touch daylight learning via remote control
- 5-year warranty

Technical Data

Input & Output Characteristics	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
DALI bus power supply	I max:80mA
	U rated:15VDC
	I guranteed:64mA
Warming-up	20s

Environment	
Operation temperature	Ta: -20°C ~ +55
Case temperature (Max.)	Tc: +75°C
IP rating	IP20

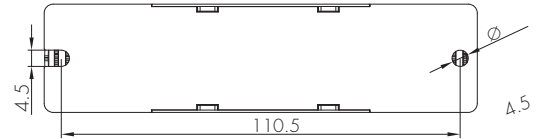
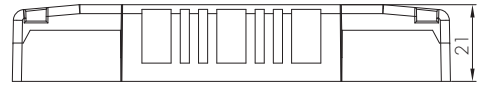
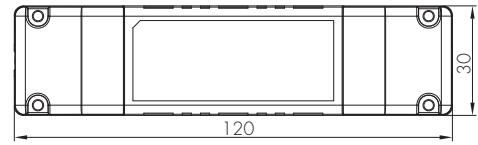
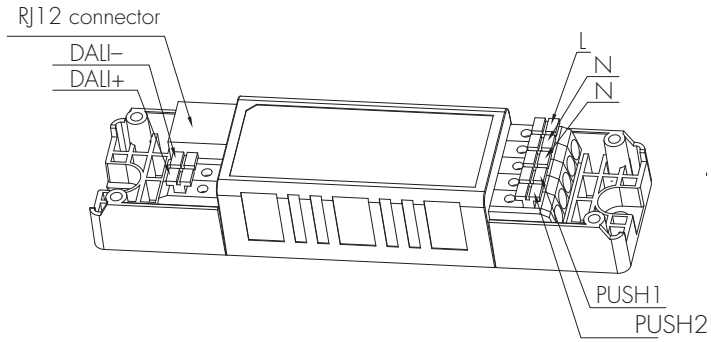
DALI-2 Standards	
HCD038/P+SAM7/I	IEC62386 101 IEC62386 103 IEC62386 303 IEC62386 304

Safety & EMC	
EMC standard (EMC)	EN55015, EN61000-3-2/-3-3, EN61547
Safety standard (LVD)	EN60669-1/-2-1, AS/NZS60669-1/-2-1
Certification	CE, EMC, RCM, UKCA

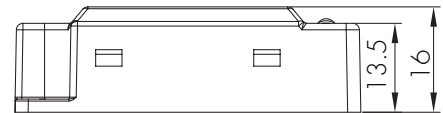
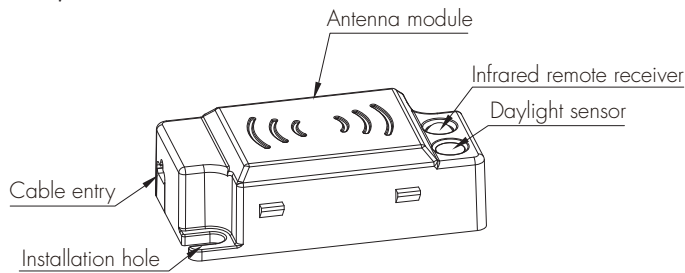
HF Sensor Propertie	
Sensor principle	High Frequency detection
Operation voltage	5VDC
Detection range *	Max installation height: 3m (single person) Max detection range (Ø): 12m
Detection angle	360°

Mechanical Structure & Dimensions

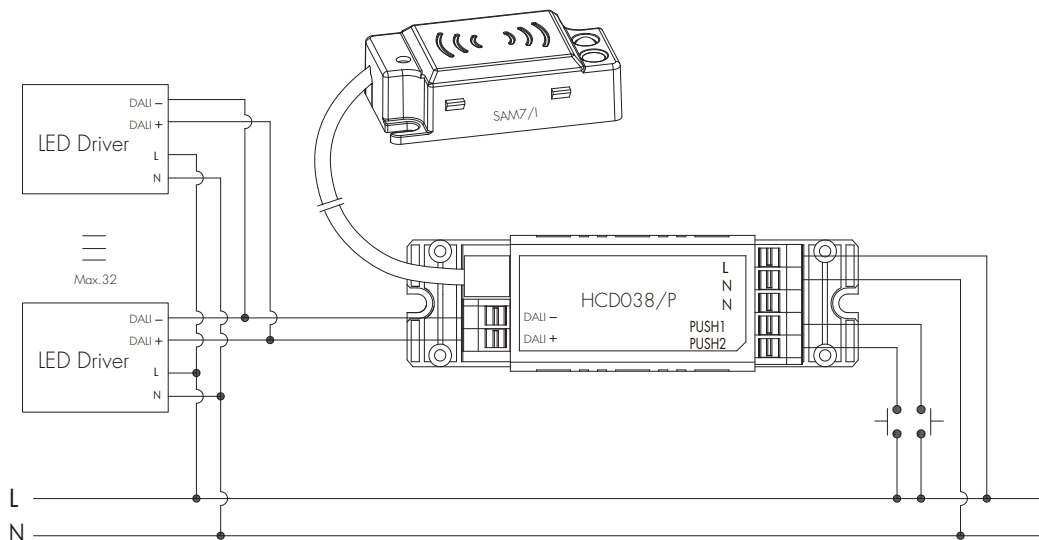
Model HCD038/P
(DALI output with 2 push)

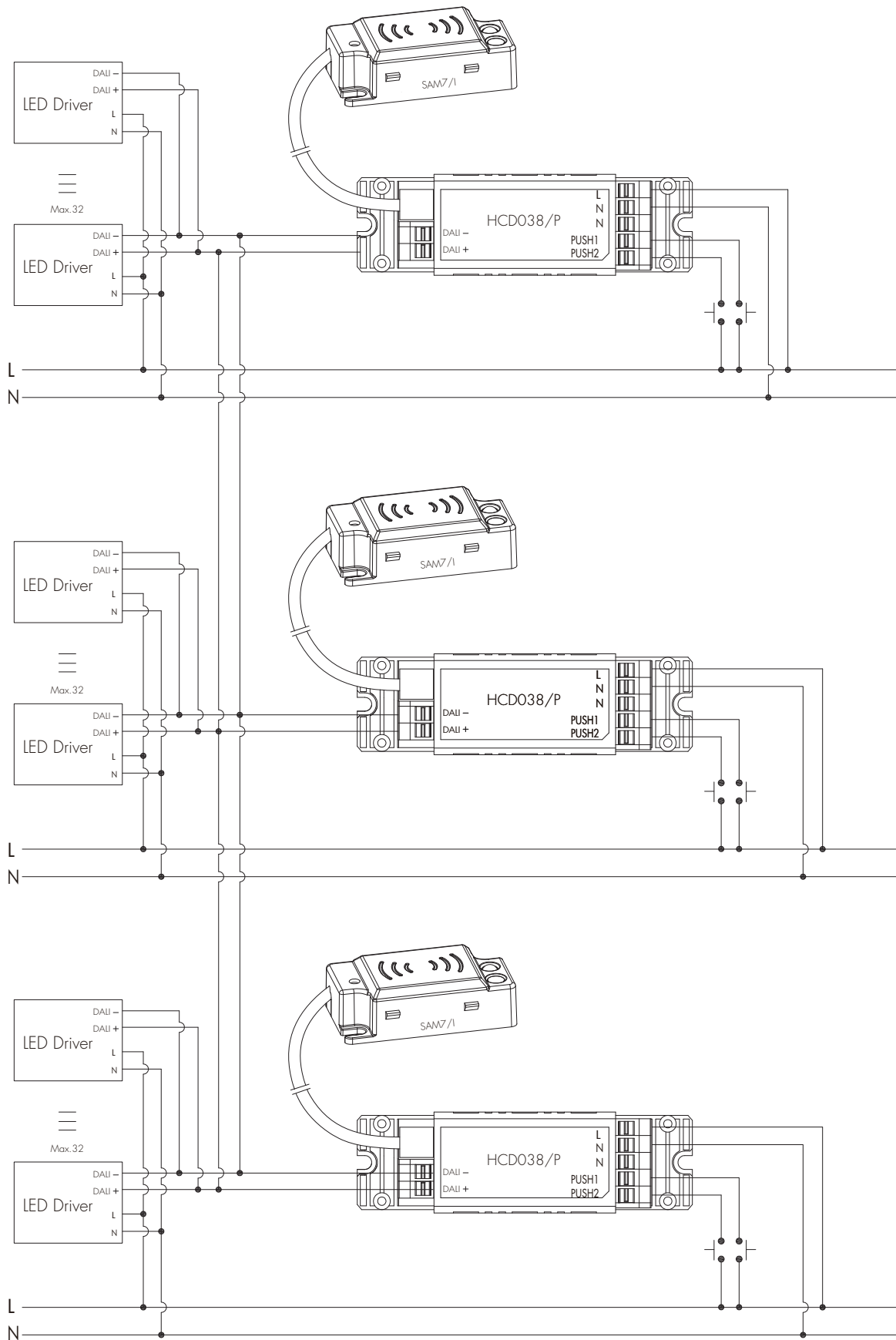


HF SensorDIM™
Model SAM7/I



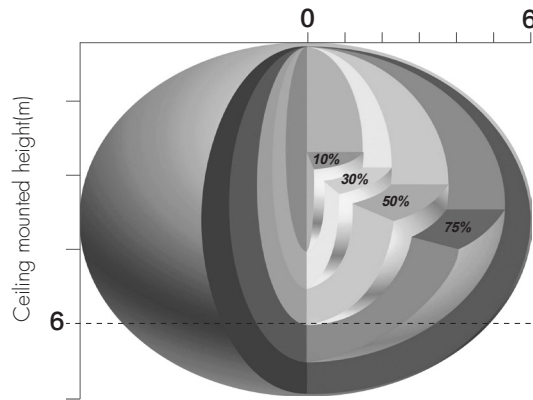
Wiring Diagram





Detection Pattern

Model SAM7/I



Settings (Remote Control HRC-11, for HIR17 & HIR17/R)



Permanent ON/OFF function

Press button "ON/OFF" to select permanent ON or permanent OFF mode.
 * Press button "AUTO", "RESET" or "Ambient" to quit this mode.
 The mode will change to AUTO Mode after power failure.



Reset Settings

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 Button

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 mode

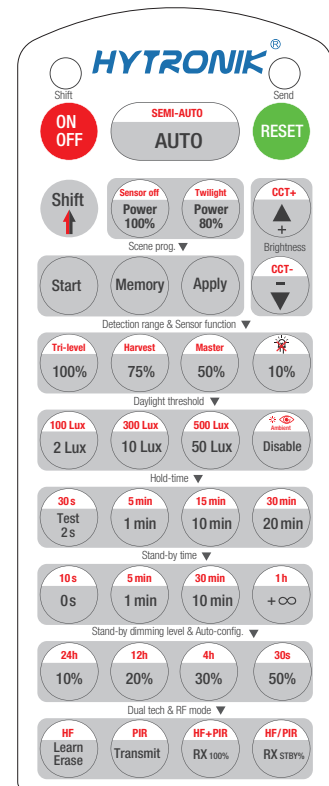
Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF.

Note: To initiate automatic mode under semi-auto mode, please press button "RESET" first.



SEMI-AUTO mode

1. Press button "Shift", the red LED flashes for indication.
2. Press button "SEMI-AUTO/AUTO" to initiate semi-auto mode. The fixture is manually turned on by pressing the push-switch, and goes off automatically after stand-by time. (Absence detection mode)



HRC-11



Power output

Press the buttons to select light output at 80% (at initial 10,000 hours) or 100%.



Sensor off & Twilight

Press button "Shift", the red LED is on for indication. Press button "Twilight", the function of motion detection is disabled. The function of photocell is still working, and the product becomes a pure dusk / dawn daylight sensor. Press button "Sensor off", the function of motion detection is disabled. The function of photocell is also disabled.



Switching between Tri-level and Daylight Harvest

Press button "Shift", the red LED is on for indication. Then press "Tri-level" or "Harvest" to switch.



Brightness +/-

For Tri-level control, press these two buttons to adjust the light output brightness. Press button "Shift", the red LED is on for indication. Press these two buttons to adjust the light output colour temperature.

For Daylight Harvest, 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. Press button "Shift", the red LED is on for indication. Press these two buttons to adjust the light output colour temperature.



Scene program - 1-key commissioning

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).

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).

Detection range

All buttons in this zone are disabled.



Master (HCD038/P)

SAM7/I supports multiple sensors to access DALI network at the same time. In order to prevent conflict during daylight harvest control, you need to manually select one SAM7/I as the master when configuring the network. The master has the control authority of this DALI network. Other SAM7/I will only report sensing events.

Daylight threshold

Press buttons in zone "Daylight threshold" to set daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux / 500Lux / Disable.

Note: To set daylight sensor at 100Lux / 300Lux / 500Lux, press "Shift" button first.

Ambient daylight threshold

1. Press button "Shift", the red LED starts to flash.
2. Press button "Ambient", the surrounding lux level is sampled and set as the new daylight threshold.

Hold-time

Press buttons in zone "hold-time" to set the hold-time at 2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min.

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".

Stand-by time (corridor function)

Press buttons in zone "stand-by time" to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.

Note: "0s" means on/off control; "+∞" means the stand-by time is infinite and the fixture never switches off.

Stand-by dimming level

Press the button in zone "stand-by dimming level" to set the stand-by dimming level at 10% / 20% / 30% / 50%.

Auto-configuration function

This is a function for Daylight Harvest mode, select a time period and the sensor will do light level measurement and determine / save the lowest light level (commission line) with 100% on, so as to automatically set the target lux level for daylight harvesting.

For Tri-level Control, All buttons in this zone are disabled.

Dual tech & RF mode

All buttons in this zone are disabled.

Additional Information / Documents

1. Regarding precautions for PIR sensor installation and operation, please kindly refer to [www.hytronik.com/download ->knowledge ->PIR Sensors - Precautions for Product Installation and Operation](http://www.hytronik.com/download->knowledge->PIR%20Sensors%20-%20Precautions%20for%20Product%20Installation%20and%20Operation)
2. Regarding precautions for Photodiode/Photocell Usages, please kindly refer to [www.hytronik.com/download ->knowledge ->Precautions for Photodiode/Photocell Usages](http://www.hytronik.com/download->knowledge->Precautions%20for%20Photodiode/Photocell%20Usages)
3. Data sheet is subject to change without notice. Please always refer to the most recent release on [www.hytronik.com/products/Motion Sensors ->Built-in HF Sensor](http://www.hytronik.com/products/Motion%20Sensors->Built-in%20HF%20Sensor)
4. Regarding Hytronik standard guarantee policy, please refer to [www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy](http://www.hytronik.com/download->knowledge->Hytronik%20Standard%20Guarantee%20Policy)