Installation and Instruction Manual

HYTRONIK ®

Detached Motion Sensor with Remote Control

Tri-level Control & Daylight Harvest Sensor

HCD038+HIR17 & HIR17/R

1. Technical Specifications

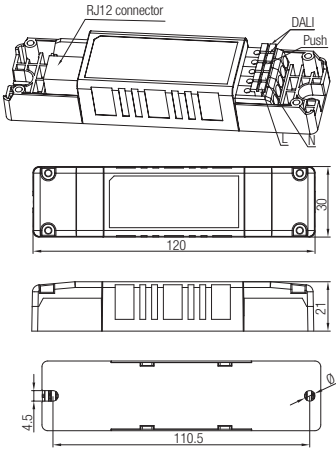
HCD038	
Operating voltage	220~240VAC 50/60Hz
Stand-by power	<0.5W
Load ratings	30mA
Warming-up	20s
Operation temperature	Ta: -20℃ ~ +55℃
Case temperature (Max.)	Tc: +75℃
IP rating	IP20/IP54

PIR Sensor Propertie (HIR17 & HIR17/R)	
Sensor principle	PIR detection
Operation voltage	5VDC
Detection range *	HIR17 Max installation height: 3m (single person) Max detection range (Ø): 12m HIR17/R Max installation height: 8m (single person) Max installation height: 12m (forklift) Max detection range (Ø): 14m
Detection angle	360°

2. Installation

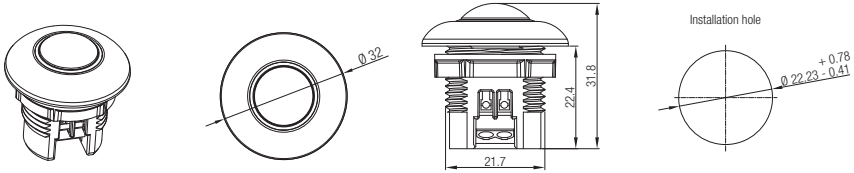
Mechanical Structure & Dimensions

HCD038 (DALI output with 1 push)

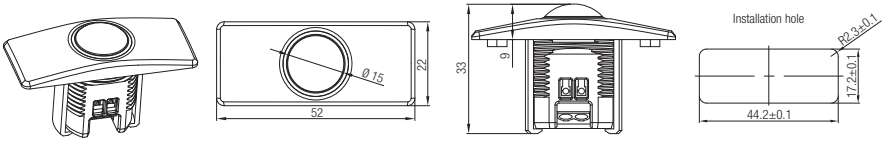


PIR sensor head (Model:HIR17 & HIR17/R)

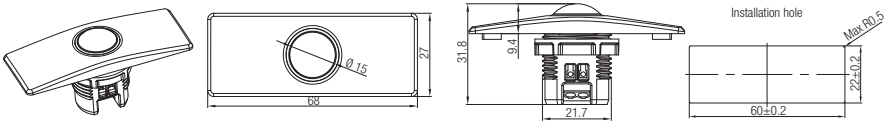
HIR17



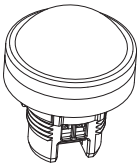
HIR17 with HA04

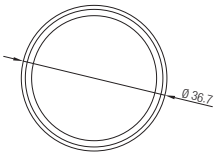


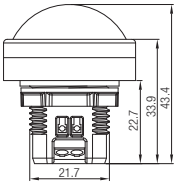
HIR17 with HA05



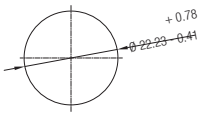
HIR17/R (IP54)



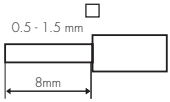




Installation hole



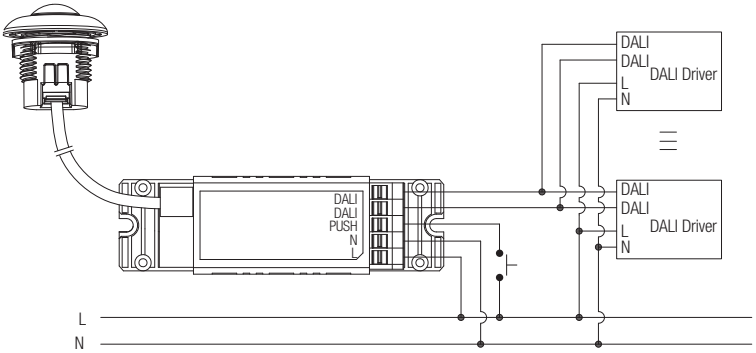
Wire Preparation



To make or release the wire from the terminal, use a screwdriver to push down the button.

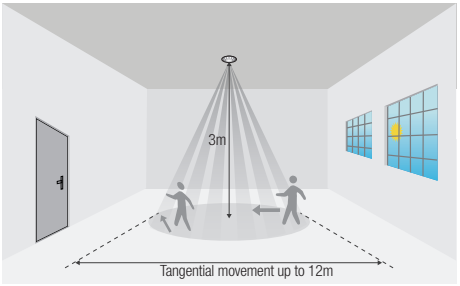
1. 200 metres (total) max. for 1mm² CSA (Ta = 50℃)
2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50℃)

Wiring Diagram

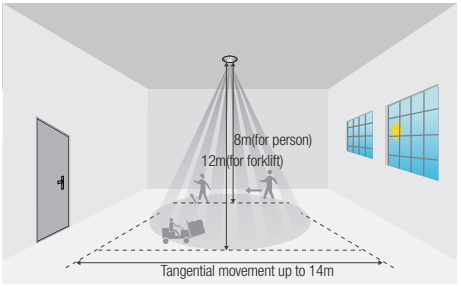


3. Detection Pattern for HIR17 & HIR17/R

HIR17



HIR17/R



*The detection patterns are based upon 5km/h movement speed.

4. Functions

4.1 Semi-auto Function (Absence Detection)

The motion sensor is employed, but only activated on the short manual press of the push switch, light keeps on in the presence, and dims down in the absence, and eventually switches off automatically in the long absence.

4.2 Manual Override

With the help of push-switch, this sensor maybe over-ridden by the end-users to switch on/off the lights manually, or adjust the light brightness during motion hold-time. This makes the product more user-friendly and offers more options to fit for extra-ordinary demands.

* Short push (<1s): on/off function;

ON → OFF: the light turns off immediately and cannot be lighten for a certain time (equals to hold time preset) even there is movement is detected. After this period, the sensor goes back to auto sensor mode.

OFF → ON: the light turns on 100% and goes to auto sensor mode, even when ambient Lux level exceeds the daylight threshold.

* Long push (>1s): adjust the maximum brightness (between 10% and 100%) during hold-time.
* Double push (<1S): quit manual override and the sensor goes back to auto sensor mode.
* Triple push (<1S): entering the automatic color turning mode, the sensor will adjust the CCT value according to the ambient value .To lock the current CCT value, only short press(<1S) push again.This feature is only applicable for loading with DALI DT8 LED driver.
* If no end-user adjustment is desired, simply leave this terminal disconnected.

Note: The end-user can choose either function 4.1 or 4.2 for application. The default function is manual override.

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

ON/OFF 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 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 dimmming level:10%; Lux disabled

Shift 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.

SEMI-AUTO AUTO 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 AUTO 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)

Sensor off Power 100% Twilight Power 80% Power output

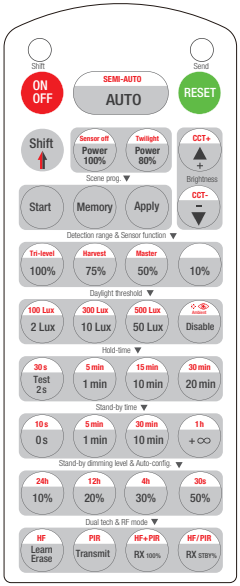
Press the buttons to select light output at 80% (at initial 10,000 hours) or 100%.

Sensor off Power 100% Twilight Power 80% 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.

Tri-level 100% Harvest 75% 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.



HRC-11

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.

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.

6. 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

2. Regarding precautions for Photodiode/Photocell Usages, please kindly refer to www.hytronik.com/download ->knowledge ->Precautions for Photodiode/Photocell Usages

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

4. Regarding Hytronik standard guarantee policy, please refer to www.hytronik.com/download ->knowledge ->Hytronik Standard Guarantee Policy