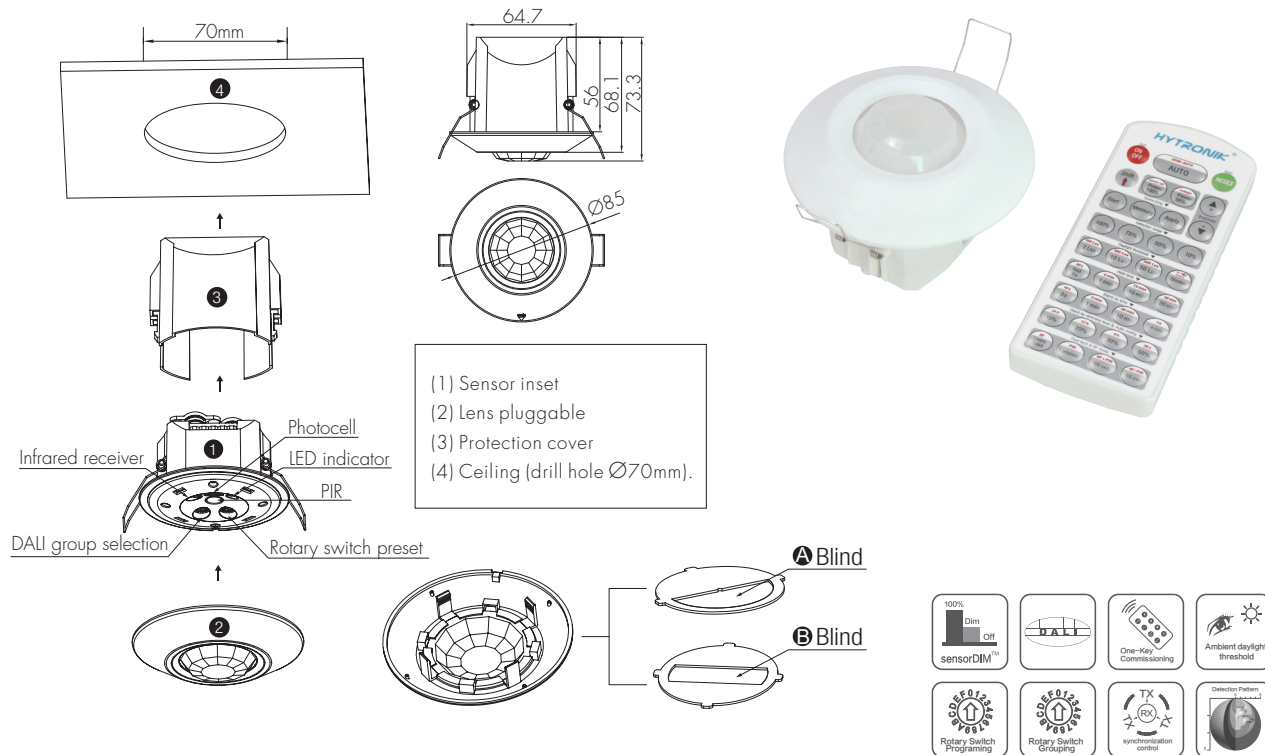


Mechanical Structure



Note 1: the blinds are optional, they may be inserted behind the lens for focussing the detection range.

Note 2: We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

Technical Data

Input Characteristics

Model No.	HIR23
Operating voltage	9.5 ~ 22.5VDC
Stand-by power	<0.5W
Input current	<8mA
Warming-up	30s

Sensor Data

Model No.	HIR23
Sensor principle	PIR detection
Detection range	(\varnothing x H) 10m x 3m
Detection angle	360°
Mounting height	5m (maximum)

Safety and EMC

EMC standard (EMC)	EN55015, EN61000
Safety standard (LVD)	EN60669-1, EN60669-2-1
Certification	Semko, CB, CE, EMC, LVD, RCM

Environment

Operation temperature	Ta: -20°C ~ +50°C
IP rating	IP20

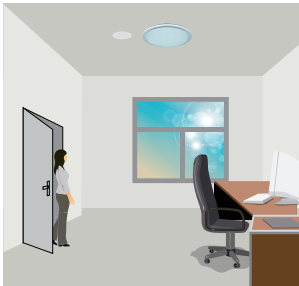


This DALI sensor is designed for incorporated in the DALI system, taking command from the DALI master, accepting and carrying out the grouping work with up to 64 luminaires. It can switch on/off, or dim the assigned group members and feed back the status to the DALI master.

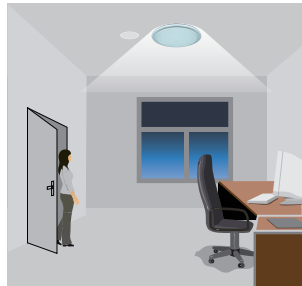
Functions and Features

1 Tri-level Control (Corridor Function)

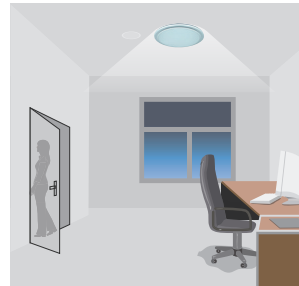
Hytronik builds this function inside the motion sensor to achieve tri-level control, for some areas which require a light change notice before switch-off. The sensor offers 3 levels of light: 100%-->dimmed light -->off; and 2 periods of selectable waiting time: motion hold-time and stand-by period; Selectable daylight threshold and freedom of detection area.



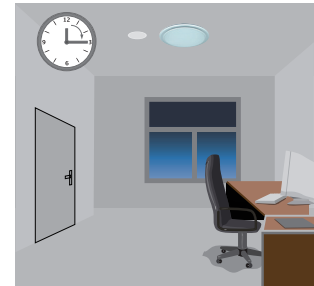
With sufficient natural light, the light does not switch on when presence is detected.



With insufficient natural light, the sensor switches on the light automatically when presence is detected.



After hold-time, the light dims to stand-by level.



Light switches off automatically after the stand-by period elapses.

2 Synchronisation Function

By connecting the DALI terminals in parallel (see wiring diagram), no matter which sensor detects motion, all HIR23 in the group will turn on the lights when surrounding natural light is below the daylight threshold. The detection area could be widely enlarged in this way.

DALI Grouping Selection

DALI group configuration can be done either on PC, or on the rotary coding switch:

- There are 16 channels available on the rotary switch. "0" is for DALI broadcast, the rest 15 channels are for end-user to define the application unit.
- PC grouping can overwrite rotary switch grouping, and vice versa. The last setting controls.

The rotary switch channels are corresponding to the groups listed below:



DALI group selection

Switch channel	DALI group	Switch channel	DALI group
0	broadcast	8	group 7
1	group 0	9	group 8
2	group 1	A	group 9
3	group 2	B	group 10
4	group 3	C	group 11
5	group 4	D	group 12
6	group 5	E	group 13
7	group 6	F	group 14

Rotary Switch Preset

A rotary switch is built inside the sensor for scene selection / fast programming. Total 16 channels are available:

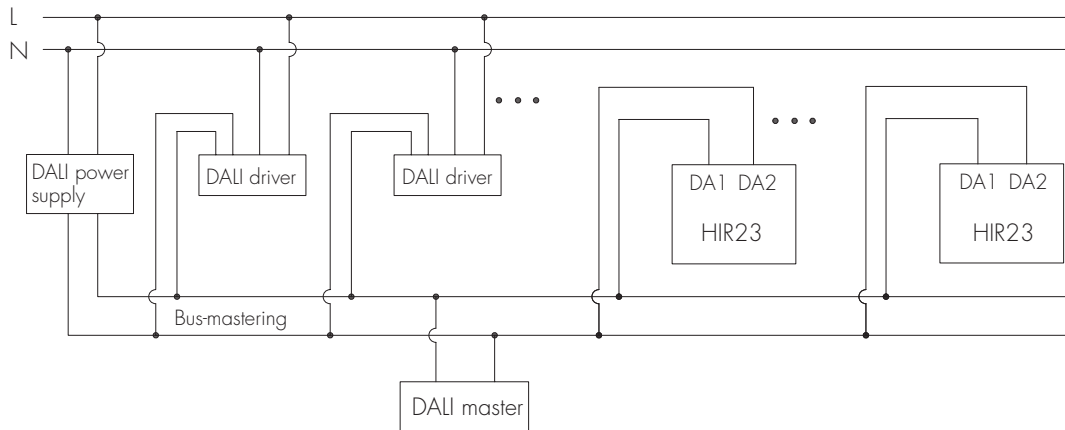


Rotary switch preset

Note: settings can also be changed by remote control HRC-11. The last action controls.

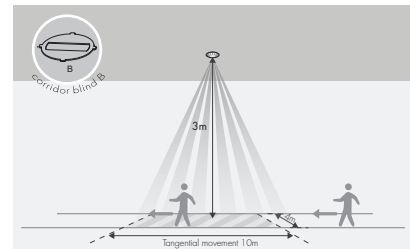
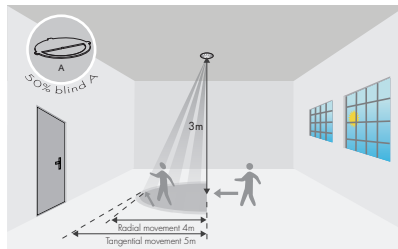
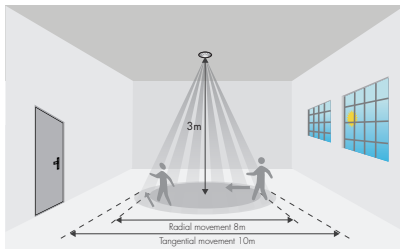
Channel	Detection range	Hold-time	Daylight sensor	Stand-by time	Stand-by dim level
0	100%	5s	Disable	10s	10%
1	100%	1min	2Lux	5min	10%
2	100%	5min	10Lux	10min	10%
3	100%	5min	30Lux	30min	10%
4	100%	5min	10Lux	0s	Disable
5	100%	5min	30Lux	+∞	10%
6	100%	5min	Disable	+∞	30%
7	100%	10min	2Lux	10min	10%
8	100%	10min	10Lux	30min	10%
9	100%	10min	30Lux	+∞	10%
A	100%	10min	Disable	+∞	30%
B	75%	10min	30Lux	+∞	10%
C	50%	10min	10Lux	+∞	10%
D	100%	30min	50Lux	+∞	10%
E	100%	30min	Disable	+∞	30%
F	100%	5s	2Lux	10s	10%

Wiring Diagram

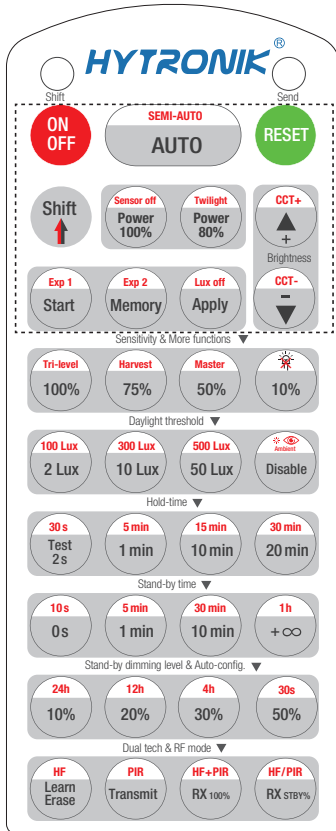


- 200 metres (total) max. for 1mm² CSA (Ta = 50°C)
- 300 metres (total) max. for 1.5mm² CSA (Ta = 50°C)

Detection Pattern

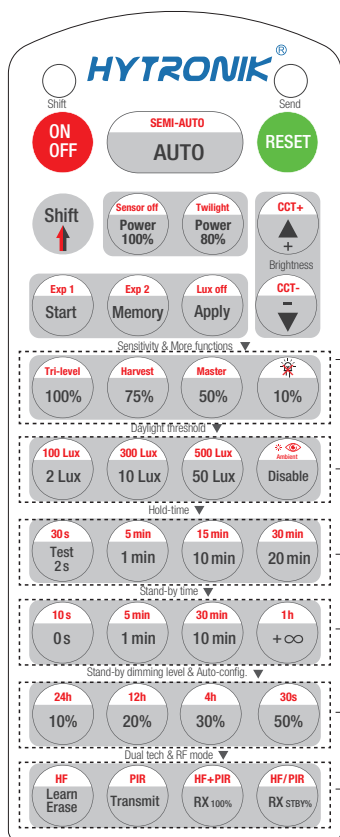


Settings (Remote Control HRC-11)



HRC-11

	Press button "ON/OFF" to select permanent ON or permanent OFF mode. * Press button "AUTO"/ "RESET" to exit this mode.
	Press button "RESET", perform DIP Switch/Rotary Switch settings. *The default settings are: Detection range 100%; Hold-time 5min; Stand-by time +∞; Stand-by dimming level 30%; Daylight threshold disable;
	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;
SEMI-AUTO	This key is not applicable on this product.
Power 100% 80%	This key is not applicable on this product.
Sensor off Twilight	This key is not applicable on this product.
	This key is not applicable on this product.
CCT+ CCT-	This key is not applicable on this product.
Start Memory Apply	<ol style="list-style-type: none"> 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). <p><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></p>
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.



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	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	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 / 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. *To exit from Test mode, press button "RESET" or any button in "Hold-time".</i>
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	This key is not applicable on this product.
Dual tech & RF mode	
Learn Erase	This key is not applicable on this product.
Transmit	This key is not applicable on this product.
HF PIR HF+PIR HF/PIR	This key is not applicable on this product.

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 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)