SURFACE MOUNT DUAL SENSE MOTION SENSOR HIM15

1. Technical Specifications

Product type	Dual sense DALI sensor (HF and PIR, Tri-level control)
Operating voltage	220~240VAC 50/60Hz
Rated load	Maximum 20pcs devices, maximum 40mA
Power consumption	< 1W
Detection angle	360°
Detection area (Max.)*	Installation Height : 6m
	Detection Range (Ø) :12m
Detection range	10% / 50% / 75% / 100%
Hold time	2s / 30s / 1min / 5min / 10min / 15min / 20min / 30min
Stand-by time	0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞
Stand-by dimming level	10% / 20% / 30% / 50%
Daylight threshold	2 ~ 500Lux, Disable
Warmming up time	30s
Operating temperature	-20°C ~ +55°C
Sensor mode	PIR, HF, PIR+HF, PIR / HF

3. Rotary Switch Settings

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

Rotary switch preset (Please see the location in 2. Installation)

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

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

5. Functions

5.1 Tri-level Control (Corridor Function)

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

5.2 Lux Off Function

The built-in daylight sensor can measure ambient natural light and switch off the fixture automatically whenever artificial light is not required (natural light lux level exceeds daylight threshold).
Note: if the stand-by time is preset at "+∞", the fixture never switches off even when natural light is sufficient.
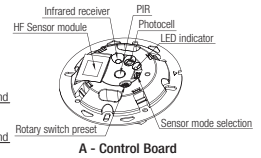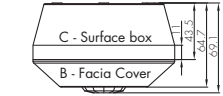
5.3 Synchronization Function

By connecting the "SYNC" terminals in parallel (see wiring diagram), no matter which sensor detects motion, all HIM15 in the group will turn on the lights when surrounding natural light is below the daylight threshold. The sensor module is shared and the detection area could be widely enlarged in this way.

2. Installation

⚠ **Warnings:**

1. Installation must be carried out by a qualified engineer in accordance with local regulations.
2. Disconnect supply before installing.
3. Install to a solid surface - vibrations may cause mis-triggering.
4. Ensure environmental conditions are suitable for electronic equipment

C - Surface box
B - Facia Cover

Infrared receiver
HF Sensor module
PIR
Photocell
LED indicator
Rotary switch preset
Sensor mode selection
Blind
Blind

A - Control Board

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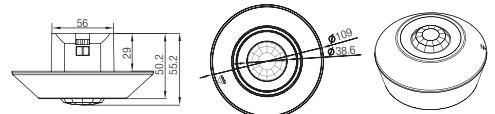

Note: We recommend the mounting distance between sensor to sensor should be more than 2m to prevent sensors from false-triggering.

Direct junction "J" box mounting

a. Separate control board (A) from facia (B) & junction box (C).
b. Make electrical connections to control board (A). See detailed wiring diagram on next page.
c. Secure control board (A) to junction box.
d. Set-up sensor modes as per sections 3 & 4 of this manual.
e. Clip facial plate (B) to control board (A).

Surface mount assembly

a. Separate control board (A) from facia (B) & Surface box (C).
b. Securely mount surface box (C) to a flat and solid surface.
c. Make electrical connections to control board (A). See detailed wiring diagram on next page.
d. Set-up sensor modes as per sections 3 & 4 of this manual.
e. Secure control board (A) to surface box (C).
f. Clip facial plate (B) to control board (A).
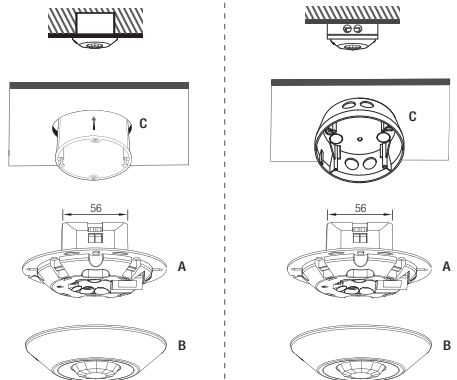
4. Sensor Mode Selection

Sensor mode can be easily selected by choosing the correct combination of the DIP switches (see table below):
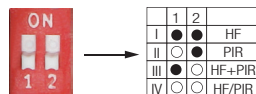
	1	2	
I	●	●	HF
II	○	●	PIR
III	●	○	HF+PIR
IV	○	○	HF/PIR

HF+PIR: Light is on when both HF and PIR sensors are activated.

HF/PIR: Light is on when HF or PIR sensors are activated.

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5.4 Manual Override (Push Function)

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 movement is detected. After this period, the sensor goes back to auto sensor mode.

OFF → ON: the light turns on and goes to auto sensor mode.

* Long push (>1s): adjust the light brightness during motion hold-time between 10% and 100%. Both the adjustment by remote control and push switch can overwrite each other, the last adjustment remains in memory.

5.5 Semi-auto Function (Absence Detection)

The motion sensor is employed, but only activated on the manual press of the push switch. The light remains on during presence and dims down in absence, eventually switching off automatically after the stand-by time has expired.

Note: end-user can choose either function 5.4 or 5.5 for application. Default function is 5.4.
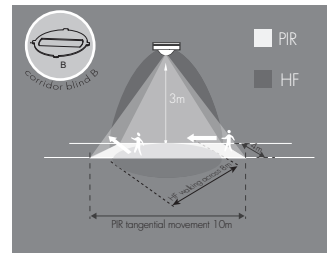
6. Wiring Diagram
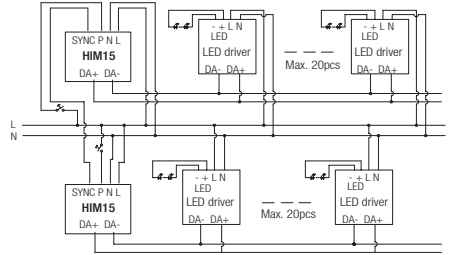
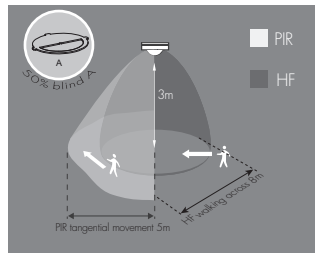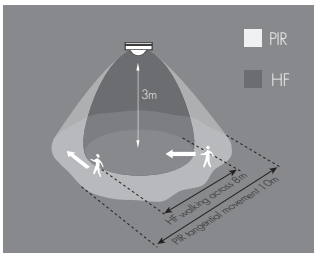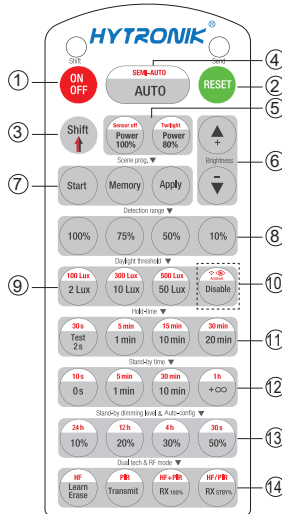
1. 200 metres (total) max. for 1mm² CSA (Ta = 50℃)
2. 300 metres (total) max. for 1.5mm² CSA (Ta = 50℃)

* Note: if neither function 5.4 nor 5.5 is desired, simply leave the "push" terminal disconnected.

7. Detection Pattern

8. Description of the Button Functions (remote control HRC-11)

HRC-11

Permanent ON/OFF [button①]

Press button ① to select permanent ON or permanent OFF mode.
* Press button ②/④ to resume automatic operation.
The mode will change to AUTO Mode after power failure.

RESET [button②]

Press button②, all settings go back to the rotary switch settings.
Sensor mode return to DIP switch settings.

Shift [button③]

Press button③, the LED on the top left corner flashes for indication.
All values / settings in RED are in valid for 20 seconds.

Auto Mode [button④]

Press button④ to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched ON/OFF.

Semi-auto Mode [button③&④]

1. Press button③Shift (the red LED flashes for indication),
2. press button④ to initiate semi-auto mode. The fixture is manually on by push-switch and automatically off in this mode.

Power output [button⑤]

Press button ⑤, the light output shifts between 80% and 100%.
Note: the function of "Sensor off" and "Twilight" are disabled.

Brightness +/- [button⑥]

Press button⑥ to adjust the light brightness between 10% ~ 100%.

Scene prog. [zone ⑦] (One-key-commissioning)

1. Press button "Start" to program.
2. Select the buttons in ⑧ "Detection range", ⑨/⑩ "Daylight threshold", ⑪ "Hold time", ⑫ "Stand-by time", ⑬ "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 pre-set detection range 100%, daylight threshold Disable, hold time 5min, stand-by time +∞, stand-by dimming level 30%, steps should be:
Press button⑦ Start, button⑧100%,⑩Disable,③Shift,⑪5min, ③ Shift,⑫ +∞ ,⑬ 30%,⑦ Memory. By pointing to the sensor unit(s) and pressing ⑦ Apply, all settings are passed on the sensor(s).

Detection range [zone ⑧]

Press buttons in zone ⑧ to set HF detection range at 100% / 75% / 50% / 10%.

Daylight threshold [zone ⑨]

Press buttons in zone⑨to set the daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux / 500Lux or Disable.
Note: To set daylight sensor at 100Lux / 300 Lux / 500Lux, press button③Shift at first.

Ambient daylight threshold [button⑩]

1. Press button③Shift, the red LED flashes for indication.
2. Press button⑩, the ambient lux level is sampled and set as the new daylight threshold.

Hold time [zone ⑪]

Press buttons in zone⑪to 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 button ③Shift at first.
2. 2s is for test purpose only, stand-by time and daylight sensor settings are disabled in this mode.
* To exit from Test mode, press button② or any button in zone⑪ .

Stand-by time [zone ⑫]

Press buttons in zone⑫to set the stand-by time at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.
Note: "0s" means on/off control; "+∞" means bi-level control, 100% on when motion detected, and remains at the stand-by dimming level when no presence after hold-time.

Stand-by dimming level [zone ⑬]

Press buttons in zone⑬to set the stand-by dimming level at 10% / 20% / 30% / 50%.
Note:the function of 24h /12h /4h /30s are disabled.

Dual tech & RF mode [zone ⑭]

1. Press buttons in zone⑭to select sensor technology.
HF+PIR: Light is on when both HF and PIR sensors are activated.
HF/PIR: Light is on when HF or PIR sensors are activated.
2. Learn / Erase, Transmit, RX100% and RX STBY% are disabled.