SENSORS &
LIGHTING CONTROL

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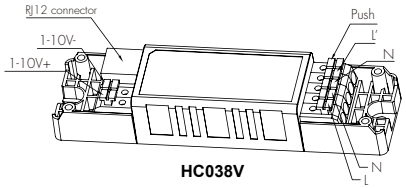
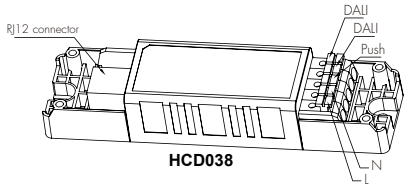
INSTRUCTION MANUAL FOR RF WIRELESS SENSOR
DETACHED VERSION, MODEL NO.:HC038V / HCD038 + SAM8/RC11 (SAM11) + HC034RF

Technical Specifications

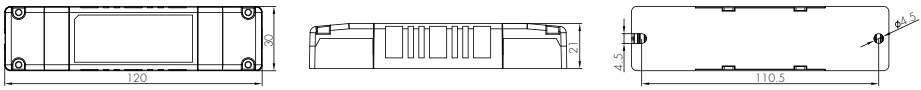
PRODUCT TYPE:	**Microwave Motion Sensor**
OPERATING VOLTAGE:	**220-240VAC 50Hz/60Hz**
HF SYSTEM:	**5.8GHz CW radar**
RATED LOAD (for HC038V):	**400W (capacitive load)**
OUTPUT (for HCD038):	**Max. 15 devices, Max. 30mA**
DETECTION ANGLE:	**30° ~ 150°**
POWER CONSUMPTION:	**<0.5W**
DETECTION RANGE (DxH):	**Max. 12 x 6m**
HOLD TIME:	**30s ~ 30min.**
DAYLIGHT SENSOR:	**2 ~ 20Lux; disable**
STAND-BY PERIOD:	**0s, 10s ~ 30min, +∞**
STAND-BY DIMMING LEVEL:	**10% ~50%**
MOUNTING:	**Indoors, ceiling & wall mounted**
WORKING TEMP.:	**-20 ~ +60** ℃



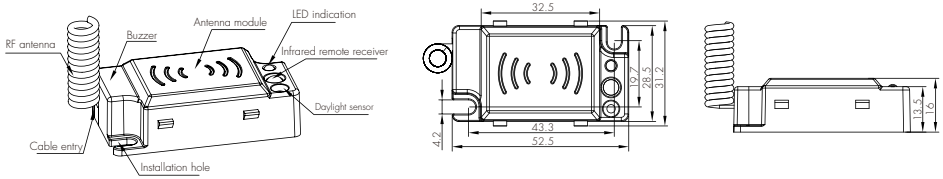
HC038V



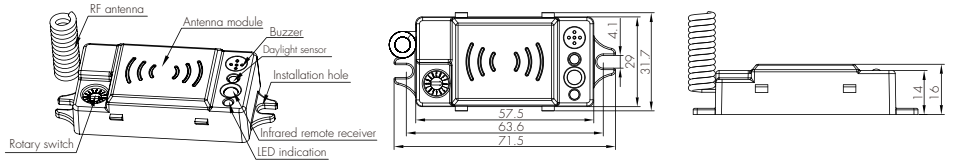
HCD038



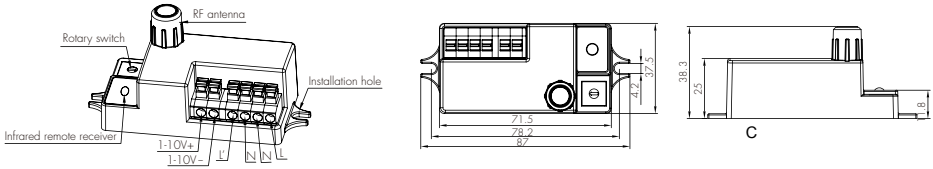
Model: SAM8/RC11 (RF grouping by remote control HRC-11)



Model: SAM11 (RF grouping by rotary switch or remote control HRC-11)



Model: HC034RF (RF receiver can serve as slave only, RF grouping by rotary switch or remote control HRC-11)



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The sensor is an active motion detector; it emits a high-frequency electro-magnetic wave at 5.8GHz and receives its echo. The sensor detects the change in echo from movement in its detection zone. A microprocessor then triggers the switch light ON command. Detection is possible through doors, panes of glass and thin walls.
Note: the high-frequency output of this sensor is <0.2mW; approximately just 0.2‰ of the transmission power of a mobile telephone.

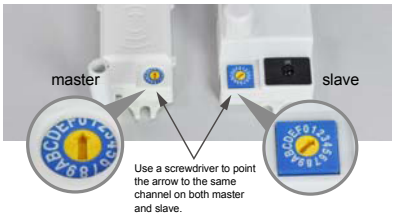
IMPORTANT

PLEASE READ THESE INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION AND RETAIN THIS LEAFLET IN A KNOWN AND SAFE PLACE FOR FUTURE REFERENCE.

RF Grouping via Rotary Switch (for SAM11 and HC034RF only)

15 channels are available for fast grouping via rotary switch on the RF sensor antenna, simply selecting the same channel on each unit, the grouping is automatically completed.

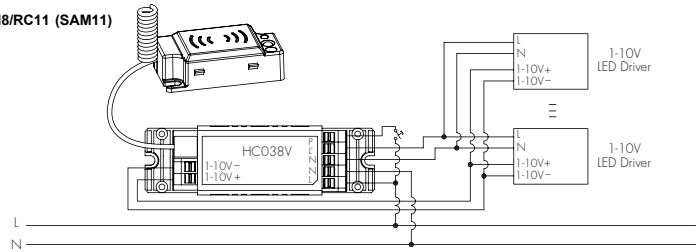
Noted:channel "0" is not for fast grouping, and sensors can only be grouped by remote control.



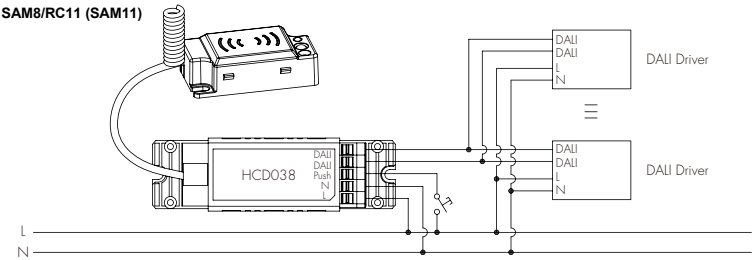
SECTION 1 INSTALLATION AND WIRING

1.1 Ensure that the electricity supply is switched off before installing or servicing this product.
1.2 Wiring diagram

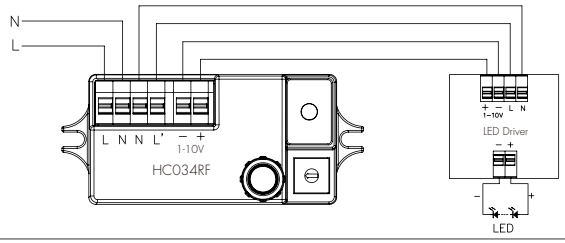
HC038V + SAM8/RC11 (SAM11)



HCD038 + SAM8/RC11 (SAM11)



HC034RF



SECTION 2 REMOTE CONTROL

Permanent ON/OFF [button ①]
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[button ②]
Press button②, all settings go back to the default settings:
Detection range: 100% Hold time: 1min Stand-by period: 5min Stand-by dimming level: 20% Daylight sensor: LUX disable

Shift [button③]
Press button③ , the LED on the top left corner will flash to indicate mode selection.
All values / settings in RED are valid for 20 seconds.

Auto Mode [button④]
Press button ④ 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 button ③Shift (the red LED is on for indication),
2. press button ④ to initiate semi-auto mode. The fixture is manually on by push-switch and automatically off in semi-auto 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 button ⑥ 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 hreshold", 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%, the steps should be as follows: Press button ⑦ Start, button ⑧ 100%, ⑩ Disable, ③ Shift, ⑪ 5min, ③Shift, 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 detection range at 100% / 75%/ 50% / 10%.
Note: Disabled for HC034RF.

Daylight threshold [zone ⑨]
Press buttons in zone ⑨ to set the daylight sensor at 2Lux / 10Lux / 50Lux / 100Lux / 300Lux / 500Lux or Disable.
Note: 1. To set daylight sensor at 100Lux / 300 Lux / 500Lux, press button ③Shift at first.
2. Disabled for HC034RF.

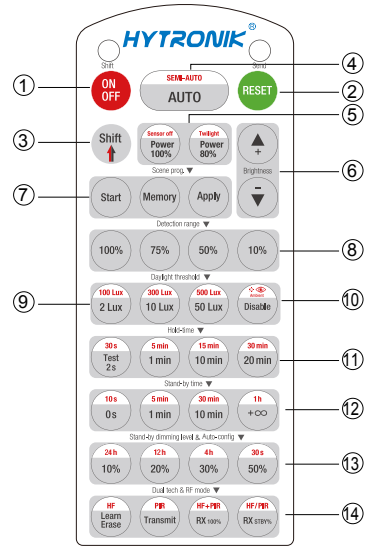
Ambient daylight threshold [button⑩]
1. Press button ③ Shift, the red LED is on for indication.
2. Press button⑩ ,the ambient lux level is sampled and set as the new daylight threshold.

Hold time [zone ⑪]
Press buttons in zone ⑪ 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 button③ Shift at 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 ② or anybutton in zone ⑪.

Stand-by time [zone ⑫]
Press buttons in zone ⑫ to set the stand-by period at 0s / 10s / 1min / 5min / 10min / 30min / 1h / +∞.
Note: "0s" means on/off control; "+∞" means bi-level control, 100% on when motion is detected, and remains at the stand-by dimming level when no presence is detected after hold-time.

Stand-by dimming level [zone ⑬]
Press buttons in zone ⑬ to set the stand-by dimming level at 10% /20% / 30% / 50%.
Note: 24h / 12h / 4h / 30s are disabled.

Dual tech & RF mode [zone ⑭]
1. HF, PIR, HF+PIR, HF/PIR are disabled.
2. For RF grouping, please see below.



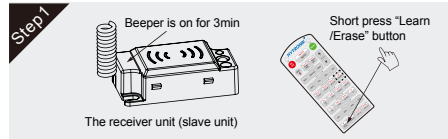
HRC-11

Note: the buzzer beeps one time when RC receives signal successfully

RF grouping

Short press "Learn/Erase" button on RC to activate pairing mode, and the receiver unit will beep once every second for 3min.

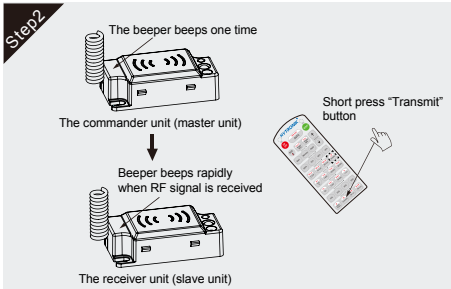
Note: the unit can only pair up to 30 units.



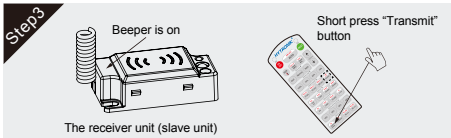
Short press “Transmit” button on RC, the commander unit (master unit) will beep one time to send the transmission signal.

Upon receiving the transmission signal, the receiver unit (slave unit) will rapidly beep 3 times in 1s to indicate the success of pairing. Repeat this step to pair more units. One more short press on “Learn/Erase” button to the receiver unit to complete the pairing process, the receiver unit will quit the pairing mode.

Note:
Press button RX100%, the light on receiver unit is 100% on upon receiving RF on signal; Press “RX STBY%” button, the light(s) goes to preset stand-by dimming level directly.`



Erase:
Long press “Learn/Erase” button for 3s to the sensor unit. The beeper rapidly beeps for about 5s. all commands it has received before will be erased.



SECTION 3 FUNCTION

3.1 Daylight Monitoring Function

Hytronik specially designed this function in software for deep energy-saving purpose. A built-in daylight sensor is designed to provide “smart photocell” function. This function can only be activated when stand-by period is set to “+∞”. In this mode the lamp will automatically illuminate at the dim level setting when the natural light goes below the threshold setting. The fixture will also switch off as the natural light returns.

3.2 Manual Override

This sensor maybe over-ridden by the end-users to switch on/off the lights manually, or adjust the maximum brightness during motion hold-time with the push-switch. 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.

Note: when manually push on the master via push switch, it can send a “on” signal to all slaves in the same group. The slaves will turn on when ambient light is below its daylight threshold preset.

* Long push (>1s): adjust the maximum brightness (between 10% and 100%) during hold-time.
* If no end-user adjustment is desired, simply leave this terminal disconnected.

3.3 Loop-in and Loop-out Terminal (HC038V & HC034RF)

Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.

SECTION 4 TROUBLESHOOTING

MALFUNCTION CAUSE REMEDY	CAUSE	REMEDY
The fixture does not light up	Incorrect daylight threshold setting	Adjust daylight threshold setting
	Faulty fixture	Replace fixture
	No power supply	Check power to sensor
The fixture is always on	Continous movement in the detection zone	Check detection area setting
The fixture is on when it should not	Sudden change in temperature due to weather (wind, rain, snow) or air expelled from fans, or open windows	Adjust zone, change installation site