

TRI-LEVEL HF SENSOR, DETACHED VERSION HC403VRC-KD/I+SAM5/I

Technical Specifications

Operating voltage	120-277VAC 50/60Hz
Max. load	400W/3.6A/120V
	800W/3.6A/230V (Capacitive)
	1000W/3.6A/277V
	700W/5.8A/120V
	1400W/5.8A/230V (Resistive)
	1600W/5.8A/277V
Power consumption	<1W
Detection angle	30° ~ 150°
Max. detection area (DxH)	Max. 12 x 8m
Detection range	10% / 50% / 75% / 100%
Hold time	5s/30s/1min/5min/10min/20min/30min (TEST 2s ~ 30min on RC)
Stand-by time	0s, 10s ~ 1h, +∞
Stand-by dimming level	10% / 20% / 30% / 50%
Daylight threshold	2 ~ 50Lux, Disable (2Lux ~ 500Lux /Lux disable / Ambient on RC)
Operating temperature	-20°C ~ +60°C

Functions

1. 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 automatically turns on to stand-by dimming level when natural light is insufficient, even there is no motion detected.

2. Tri-level Control (Corridor Function)

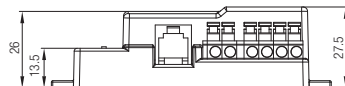
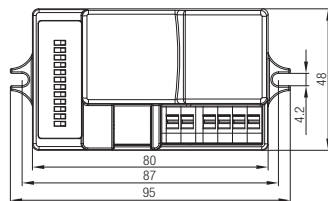
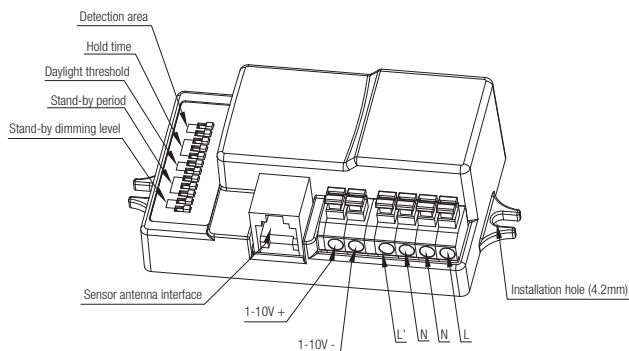
Hytronik builds this function inside the motion sensor to achieve tri-level control, for some areas require a light change notice before switch-off.
It offers 3 levels of light: 100%-->dimmed light-->off; and 2 periods of selectable waiting time: motion hold-time and stand-by time; Selectable daylight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

3. Zero-cross Relay Operation

Designed in the software, the sensor switches on/off the load right at the zero-cross point, to ensure the in-rush current is minimised, enabling the maximum life-time of the relay.

4. Loop-in and Loop-out Terminal

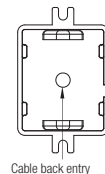
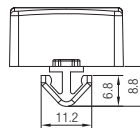
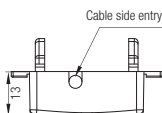
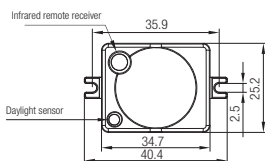
Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.



Dimensions (mm)

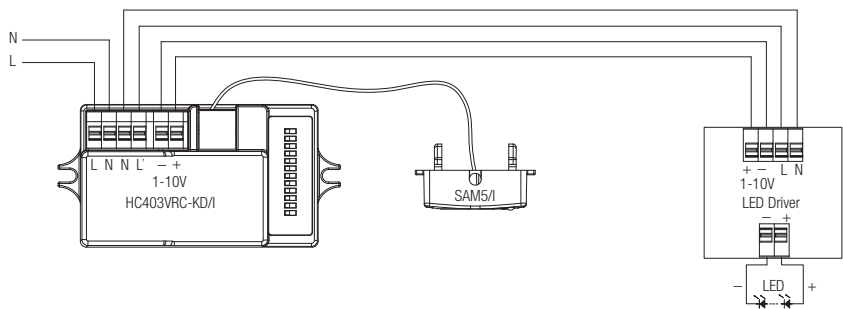
Model SAM5/I

Super-compact sensor antenna, with optional cable entry (side entry and back entry) and IR receiver.



* It is recommended 12mm diameter for the cable entry.

Wiring Diagram



Feature Operation

1. Detection Range

Setting these switches will determine the sensitivity of the occupancy sensor. During commissioning it is recommended to start at 10% to satisfy correct installation, before increasing the sensitivity to the environment for normal operation.

	1	2	
I	●	●	100%
II	●	○	75%
III	○	●	50%
IV	○	○	10%

2. Hold Time

Select the dip switch configuration for the full brightness on-time after presense detection. Please note that this function is disabled when the natural daylight exceeds the daylight threshold setting more than 5 minutes.

	1	2	3	
I	●	●	●	5s
II	●	●	○	30s
III	●	○	○	1min
IV	○	●	○	5min
V	○	○	●	10min
VI	○	○	○	20min
VII	○	○	○	30min

Note for commissioning: There is a 20 second "warm-up" period for the sensor upon power-on. This time must elapse before testing for presense detection.

3. Daylight Threshold

Set the level according to the fixture and environment. In Photocell Advance mode this level will determine at which point the fixture turns off and automatically turns back on again. Please note the levels refer to internal light reaching the sensor, and do not directly relate to lux levels outside of the fixture.

	1	2	
I	●	●	Disable
II	●	○	50 Lux
III	○	●	10 Lux
IV	○	○	2 Lux

Disabling the daylight sensor will put the sensor into occupancy detection only mode.

4. Stand-by period

This setting is used to select the mode of operation of the sensor:

Selecting Infinity '∞' will put the sensor into Photocell Advance mode. the stand-by period is effectively controlled by the daylight sensor (Automatic on/off operation based upon daylight)

Selecting one of the time periods will disable 'automatic on' operation and the photocell will be used only to turn off the fixture automatically. The selected time will determine the period before the fixture switches completely off from the stand-by dimming level in periods of absence.

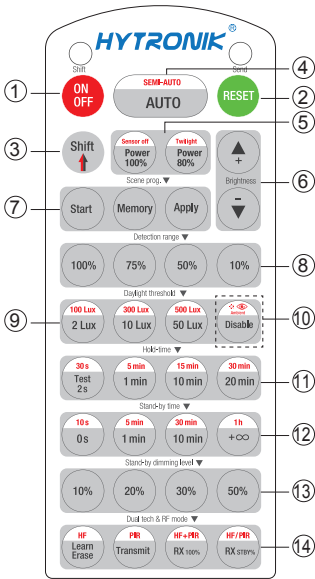
	1	2	3	
I	●	●	●	0s
II	●	●	○	10s
III	●	○	○	1min
IV	○	●	○	5min
V	○	○	●	10min
VI	○	○	○	30min
VII	○	○	○	1h
VIII	○	○	○	∞

5. Stand-by Dimming Level

This setting is used to select the desired dimmed light level used in periods of absence for enhanced comfort and safety. In Photocell Advance mode, it is also the level the fixture will automatically come on at when the natural daylight falls below the daylight threshold setting.

	1	2	
I	●	●	10%
II	●	○	20%
III	○	●	30%
IV	○	○	50%

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



HRC-11

<p>Permanent ON/OFF [button ①] Press button ① to select permanent ON or permanent OFF mode. * Press button ②/④ to resume automatic operation.</p> <p>RESET [button ②] Press button ②, all settings go back to the DIP switch settings.</p> <p>Shift [button ③] Press button ③, the LED on the top left corner flashes to indicate mode selection. All values / settings in RED are in valid for 20 seconds.</p> <p>Auto Mode [button ④] Press button ④ to initiate automatic mode. The sensor starts working and all settings remain as before the light was switched ON/OFF. Note: The function of "SEMI-AUTO" is disabled.</p> <p>Power output [button ⑤] Press button ⑤, the light output shifts between 80% and 100%. Note: the function of "Sensor off" and "Twilight" are disabled.</p> <p>Brightness +/- [button ⑥] Press button ⑥ to adjust light brightness between 10% ~ 100%.</p> <p>Scene prog. [zone ⑦] (One-key-commissioning) 1. Press button "Start" to program. 2. Select the buttons in ⑦ "Detection range", ⑧/⑨ "Daylight threshold", ⑩ "Hold time", ⑪ "Stand-by time", ⑫ "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 button ⑦ Start, button ⑧ 100%, ⑨ Disable, ⑩ Shift, ⑪ 5min, ⑫ Shift, ⑬ +∞, ⑭ 30%, ⑮ Memory. By pointing to the sensor unit(s) and pressing ⑯ Apply, all settings are passed on the sensor(s).</p> <p>Ambient daylight threshold [button ⑭] 1. Press button ⑭ Shift, the red LED flashes for indication. 2. Press button ⑭, the ambient lux level is sampled and set as the new daylight threshold.</p>	<p>Detection range [zone ⑧] Press buttons in zone ⑧ to set detection range at 100% / 75% /50% / 10%.</p> <p>Hold time [zone ⑩] Press buttons in zone ⑩ 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 button ③ Shift at first. 2. 2s is for test purpose only, stand-by period and daylight sensor settings are disabled in this mode. *To exit from Test mode, press button ② or any button in zone ①.</p> <p>Daylight threshold [zone ⑧ ⑨] Press buttons in zone ⑧ ⑨ to set the daylight sensor at 2Lux / 10Lux /50Lux / 100Lux / 300Lux / 500Lux or Disable. Note: To set daylight sensor at 100Lux / 300 Lux / 500Lux, press button ③ Shift at first.</p> <p>Stand-by time [zone ⑪] Press buttons in zone ⑪ 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 light is effectively controlled by the daylight sensor, fixture will never switches off even when natural light is sufficient.</p> <p>Stand-by dimming level [zone ⑫] Press buttons in zone ⑫ to set the stand-by dimming level at 10% / 20% / 30% / 50%.</p> <p>Dual tech & RF mode [zone ⑬] All buttons in zone ⑬ are disabled.</p>
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<p>Caution, Safety and Warning Markings in</p> <p>SAFETY STOP – DO NOT ALTER</p> <p>CAUTION: This product is combustible. A protective barrier or thermal barrier is required as specified in the appropriate building code.</p> <p>WARNING – Interconnection of more than one power supply source to a section of grid rail bus may present a fire hazard.</p> <p>DANGER - RADIATION</p>	<p>Caution, Safety and Warning Markings in</p> <p>DISPOSITIF DE SÛRETÉ – NE PAS MODIFIER</p> <p>ATTENTION : Ce produit est combustible. Une barrière de protection ou une barrière thermique est exigée par le code du bâtiment en vigueur.</p> <p>AVERTISSEMENT – Interconnexion de plus d'une source d'alimentation à une section de bus sur rail grille peut présenter un risque d'incendie.</p> <p>DANGER – RAYONNEMENT</p>
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