HIGH BAY MICROWAVE DALI SENSOR 99 190 24

1. Technical Specifications

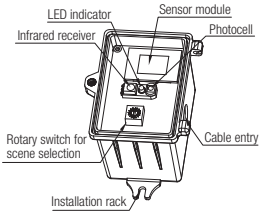
Product type	RF wireless microwave DALI sensor (tri-level control)
Operating voltage	120~277VAC 50/60Hz
Rated load	Maximum 20pcs DALI devices, Maximum 40mA
Power consumption	< 1.5W
Detection angle	360°
Detection area (DxH)	10 x 12m (Maximum)
Mounting height	12m (Maximum)
Detection range	10% / 50% / 75% / 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
RF transmission distance	30 meters in the open area
RF frequency	868MHz (FSK mode)
Warming up time	20s
Operating temperature	-20°C ~ +50°C
IP rating	IP65

2. Installation

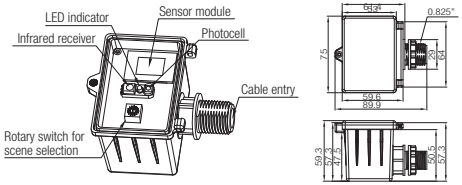
⚠ Warnings:

1. Installation qualified engineer must be carried out by a 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

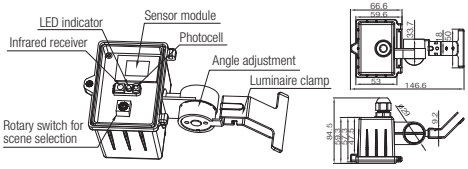
A. Surface Mounting



B. Conduit Fixing



C. Clamp Fixing



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%	Disable
1	100%	1min	5min	10%	2Lux
2	100%	5min	10min	10%	10Lux
3	100%	5min	30min	10%	30Lux
4	100%	5min	0s	Disable	10Lux
5	100%	5min	+∞	10%	30Lux
6	100%	5min	+∞	30%	Disable
7	100%	10min	10min	10%	2Lux
8	100%	10min	30min	10%	10Lux
9	100%	10min	+∞	10%	30Lux
A	100%	10min	+∞	30%	Disable
B	75%	10min	+∞	10%	30Lux
C	50%	10min	+∞	10%	10Lux
D	100%	30min	+∞	10%	50Lux
E	100%	30min	+∞	30%	Disable
F	100%	5s	10s	10%	2Lux

Note: settings can also be changed by remote control 99 190 27. The last action controls.

4. Functions

4.1 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 period; Selectable daylight threshold and freedom of detection area.

4.2 Lux Off Function

The built-in daylight sensor can read 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.

Varning!
Stäng av strömmen, ta ut säkringen på elcentralen eller ställ automatsäkringen till läge "AV", innan installationsarbetet påbörjas.
Skall installeras av behörig installatör och i enlighet med gällande föreskrifter.

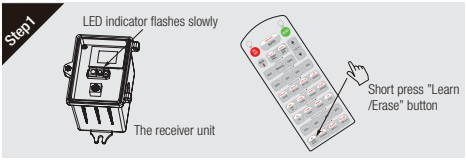
4.3 Ambient Daylight Threshold

Switch the power supply to the sensor two times within 2 seconds, the ambient lux level is sampled and set as the new daylight threshold. Both the settings on rotary switch and the ambient lux level sampled can overwrite each other. This feature enables the daylight sensor to be commissioned to the environment in which it is installed. The last adjustment remains in memory. This may also easily be carried out using the 99 190 27 remote control handset, please see next page (button ◎) for details.

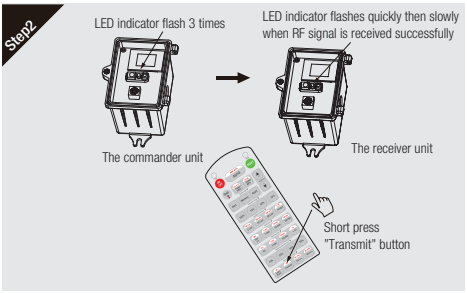
4.4 8H Manual ON Mode For LED Lamp

Turn off/on the power supply three times within 3 seconds, the light will be turned on for 8 hours, even there is no motion detected, then go back to sensor mode automatically.
Note: this 8H manual on mode can be cancelled by turning off/on the power supply one time within 1 second.

5. RF grouping



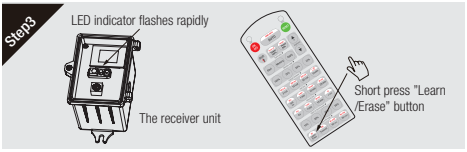
Short press "Learn/Erase" button on RC to the receiver to activate pairing mode, and the LED indicator on receiver unit will flash slowly.
Note: up to 30 units can be paired.



Short press "Transmit" button on RC to the commander, the LED indicator on commander unit will flash 3 times to send the transmission signal.

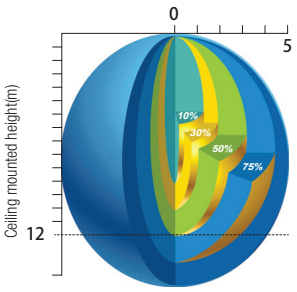
Upon receiving the transmission signal, the indicator on receiver unit will flash quickly then slowly to indicate the success of pairing. One more short press on "Learn/Erase" button to the receiver unit to complete the pairing process, the receiver unit will quit the pairing mode.

The sensor can serve as both commander and receiver, simply repeat above steps the other way around.



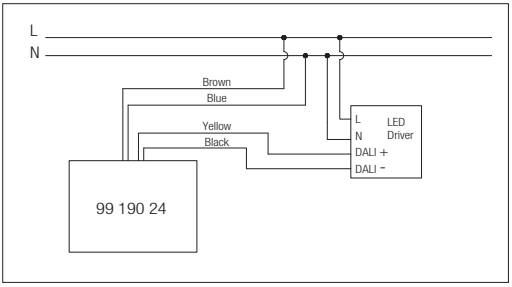
Erase:
Long press "Learn/Erase" button for 3s to the sensor unit, the indicator rapidly flashes 12 times, all commands it has received before will be erased.

7. Detection Pattern

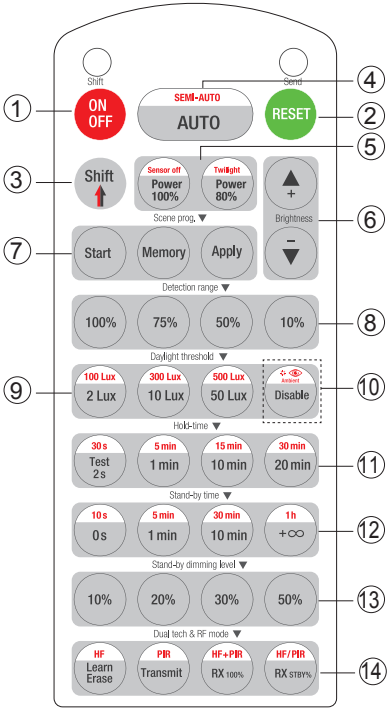


Ceiling mounted detection pattern (m)

6. Wiring Diagram



8. Description of the Button Functions (remote control 99 190 27)



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Permanent ON/OFF [button ①]
Press button ① ,to select permanent ON or permanent OFF mode.
* Press button ② / ④ to resume automatic operation.

RESET[button ②]
Press button ② , all settings go back to the rotary switch settings.

Shift [button ③]
Press button ③ , the LED on the top left corner will flash to indicate mode selection.
All values / settings in RED are in valid for 20 seconds.

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.

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.

Brightness +/- [button ⑥]
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 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 button ⑦ Start, button ⑧ 100%, ⑩ Disable, ③ Shift, ⑪ 5min, 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 detection range at 100% / 75% / 50% / 10%.

Daylight threshold [zone ⑨]
Press buttons in zone 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.

Ambient daylight threshold [button ⑩]
1. Press button ③ Shift, the red LED is on for indication.
2. Press button ⑩, 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 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 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 detected, and remains at the stand-by dimming level when no presence 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%.

Dual tech & RF mode [zone ⑲]
1. HF, PIR, HF+PIR, HF/PIR are disabled.
2. Short press button "Learn/Erase" to activate pairing mode on all receiver (slave) units to be paired.
Note:up to 30 units can be paired.
3. Short press button "Transmit" at the commander unit(master), the LED will flash 3 times to indicate the transmission signal has been sent. The receiver units flashes slowly to indicate the success of pairing. Repeat this process for two way communications, a single sensor may act as both commander and receiver.
4. Long press "Learn/Erase" button for 3s, and the receiver unit clears all commands it has received before.
5. 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 presset stand-by dimming level directly.

9. Trouble Shooting

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
	Detection zone not targeted	Check detection area setting
The fixture is always on	Continued 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, open windows	Adjust zone, change installation site

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