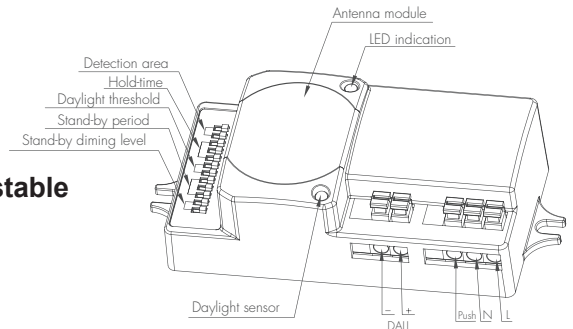


Instruction Manual for Independent DALI Sensor Model No.: HCD418 Technical Specifications

PRODUCT TYPE:	DALI microwave motion sensor
HF SYSTEM:	5.8GHz CW radar
OPERATING VOLTAGE:	120-277VAC 50/60Hz
DALI OUTPUT:	Approx. 30mA or Max.15 devices
TRANSMISSION POWER:	<0.2mW
DETECTION ANGLE:	30°~150°
DETECTION RANGE:	Max. 12 meters in diameter, adjustable
TIME SETTING:	Test (2s), 30s ~ 30min.
STAND-BY PERIOD:	0s, 10s ~ 1h, +∞
STAND-BY DIMMING LEVEL:	5%~50%
LIGHT CONTROL:	2~50Lux; disable
MOUNTING:	Indoors, ceiling & wall mounted
WORKING TEMP.:	-35 ~ +70 °C



The sensor is an active motion detector; it emits a high-frequency electro-magnetic wave 5.8 GHz 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, panels of glasses thin walls.

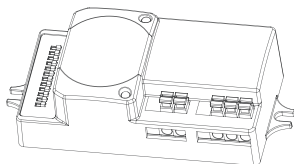
Note: the high-frequency output of this sensor is < 0.2mW; approximately just 0.2‰ of the transmission power of a mobile telephone or the output of a microwave oven.

IMPORTANT

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

SECTION 1 INSTALLATION & WIRING

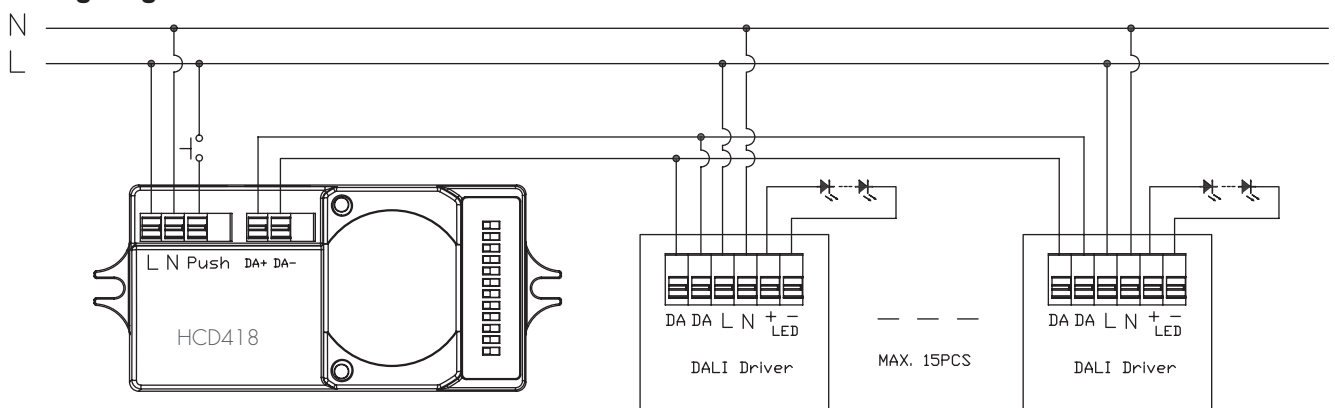
1.1 ENSURE THAT THE ELECTRICITY SUPPLY IS SWITCHED OFF COMPLETELY BEFORE INSTALLING OR SERVICING THIS PRODUCT.



The sensor has a 5-wire electrical interface:

N (neutral / 120-277VAC)	DA+ (DALI "+" interface)
L (phase / 120-277VAC)	DA- (DALI "-" interface)
PUSH (Push interface)	

1.2 Wiring diagram



1.3 This sensor is suitable for indoor use, and is also designed for installation at Max. 6m in height.

SECTION 2 SETTINGS


Detection range

This determines the effective range of the motion detector and is set by DIP switches at the sensor itself, refer to figure. Note that reducing the sensitivity will also narrow the detection range.

The following settings are available:

- I - Detection range 100%
- II – Detection range 75%
- III – Detection range 50%
- IV – Detection range 10%

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




Hold time

This determines the time the fitting remains at 100% level on motion detection and is set with DIP switches at the sensor itself, refer to figure. The walk test setting is useful when installing the fitting to establish correct operation and range.

The following settings are available:

- I – Test
- II – 30s
- III – 1min
- IV – 5min
- V – 10min
- VI – 20min
- VII – 30min

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




Daylight sensor

This setting holds off the 100% light output should there sufficient daylight and is set using DIP switches at the sensor, refer to figure. The following settings are available:

The following settings are available:

- I – Disable
- II – 50 lux
- III – 10 lux
- IV – 2 lux

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




*In disable mode the lamp(s) will always be on with motion detected and operate at 100% light output, even in bright daylight.

Stand-by period

This is the time period you would like to keep at the low light output level before it is completely switched off in the long absence of people.

- I – 0s
- II – 10s
- III – 1min
- IV – 5min
- V – 10min
- VI – 30min
- VII – 1h
- VIII – +∞

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




Note: "0s" means on/off control; "+∞" means 2-step of dimming control, fixture never switch off.

Stand-by dimming level

This is the dimmed low light output level you would like to have after the hold-time in the absence of people.

- I – 5%
- II – 10%
- III – 20%
- IV – 50%

	1	2	
I	●	●	5%
II	●	○	10%
III	○	●	20%
IV	○	○	50%



SECTION 3 FUNCTIONS

3.1 Manual override

This sensor reserved the access of manual override function for end-users to switch on/off, or adjust the stand-by dimming level with the push-switch, which makes the product more user-friendly and more options to fit for some extra-ordinary demands.

* Short push (<1s): On/off;

ON → OFF: The light turns off immediately and can not be lighten for a certain time (equals to hold time preset) even movement is detected.
After this period, the sensor goes to auto sensor mode.

OFF → ON: The light turns on 100% and goes to sensor mode, even when ambient LUX level exceeds the daylight threshold.

* Long push (>1s): Dim up/down the stand-by dimming level between 10% and 50%. Both the settings on DIP switch and manual override can overwrite each other, the latest action stays in validity.

*If customers do not want to have this manual override function, we can just leave this "push" terminal alone, not connected to any wire.

Note: Motion sensor overrides daylight sensor, meaning the daylight sensor starts to check the ambient natural light only when the lamp is switched off (motion hold-time elapsed).

SECTION 4 TROUBLE SHOOTING

MALFUNCTION CAUSE REMEDY	CAUSE	REMEDY
The load does not work	Do not connect to DALI power supply	Connect to DALI power supply
	Incorrect light-control setting selected	Adjust setting
	Load faulty	Replace load
	Mains switch OFF	Switch ON
The load is always on	Continuous movement in the detection zone	Check zone setting
The load is on without any identifiable movement	The sensor is not mounted for reliably detecting movement	Securely mount enclosure
	Movement occurred, but not identified by the sensor (movement behind wall, movement of small object in immediate lamp vicinity etc.)	Check zone setting
The load does not work despite movement	Rapid movements are being suppressed to minimize malfunctioning or the detection radius is too small	Check zone setting