

# Bright LED

## *LED Linear Trunking System*

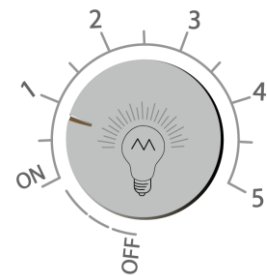




The most important feature of DALI is that every luminaire has its own unique address, and we can dim the luminaire accurately via the DALI system. Of course, the main purpose of dimming is to save the energy and cost. BrightLED DALI system is suitable for complex application to manage the lighting in different rooms and store, for daylight dependent control.

### Dimming

Except DALI dimming system, we also integrate the 1-10V dimming into the led linear trunking system. Without the computer, 1-10V also can save the energy and cost with the high accuracy and efficiency. Besides, on the premise that working voltage and working power supply in level situation, its variation range is still wide, whose advantage allow it to be widely used in some special application and different workplace.



### Sensor

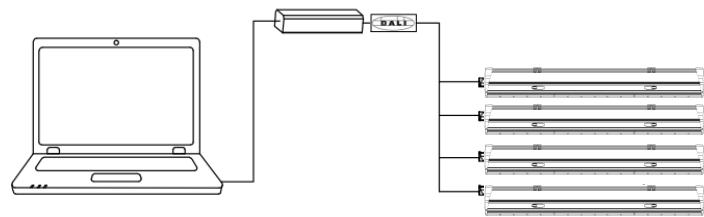
The multi-sensor system is embodied in the sensor module, which means the simple integration of daylight control and presence detection in the trunking system with DALI luminaire inserts. The sensor modules with their wide ranges and diverse detection area enable a wide flexibility for possible applications. Versions are available for mounting height of 5 to 8 meters or for heights of 6 to 10 meters to give various ranges of detection. High energy savings of up to 80% can be achieved with the combination of daylight control and presence detection.

### DALI Introduction

With a bidirectional communications interface, IEC 62386-101, is suitable for complex applications to control rooms, stores, warehouse etc for daylight-dependent control. It can achieve multiple communications up to 64 ECGs, 16 groups and 16 light scenes.

DALI not only receives switching and dimming commands, but also status information for lighting value or error states, such as the failure of a lamp or an ECG, which makes BrightLED Linear lighting system more intelligent and more flexible to meet your needs.

On DALI commissioning with BrightLED Linear lighting, ECG receives an automatically generated address and in the further commissioning process a short address or group address, which would



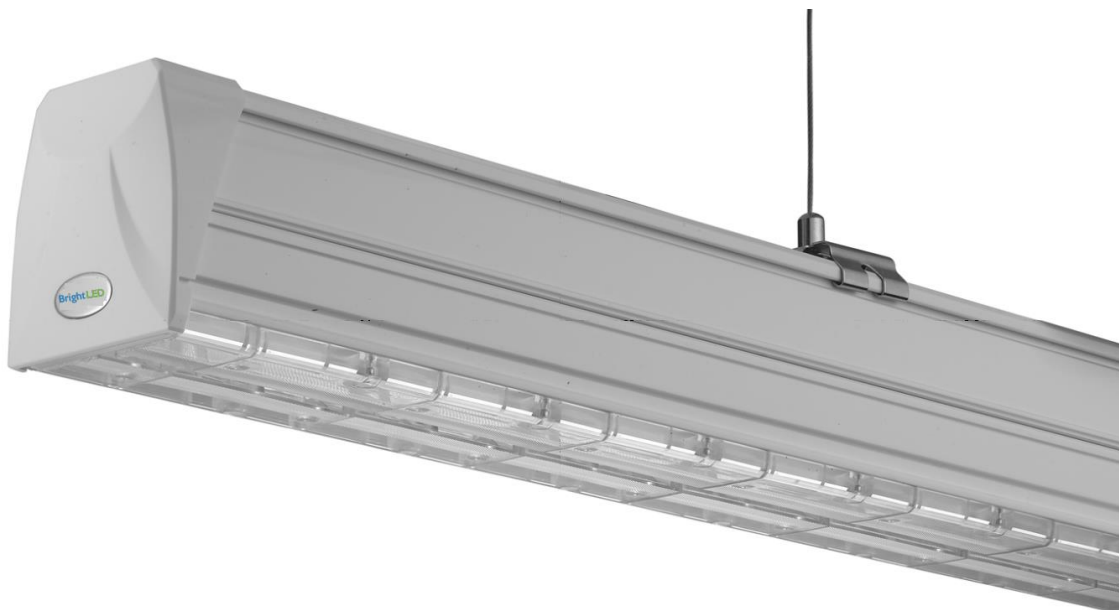
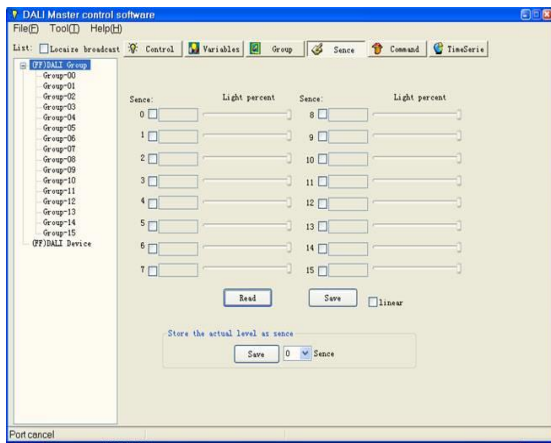
BrightLED led linear system has three options of wiring connection: 5 wires, 7 wires and 11 wires. Only 7 and 11 wires options are suitable for DALI system, among these options, only 2 wires are related to the dimming function.

According to the DALI system rules, it has 16 groups and 16 light scenes, each group has 0-4pcs luminaires and each light scene can set up all of the groups. The standard of BrightLED's electrical wire is 2.5 square millimeter, it allow to withstand 16A maximum current, which means the whole system can ensure about 40pcs 80w 150cm led linear or 58pcs 60w 150cm led linear light running normally

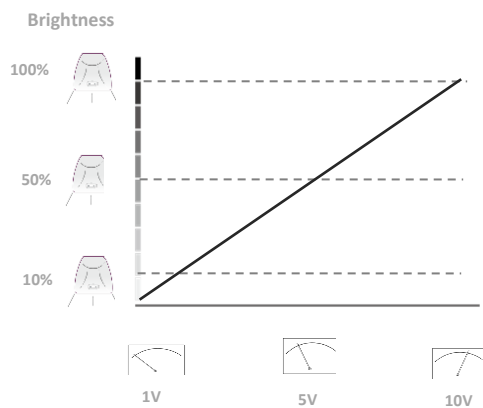
Group-00	Luminaire 1, luminaire 2
Group-01	Luminaire 3, luminaire 3, luminaire 4
Group-02	Luminaire 5
Group-03	Luminaire 6, luminaire 7, luminaire 8
.....	.....
.....	.....
.....	.....
.....	.....
Group-015	Luminaire 40

Different illumination brightness of lighting groups can be set up under maximum 16 lighting scenes. For example, in the first lighting scene, you can set the group 1 to 100% lighting degree, and group 2 to 50% lighting degree.....

According to different time, place and pedestrian volume etc, this intelligent lighting management system (DALI) allowed us to save the energy and cost in maximum degree.



### 1-10V Dimming Introduction



According to the ERP standard, 0-10V is not acceptable while 1-10V do. BrightLED 1-10V dimming system control the brightness of luminaire by adjusting the resistor dimmer, and the brightness will be from 10% to 100%. Except its save Energy function, another advantage is that the light won't be totally went out, because it don't have the 0V.

### DIM switch

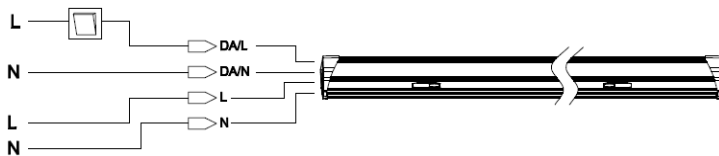
The main advantage of dim switch is to replace the wall switch within satisfying the different request on lighting intensity from human being. Through eliciting two DALI wires, then connect them with the switch. When flip the switch on, the whole set of luminaire will be self-regulation, after the brightness reach the target luminance, then close the switch to keep the luminance in the certain level. This dim switch is widely used in domestic, apartment, hotel and hospital application.



This Dimswitch has a complex relationship with DALI system, its function should be based on DALI driver in led module while it is independent from DALI system, if the led linear connect any other DALI device, such as DALI USB, DALI PS, then this Dim switch can not work any more. When connecting the dim switch with the linear lamp, the dimming function has the following features:

- The brightness can be adjusted from 1% to 100%, the duration time is 4~5 seconds
- The brightness will increase when the first press, and decrease when next time. The direction of the brightness will be changed each time.

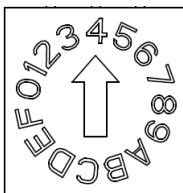
Circuit Diagram



### Microwave Sensor

DALI group configuration can be done either on PC or on the rotary switch:

- There are 16 channels available on the rotary switch. "0" is for DALI broadcast, the rest 15 channels are for end user to define the application unit.
- PC grouping can be overwrite rotary switch grouping, and the last setting stays in validity.
- The rotary switch channel is corresponding to the groups listed below:



Switch Channel	DALI Group	Switch Channel	DALI Group
0	broadcast	8	Group 7
1	Group 0	9	Group 8
2	Group 1	A	Group 9
3	Group 2	B	Group 10
4	Group 3	C	Group 11
5	Group 4	D	Group 12
6	Group 5	E	Group 13
7	Group 6	F	Group 14

	Sensitivity		Hold time		Daylight sensor		Stand-by period			Stand-by Dimming					
	1	2	3	4	5	6	7	8	9	10					
I	<input type="radio"/>	50%	<input type="radio"/>	<input type="radio"/>	Test	<input type="radio"/>	<input type="radio"/>	Disable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	0s	<input type="radio"/>	<input type="radio"/>	5%
II	<input checked="" type="radio"/>	100%	<input type="radio"/>	<input checked="" type="radio"/>	1min	<input type="radio"/>	<input checked="" type="radio"/>	50lx	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	10s	<input type="radio"/>	<input checked="" type="radio"/>	10%
III			<input checked="" type="radio"/>	<input type="radio"/>	5min	<input checked="" type="radio"/>	<input type="radio"/>	10lx	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	5min	<input checked="" type="radio"/>	<input type="radio"/>	20%
IV			<input checked="" type="radio"/>	<input checked="" type="radio"/>	20min	<input checked="" type="radio"/>	<input checked="" type="radio"/>	2lx	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	10min	<input checked="" type="radio"/>	<input checked="" type="radio"/>	50%
V									<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	30min			
VI									<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	1h			
VII									<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	∞			



Detection Area: When the motion object appear in the certain area, the luminaire will light up automatically

Hold time: When the motion object leaves the detection area, the time that luminaire keep on working.

Daylight Sensor: "Test" means that whether the circumjacent sunshine is strong or not, the inductor will decide the luminaire.

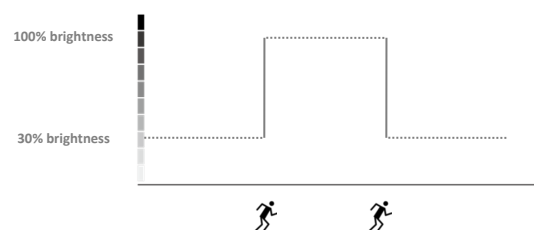
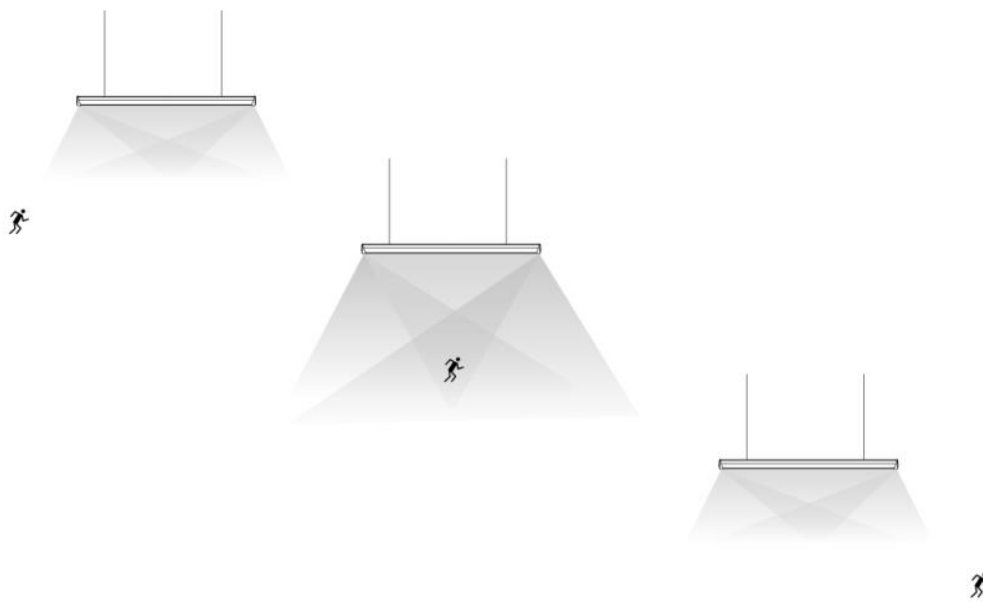
50lx means that when the circumjacent sunshine is more than 50lx, the inductor won't work anymore.

Stand-by period: It means the period that when luminaire from low-light level to no light level when the motion object leave the detection area.

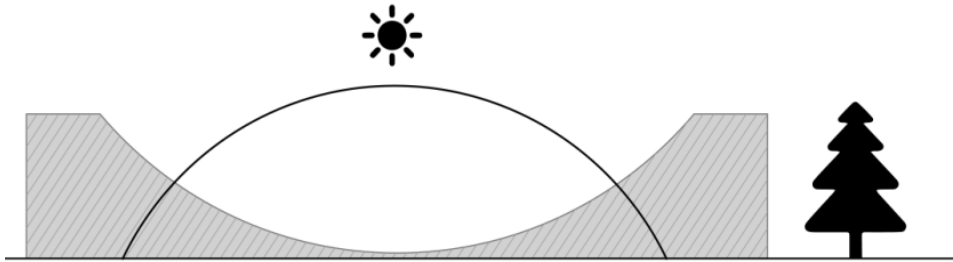
Stand-by dimming: The percentage for low-light level.

The main advantage of our microwave sensor is the long- distance detection. Comparing with Other brands, BrightLED microwave sensor can detect signal from up to 8m distance. And we will install several pieces microwave on the led linear. Our microwave sensor have the following main advantages:

- Motion sensor
- 330° rotation, with small angle while long distance, detect the motion from the target location.
- High resistance to the temperature variation.







Through detecting the light level, our led linear system can be self-adjust the brightness via the Daylight sensor, then it reach the purpose of saving the energy and cost.



### Microwave sensor

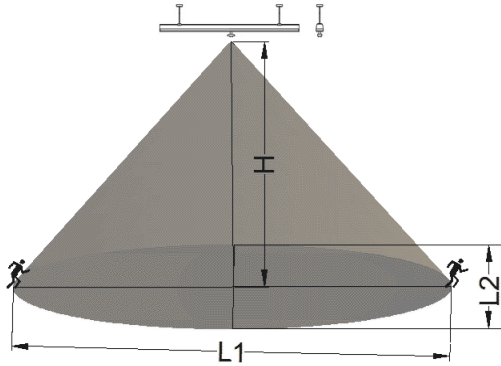
Through inserting the microwave sensor module into the luminaire, it can detect the long-distance motion of human. Comparing with PIR motion sensor, it has much more accurate and longer distance detection. The basic spec for BrightLED microwave sensor are as below:

- Protection rating: IP20
- Insulation Class: 1
- Control range: E=50....1500lx
- Mounting height: 3m ~ 20m
- Over time: 8s-12min (adjustable)
- Horizontal-angle: 80°
- Vertical-angle: 40° and 34°

#### Two modes:

Broadcast Mode  
Group Control

Hold time  
Brightness  
Sensitive time



“H” means installation height

“L1” means the horizontal detection distance on the ground when the horizontal angle is 80°

“L2” means the vertical detection distance on the ground when the vertical angle is 40° or 34°

**Three Options:**

H: 6m

L1: 10m

L2: 4.37m or 3.67m

H: 12m

L1: 20m

L2: 8.74m or 7.34m

H: 20m

L1: 33.56m

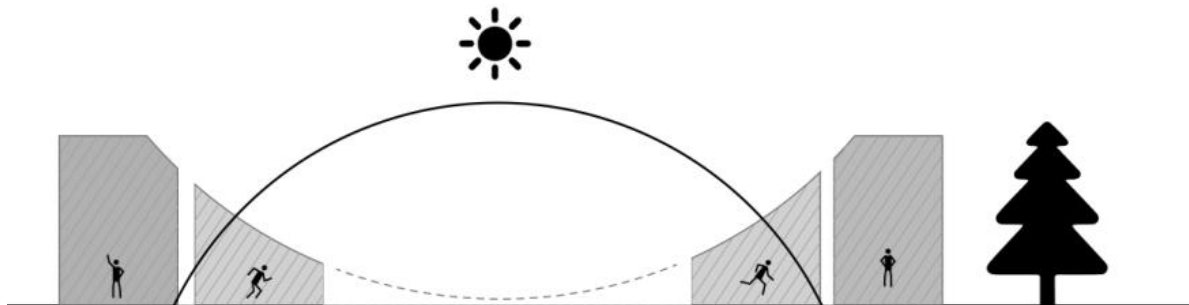
L2: 14.56m or 12.23m

Except the horizontal and vertical angle, Microwave sensor also support the horizontal rotation and vertical rotation

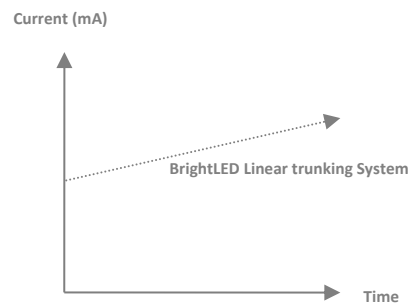
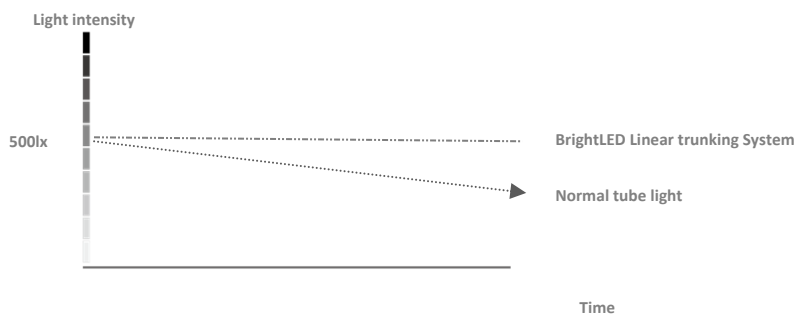


### Daylight and Microwave Sensor

This daylight sensor module can be automatically supplemented with the required quantity of artificial light, With absence, lighting is automatically switched off following a settable delay period. In the main application, such as office, factory or warehouse, it can detect the illumination intensity around the luminaire, then it will switch on and show a certain light level to reach the normal brightness. So, it can maximum save the energy without any manual control.



Comparing with normal tubes, led linear with DALI function has an unique advantage which should not be overlooked. Through adjusting the illumination of linear in the periods to keep the lighting intensity in the same level all the time. This activity will decrease the disorientation which tubes will bring to human being when the light decay happens gradually. This point obeys the lumen depreciation rule and make full use of the advantage of DALI dimming.



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