

Daylight Sensor

DS02 DS02/FM

Product Description

This is a photocell daylight sensor, it can read and measure the surrounding light, and converts the amount of light to 1-10V electronic signal output.

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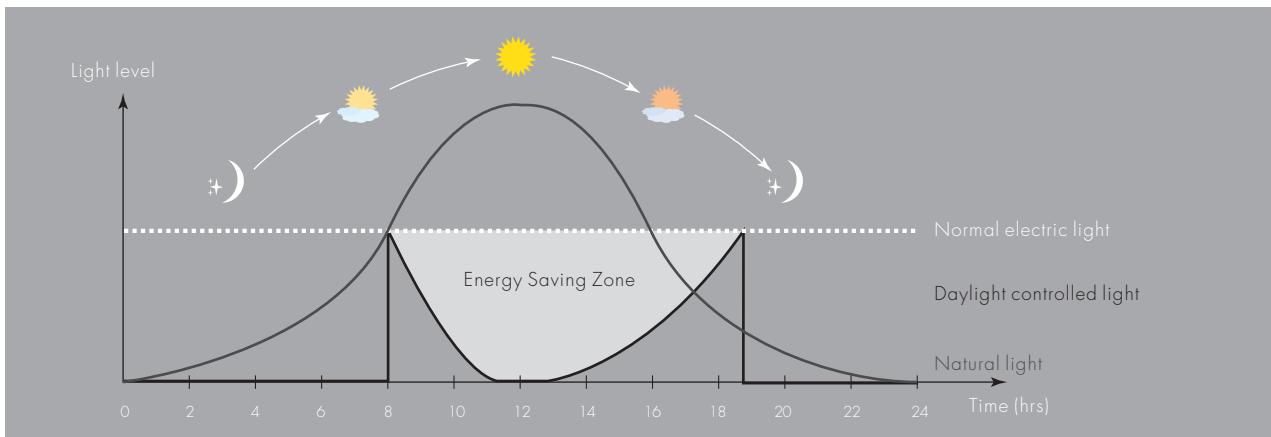


DS02

DS02/FM

A potentiometer is employed for endusers to set the brightness level, so that the daylight sensor can read, measure the available natural daylight against the target value, and calculate how much artificial light is needed. This demand is then converted to 1-10V signal, to be sent to the 1-10V dimmable ballast or LED driver, which will then pump up the right amount of light out of the fluorescent lamp or LED fixture.

This daylight harvest (or daylight interactive) application can be illustrated in below diagram:



Daylight / artificial light interactive diagram

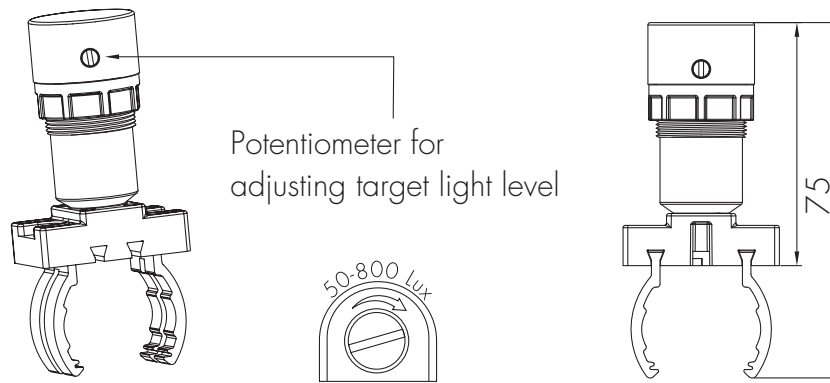
Technical Specifications

Input & Output Characteristics	
Mains voltage	1-10V
Operating temp	Ta: -20°C ~ +55°C
Max. load	50mA
Warming-up	20s
Control line	Red:+ black:-
Cable length	100cm±5cm cable

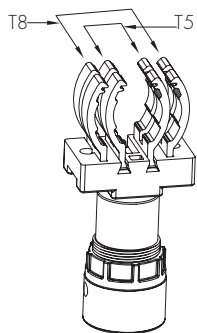
Sensor Data	
Dimming range	10% ~ 100%
Lux range (DS02)	50-800Lux
Lux range (DS02/FM)	10-500Lux
Sensor angle	90°

Mechanical Structure & Dimensions

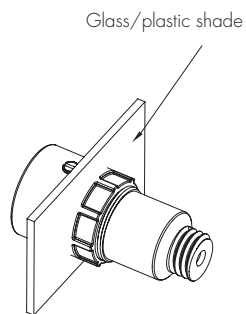
DS02



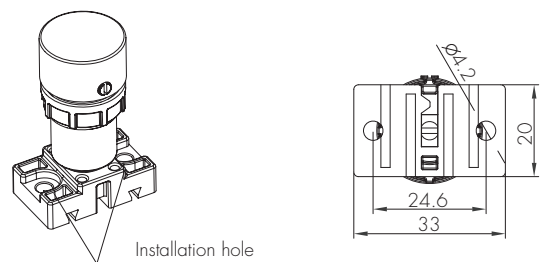
1. Mounting on linear tubes



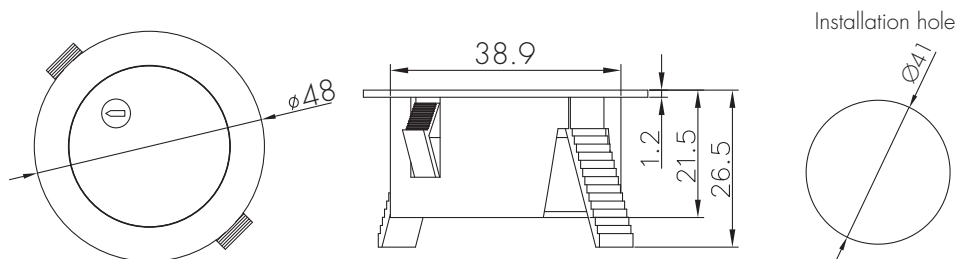
2. Mounting on glass/plastic shades






3. Mounting on flat surface



DS02/FM



Function Overview for Daylight Sensor DS02 & DS02/FM

Daylight sensor	Types of motion sensor	Types of control gear	FUNCTION				
			Switch on automatically with presence	Dimming level against natural light	Dimming level at stand-by period	Daylight sensor is prior to motion	Switch off automatically
DS02 & DS02/FM	No motion sensor	1~10V dimmable control gear	NO	10~100%	N/ A	N/ A	NO
	 HC009S	1~10V dimmable control gear	YES	10~100%	N/ A	NO ¹	YES ²
	 HC005S						
 HC019V	1~10V dimmable control gear	YES	10~100%	Between 10% to pre-set dimming level on sensor	NO ¹	YES ²	

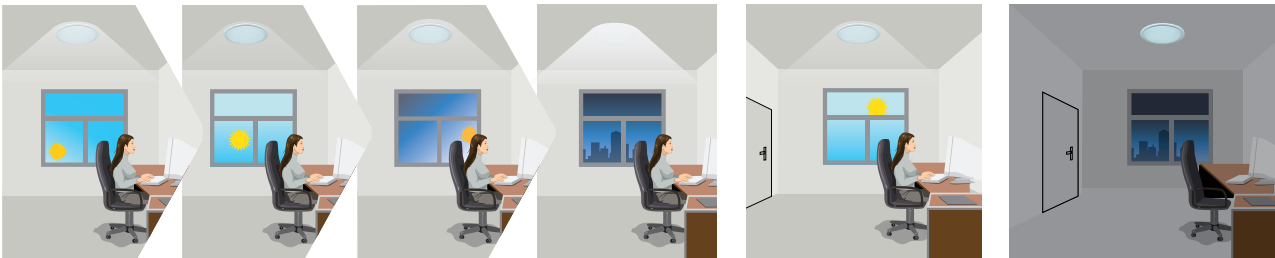
Note:

- ① Only when the hold-time has elapsed, does the daylight sensor start checking up the natural daylight.
- ② Whether or not the lamp can be switched off depends on the control gear. DS02 & DS02/FM has the lowest voltage output 1.1-1.2V, if control gear can switch lamp off at this voltage, then the lamp can be switched off. Hytronik also supplies a 1-10V dimmable 25W LED driver (model HE2025-D) which can work with DS02 & DS02/FM to switch off lamp if needed.

Functions and Features

Daylight harvest is now a must. This system can respond to the varying levels of natural light to maintain lux level, there are some combinations for different application.

1 DS02 or DS02/FM + 1~10V control gear, with no motion sensor

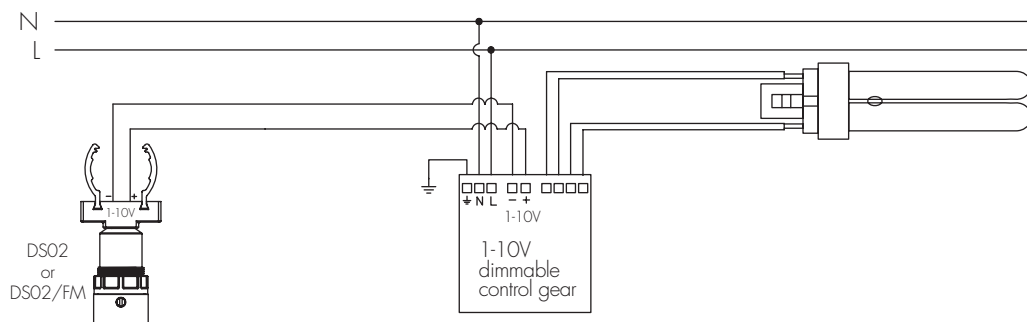


The light turns on at full or dims to maintain the lux level. The light output regulates according to the level of natural light available.

The light dims to minimum level when the ambient natural light is sufficient.

The light is manually switched off when it is not needed.

Wiring Diagram



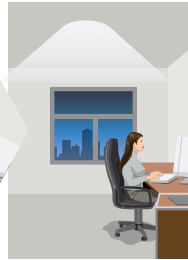
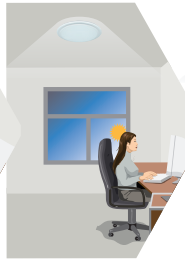
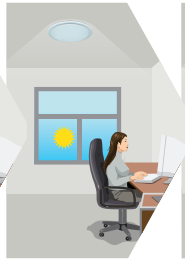
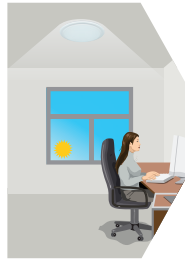
2 DS02 or DS02/FM + HC009S (or any ON-OFF sensors) + 1~10V control gear



Light will not switch on when natural light is sufficient, even there is motion detected.



The light switches on automatically with presence when natural light is insufficient.



The light turns on at full or dims to maintain the lux level. The light output regulates according to the level of natural light available.

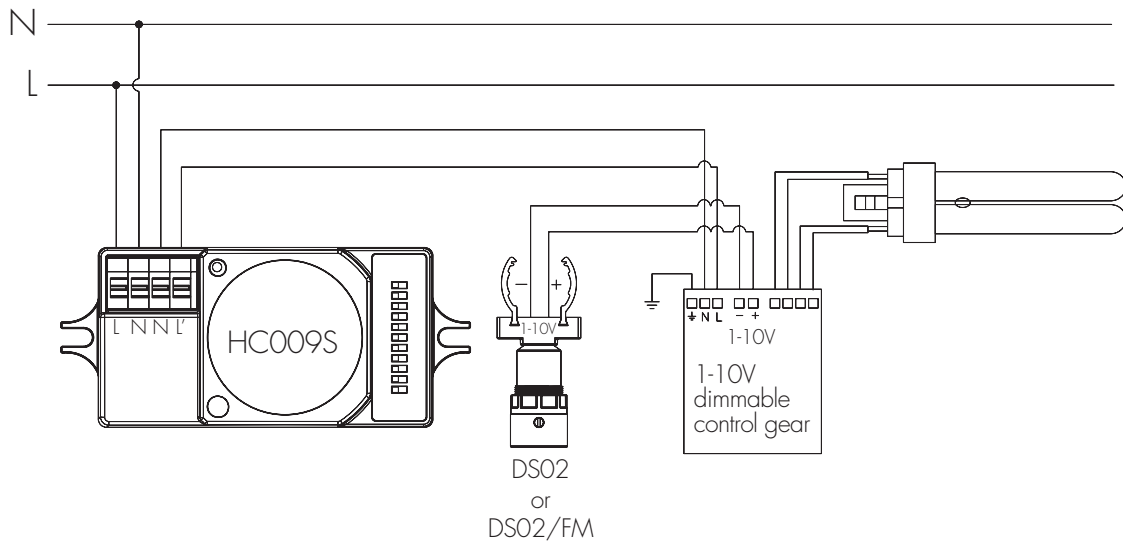


The light switches off when the ambient natural light is sufficient.



The light switches off completely after the stand-by period.

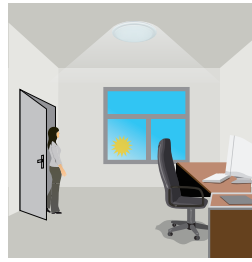
Wiring Diagram



3 DS02 or DS02/FM + HC018V + 1~10V control gear



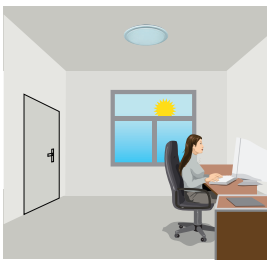
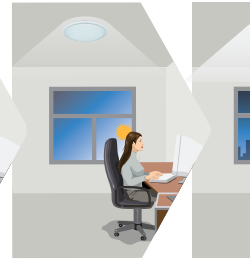
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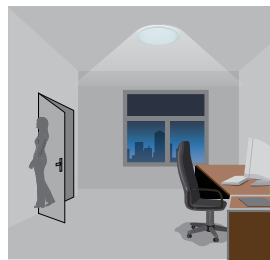
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The light switches off when the ambient natural light is sufficient.

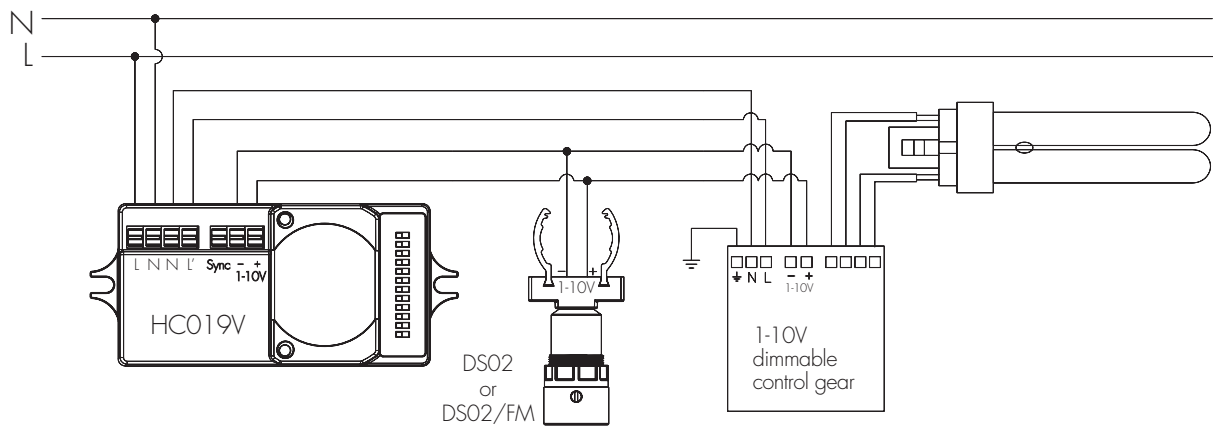


The light dims to stand-by period after hold-time and stays on selected minimum dimming level.



The light switches off completely after the stand-by period.

Wiring Diagram



Additional Information / Documents

1. To learn more about detailed product features/functions, please kindly refer to <https://hytronik.com/product/dsO2-fm>
3. Regarding precautions for PIR Sensors installation and operation, please kindly refer to <https://hytronik.com/service/downloads> (PIR Sensors Precautions for Product Installation and Operation)
4. Data sheet is subject to change without notice. Please always refer to the most recent release on <https://hytronik.com/products/motion-daylight-sensors>
5. Regarding Hytronik standard guarantee policy, please kindly refer to <https://hytronik.com/service/downloads> (Guarantee Conditions document)