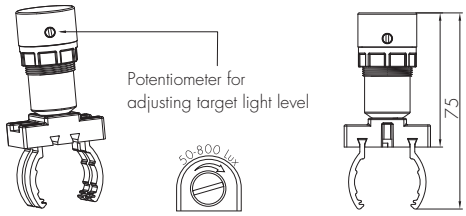
Daylight Sensor

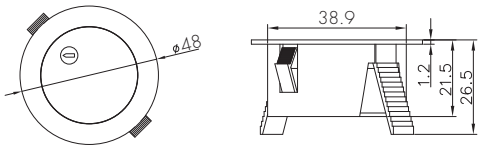
DS02 DS02/FM

HYTRONIK®

Mechanical structure



DS02



DS02/FM

Technical Data

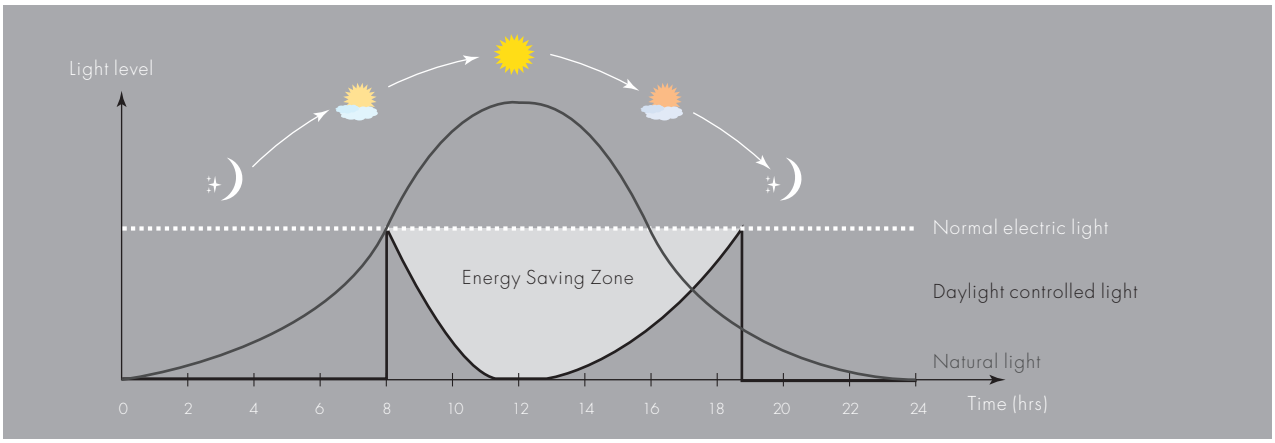
Model No.	DS02 DS02/FM
Mains voltage	1-10V
Operating temp	Ta: -35°C ~ +70°C
Control line (DS02)	+red −black
Cable length (DS02)	80cm cable
Warming-up	20s

Model No.	DS02 DS02/FM
Dimming range	10% ~100%
Sensor angle	90°
Max. cable length	50m
Max. load	50mA

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.

A potentiometer is emplyed 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

Function Overview for Daylight Sensor DS02

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	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 ❶	YES ❷
	 HC005S						
	 HC019V	1~10V dimmable control gear	YES	10~100%	Between 10% to pre-set dimming level on sensor	NO ❶	YES ❷

Note:

❶ *Only when the hold-time has ellapsed, does the daylight sensor start checking up the natural daylight.*

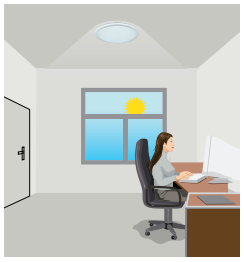
❷ *Whether or not the lamp can be switched off depends on the control gear. DS02 has the lowest voltage output 1.1-1.2V, if control gear can switch lamp off at this voltage, then the lamp can be switched off. Hytronik also supplies a 1-10V dimmable 25W LED driver (model HE2025-D) which can work with DS02 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 + 1~10V control gear, with no motion sensor

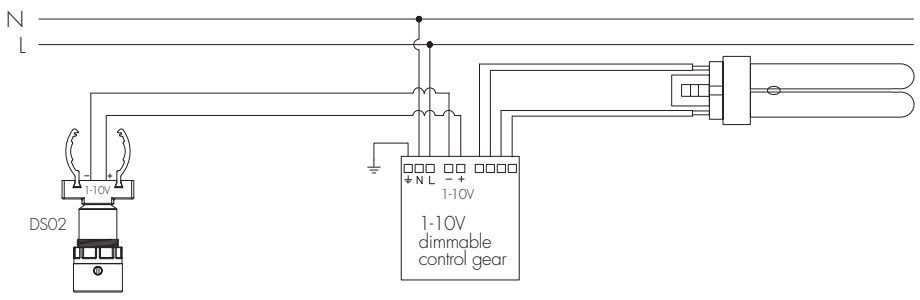
The light turns on at full or dims to maintain the lux level. The light output regulates accroding to the level of natural light available.



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

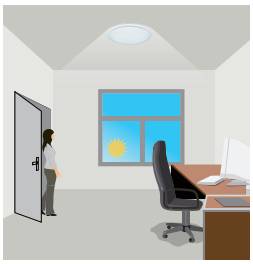
The light is manually switched off when it is not needed.

Wiring Diagram



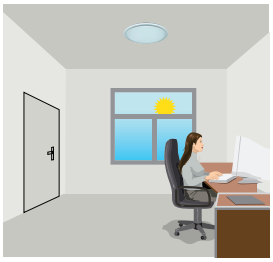
2 DS02 + HC009S (or any ON-OFF sensors) + 1~10V control gear

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.

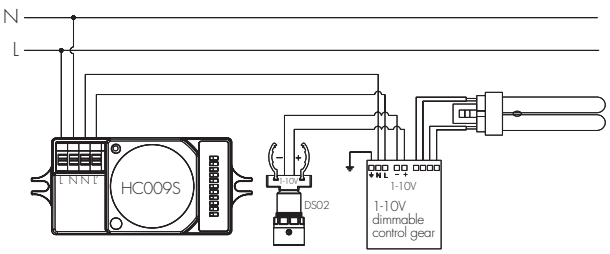
The light turns on at full or dims to maintain the lux level. The light output regulates accroding to the level of natural light available.



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

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

Wiring Diagram

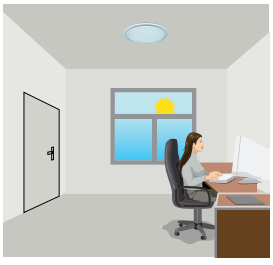


3 DS02 + HC018V + 1~10V control gear

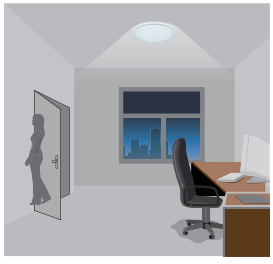
Light will not switch on when natural light is sufficient, even there is motion detected.

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 accroding to the level of natural light available.



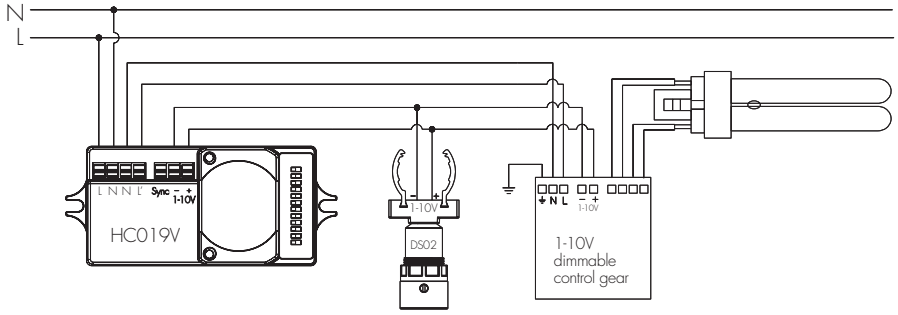
The light switches off when the ambient natural light is sufficient.



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

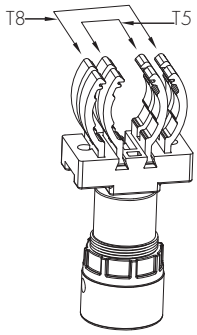
The light switches off completely after the stand-by period.

Wiring Diagram

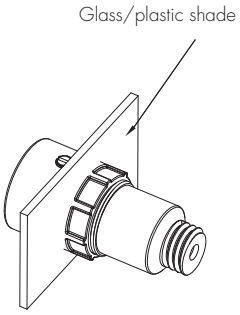


Installation

1.Mounting on linear tubes



2.Mounting on glass/plastic shades



3.Mounting on flat surface