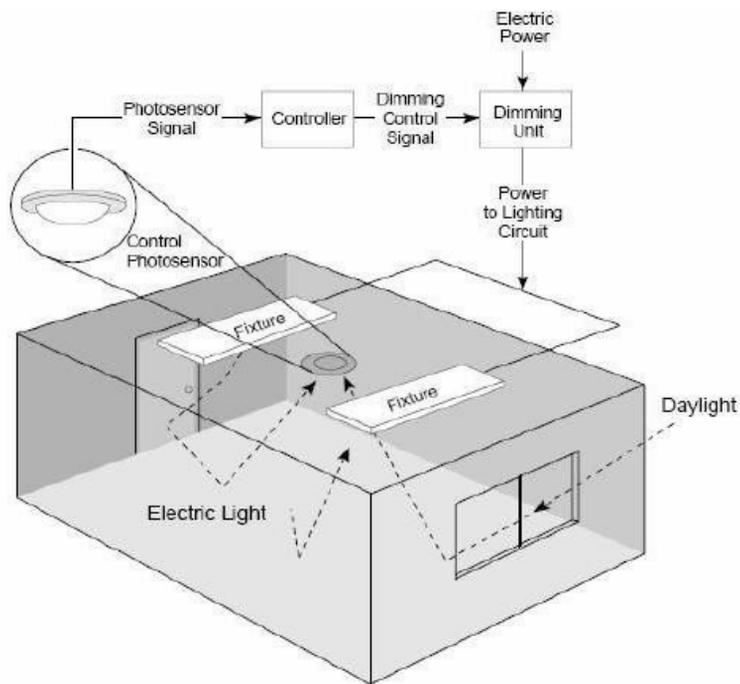


Daylight Harvesting Information



- Integral To Helvar 312
- Enhances Client Comfort
- Internal Sensor
- Closed Loop
- Optimises Energy Savings

Further Reading:
 Data Sheet 7860047
 Installation Sheet i420m1
 Digidim Guide to Specification

Overview

Daylight harvesting is the general description given to the exploitation of the natural daylight entering a room or area and the subsequent reduction of associated artificial lighting. Its use can provide a great deal of convenience for the buildings occupants, but perhaps the main reason for using it is that it provides a considerable increase in energy efficiency.

Where the control equipment incorporates the means of regulating the artificial lighting in response to the daylight level then operation is commonly referred to as constant light control. The Helvar 312 Multisensor provides this method of automation in respect to the artificial light to be controlled.

When used in combination with the integral PIR sensor, it further reduces the system's use of energy by ensuring that the lighting will only operate in areas that are occupied, and ensures that the output level of those lamps is no higher than that required to maintain the desired amount of light.

For buildings fitted with air conditioning systems there is an additional saving associated with avoiding the need to remove waste heat.

Considerations

It is common for daylight, particularly during summer months, to give significantly higher lighting levels than is needed, or provided by artificial sources.

The sensor functions on simple feedback and has no means of determining lamp capabilities, therefore if the light level is set on a bright day, recorded levels can be dominated by the daylight and be above the output of the lamps. The solution to this is to ensure the sensor is set up with blinds drawn, on a dull day or at dusk, to ensure that the majority of light received is produced by the lamps.

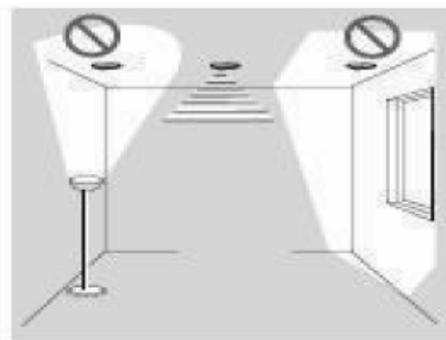
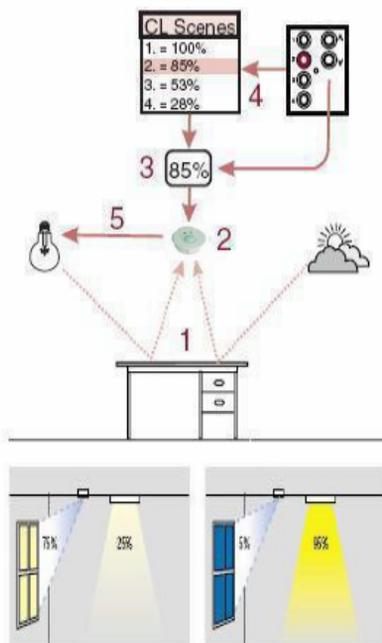
The room decor impacts on the amount of light received by the sensor dependent upon its reflective qualities and surface colours. If the sensor is set up over a desk of dark material, the subsequent placement of white paper documents will increase the reflected light by a considerable amount.

The sensor will see this as evidence of a brighter room and dim the lamps accordingly. To compensate for such rapid changes the light sensor has a slow response to avoid the occupants observing the light fluctuation. A similar effect may be observed when room furnishings are re-arranged after initial configuration, here the use of the viewing angle restrictor, supplied with the sensor aids by narrowing the field of vision.

The light level measured is relative and can not be calibrated to correspond to a specific lux level. Where lux levels need to be set the use of a lux meter placed in the working plane of the sensors viewing area allows appropriate configuration.

Control Flow

1. Available light is mixture of ambient (daylight) and artificial light.
2. Light sensor measures amount of light reflected from surface directly below.
3. Light sensor has target level for the amount of light it should receive.
4. Target level can be fixed or directly set by user at modifier buttons.
5. After comparison between target level and measured light, sensor sends commands to adjust the light output, this is a continuous operation to maintain the target level.



Sensor views reflected light and should not be installed in the path of a light source.

Sensor is installed where it cannot be lit by sunlight directly.

Sensor is installed so that its viewing fields do not overlap with another sensor.

Contact your local Helvar representative or visit us online at www.helvar.com

Due to a policy of continuous improvement, Helvar reserve the right to alter specifications without notice at any time.