## Daylight Sensor

### DS05  DS06  DS07
Photocell Advance™ Version with Remote Control

**HYTRONIK** ®

## Applications

Thanks to the Photocell Advance™ function, these daylight sensor can built inside the fixture completely. The fixture is effectively controlled by the daylight sensor, automatic on/off operation based upon daylight.

■ No drill or hole is needed for accessing the daylight condition
■ Works from behind the fixture cover/diffuser

Use for retrofit and new building installations

## Technical Data

| Model No. | DS05  DS06  DS07 |
|---|---|
| Mains voltage | 220~240VAC  50Hz |
| Stand-by power | <1W |
| Switched power: | |
| Capacitive | 400W |
| Resistive | 800W |
| Switched power | 80mA |

| Model No. | DS05  DS06  DS07 |
|---|---|
| Daylight threshold | 2 ~ 500 lux, disabled |
| Operation temperature | Ta: -20°C ~ +60°C |
| Case temperature (Max.) | Tc: +80°C |
| IP rating | IP20 |
| Warming-up | 20s |

**❶** DS05 (On/off control)



Antenna module
Daylight sensor
Infrared receiver
Daylight threshold
Installation hole

L' N    N L

65
71.7
80.5
36.5
4.2
23.8
26
12.1
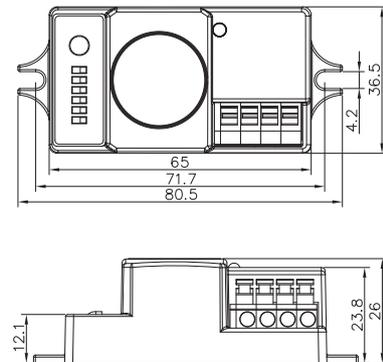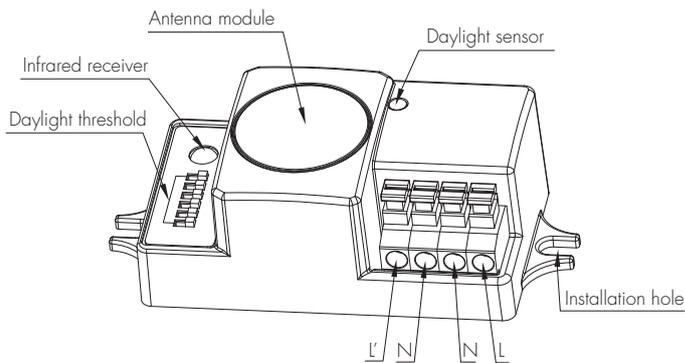
### DIP switch setting (Daylight Threshold)

Set the lux level according to the real application environment. Light keeps off if ambient daylight is sufficient (above the threshold preset). With insufficient natural light, light will automatically turn on.

Light will never switch off when daylight threshold is set to disable.

| | 1 | 2 | 3 | 4 | 5 | 6 | | | 1 | 2 | 3 | 4 | 5 | 6 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | ● | ● | ● | ● | ● | ● | Disable | V | ○ | ○ | ○ | ● | ○ | ○ | 50 Lux |
| II | ● | ○ | ○ | ○ | ○ | ○ | 2 Lux | VI | ○ | ○ | ○ | ○ | ● | ○ | 100 Lux |
| III | ○ | ● | ○ | ○ | ○ | ○ | 10 Lux | VII | ○ | ○ | ○ | ○ | ○ | ● | 300 Lux |
| IV | ○ | ○ | ● | ○ | ○ | ○ | 30 Lux | VIII | ○ | ○ | ○ | ○ | ○ | ○ | 500 Lux |

**2** DS06 (Daylight harvest function, 1-10V output)
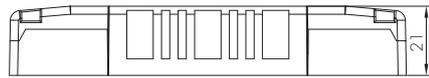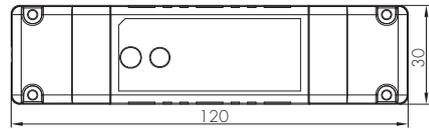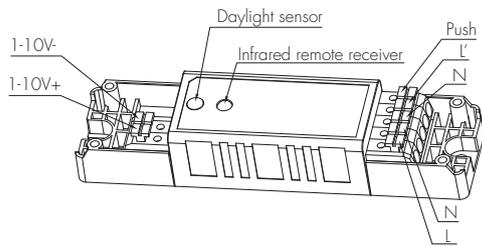


**3** DS07 (Daylight harvest function, DALI output)
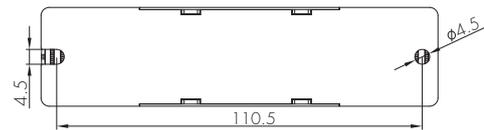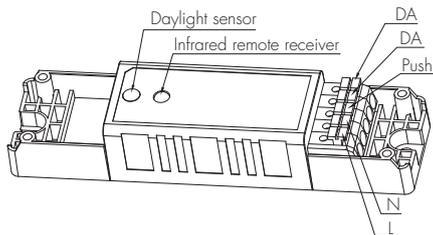


## Functions and Features

**1** Photocell Advance™ Function

It's well known that LED lights have a totally different spectrum to natural light. Hytronik uses this principle and comes up with special photocell and sophisticated software algorithm to measure and differentiate natural light from LED light from behind the fixture cover, so that this photocell can ignore internal LED light and only respond to the natural light outside.
Our technology has no infringement to the existing patents in the market.

**2** On/off Control (DS05)

*Settings on this demonstration:  Daylight threshold @ 50lux*



**❶** 8:30

**❷** 11:00

**❸** 18:00
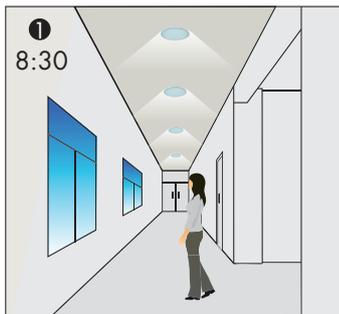
With insufficient natural light, the light switches on at 100%.

The light turns off completely whenever natural light reaches above pre-set daylight threshold.

The light automatically turns on at dim level when natural light lux level drops below pre-set daylight threshold.

**3** Daylight Harvest (DS06, DS07)



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 then switches off when natural light is sufficient.

The light automatically switches on when natural light is insufficient.

**4**  Manual Override (DS06, DS07)

This sensor reserves the access of manual override function for end-user to switch on/off, or adjust the target lux level by push-switch, which makes the product more user-friendly and offers more options to fit some extra-ordinary demands:

* Short Push (<1s): on/off function;
  On → Off: the light turns off immediately
  Off → On: the light turns on, regardless of the ambient natural light.
* Long Push (>1s): adjust the target lux level by turning the light up or down. Both the adjustment on RC and push switch can overwrite each other, the last adjustment remains in memory.

*Note: if end-user do not want this manual override function, just leave the "push" terminal unconnected to any wire.*

**5**  Loop-in and Loop-out Terminal (DS05, DS06)

Double L N terminal makes it easy for wire loop-in and loop-out, and saves the cost of terminal block and assembly time.



Wiring Diagram
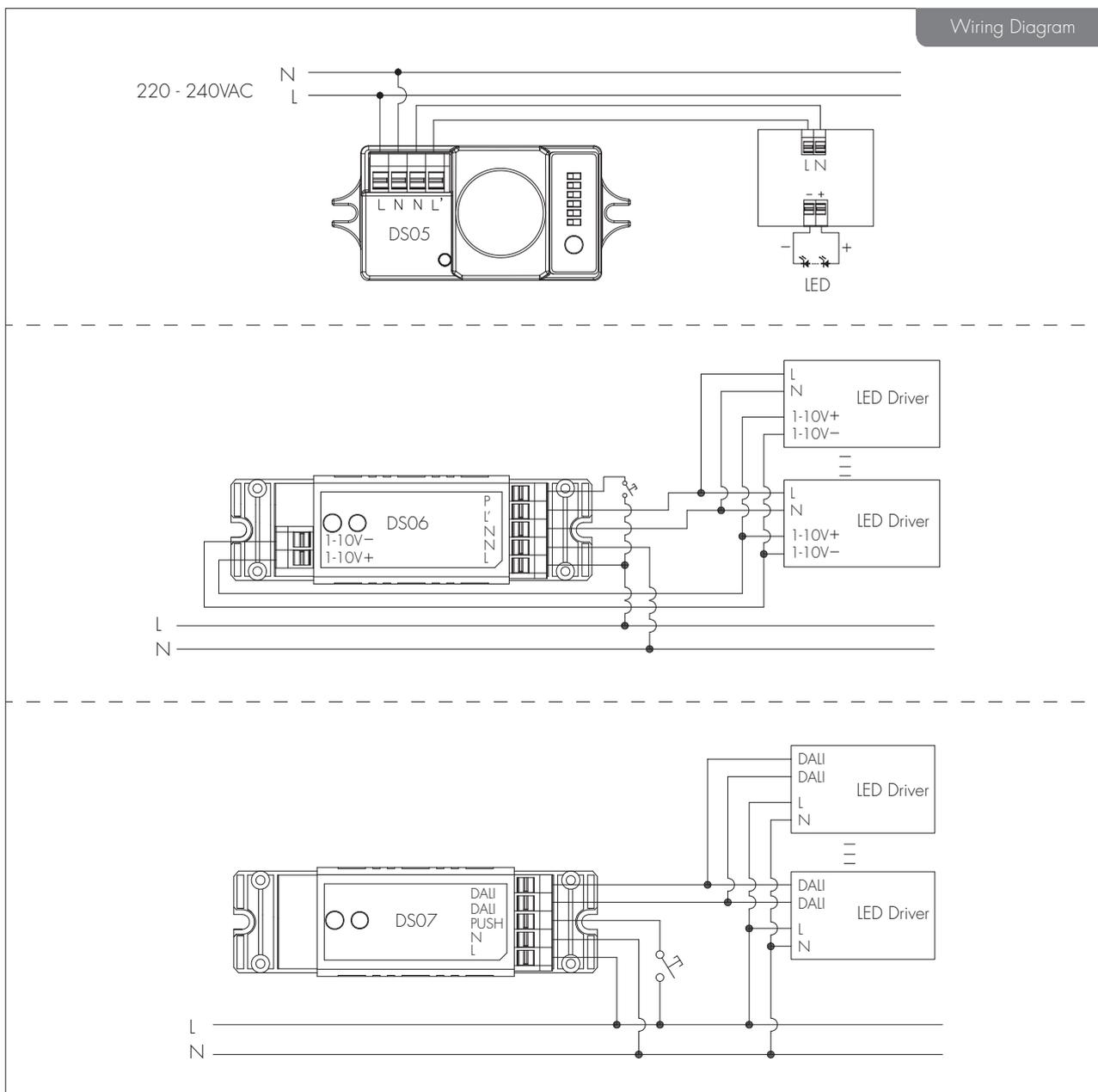
**ON/OFF** — Permanent ON/OFF function

Press button "ON/OFF" to select permanent ON or permanent OFF mode.
* Press button "AUTO", "RESET" to quit this mode.

**SEMI-AUTO AUTO** — AUTO/SEMI-AUTO mode

Press button "AUTO" to initiate automatic mode. The sensor starts working and all settings remain as before the light is switched ON/OFF.
*Note: the function of SEMI-AUTO is disabled.*

**RESET** — Reset Settings

Press button "RESET", all settings go back to default settings.

**Shift** — Shift Button

Press button "Shift", the LED on the top left corner will flash to indicate mode selection. All values / settings in RED are valid for 20 seconds.

### Daylight threshold

Press buttons in zone " Daylight threshold" to set daylight sensor / target lux level at 2Lux/ 10Lux / 50Lux / 100Lux / 300Lux / 500Lux / Disable.
*Note:  1. to set daylight sensor at 100Lux / 300Lux / 500Lux, press "Shift" button first.*
*2. the light never switch off when daylight threshold is preset to disable.*

### Ambient daylight threshold

1. Press button "Shift", the red LED starts to flash.
2. Press button "Ambient", the surrounding lux level is sampled and set as the new daylight threshold.

### Test 2s

This button is for test purpose only, light will switch on when natural light lux level is below daylight threshold preset; or switch off when natural light lux level exceeds daylight threshold preset for 10S.

**▲+  ▼−** — Brightness +/- (for DS06, DS07)

Press these two buttons to adjust the light output brightness and set a new target lux level. The built-in daylight sensor can measure ambient daylight level from behind the diffuser and calculates how much artificial light is needed to maintain the target lux level.

*Note:  all other buttons are disabled.*

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