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## 1 FEATURES

- The HSC110SS has a photo-electric (PE) sensor that automatically turns on the load at dusk and off at a pre-determined time, or at dawn.
- Three operating modes, easily set by switches.
  - Simple dusk-dawn run mode - turns on at dusk and off at dawn.
  - Timer mode - turns on at dusk and runs for a pre-set length of time.
  - ECO mode - turns on at dusk, off during the middle of the night, and back on again for a period until dawn.
- Using the switches, the on time can be set in 15 minute increments, from a minimum of 15 minutes to a maximum of 15.75 hours.
- ECO-mode saves electricity by only operating during the busy periods after dusk and before dawn and turning off during unneeded times in the middle of the night.
- A turn ON delay and a turn OFF delay of 1 minute each prevent uncertain switching in the event of momentary blocking of the sensor (during daylight), or short-term illumination when running (during night).

## 2 SPECIFICATIONS

Supply Voltage	240V a.c. ±10% 50Hz *
Max. Load	2400W incandescent 2400W halogen 2400VA fluorescent (24x36W tubes)
Min. Load	0W
Light switching levels	On level: 15 Lux Off level: 30 Lux
Turn ON delay	1 minute
Turn OFF delay	1 minute
Timer steps	15 minutes
Timer Range	15 minutes - 15.75 hours
Timer Tolerance	±10%
Operating Temperature	0 - 50°C
Ingress Protection rating	IP66

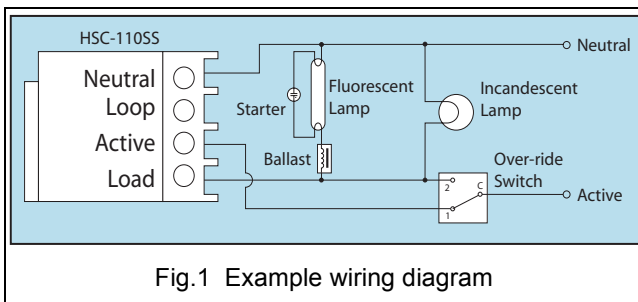
\* Not suitable to be driven by a DC-AC inverter.

**Note:** This manual was correct at the time of manufacture. For the latest version of the manual and any technical or safety updates refer to the website:- [cabac.com.au](http://cabac.com.au), [cabac.co.nz](http://cabac.co.nz) or scan the QR code with a mobile phone.

### 3 WIRING

Refer Fig. 1 Terminal connections:

**ACTIVE** Connection to mains Active  
**NEUTRAL** Connection to mains Neutral  
**LOAD** Switched active output connected to load. Connect load between this terminal and Neutral.



### 4 INSTALLATION

**Warning: The HSC110SS must be installed in such a way that prevents water and dust from entering the the unit. It is recommended that the wiring enters from underneath the unit. To maintain IP66 rating, all used and unused entries must be sealed with a silicone sealant. Front cover screws must be fully tightened with all screw blanking plugs used. It is recommended to install the unit away from places where water can be present including under eaves near drainpipes and gutters.**

For correct operation of the unit and to maintain the operating life of the product, it is important to place the unit in the proper location.

It should **not**:

- be placed where the translucent front cover receives direct sun light.
- be placed where it may receive light from other sources which may interfere with its operation and cause unwanted switching.

- be placed where it receives light from the lamps it is switching, otherwise the load may switch on and off at 1 minute intervals.

It **should**:

- be placed where it receives sufficient indirect sunlight, preferably facing south (southern hemisphere).
- be preferably placed externally, even when controlling internal lights, to ensure sufficient ambient light to operate correctly.

When power is first applied, the unit will switch on for a one minute test period, and will then resume normal operation.

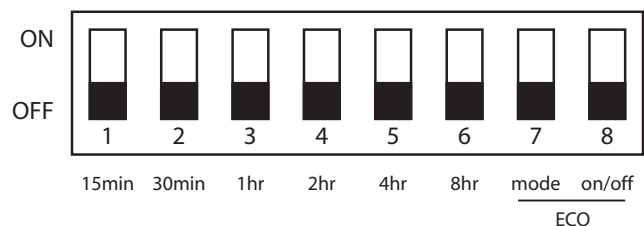
To test the HSC110SS during daylight hours after the initial one minute test period, fully cover the unit with the product box and wait for at least one minute until the load turns on.

### 5 SETTING THE TIMER

**Electrical Safety Warning: Isolate the HSC110SS from the mains power supply before setting the timer.**

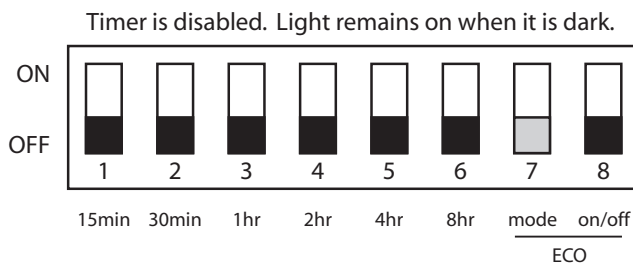
#### 5.1 DIP Switch Operation

Remove the cover of the HSC110SS. The electronic module remains attached to the cover. The eight DIP switches are visible through a window in the internal enclosure of the electronic module. The first six switches set the time period for which the HSC110SS will apply power to the load, once the ambient light has reduced low enough to activate the unit. Switch eight enables the energy saving “ECO” (economical) function, while switch 7 adjusts the length of off time in ECO mode.



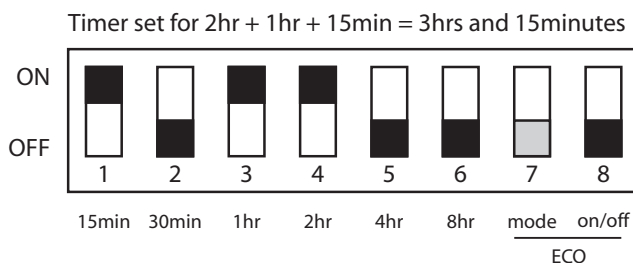
### 5.2 Dusk-Dawn Mode

With all switches (1 to 8) set off (down) the HSC110SS will switch on during the entire period when the ambient light is low enough to activate the unit (e.g. night time), and will only switch off again when the ambient light increases (e.g. day time).



### 5.3 Timer Mode

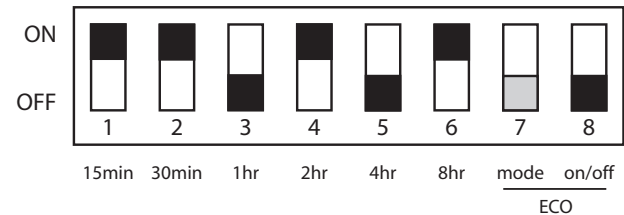
This section includes examples of setting the timer mode. The first example is for a desired run-time after dusk of 3 hours and 15 minutes. To set this time, first switch all eight switches to the off (down) position. Switches five and six will both set the timer longer than the desired time, so they remain in the off position. Turn on (up) switch four (2 hours) leaving a remainder of 1 hour 15 minutes ( $3:15 - 2:00 = 1:15$ ). Turn on switch three (1 hour) leaving a remainder of 15 minutes. Switch two would add 30 minutes, which is too much - leave it off. Turn on switch one, adding the remaining required 15 minutes.



The second example is for a desired run-time after dusk of 10 hours and 45 minutes. Again,

to set this time, first switch all eight switches to the off (down) position. Turn on (up) switches six (8 hours), four (2 hours), two (30 minutes) and one (15 minutes), giving the correct desired time of 10 hours and 45 minutes ( $8:00 + 2:00 + 0:30 + 0:15 = 10:45$ ).

Timer set for 8hr + 2hr + 30min + 15min = 10hrs and 45minutes



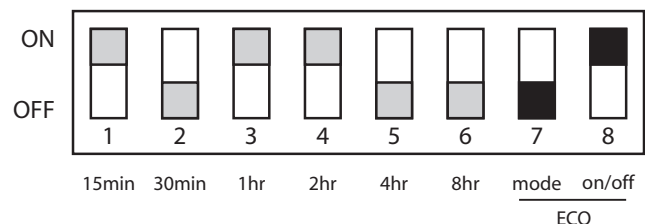
### 5.4 ECO Mode

With switch eight set on (up), the HSC110SS is set to ECO Mode the timer switch settings are ignored. In this mode, the HSC110SS will switch on after dusk for approximately half the night, it will then switch off for several hours, then on again until dawn (when it turns off and remains off during the day).

When power is first applied to the unit, it will take between 24 and 48 hours for the HSC110SS to determine the appropriate switching times. Consequently, during the first night it will run from dusk until dawn. If power is lost to the unit at any time, the HSC110SS will again require 24 to 48 hours to recalculate the switching times.

During the year the on and off times will adapt to the changing seasons. Changes will occur gradually over a number of nights.

ECO-mode. Timer switches off for part of the night.

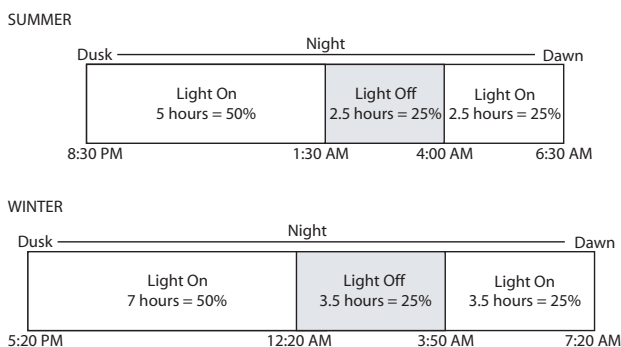


Switch seven is used to set the length of the OFF period during the middle of the night. With switch seven set off (down), the HSC110SS will switch on after dusk for approximately 50% of the night, it will then switch off for approximately **25%** of the night, then on again until dawn (when it turns off and remains off during the day).

With switch seven set on (up), the HSC110SS will switch on after dusk for approximately 50% of the night, it will then switch off for approximately **35%** of the night, then on again until dawn (when it turns off and remains off during the day).

For example, with switch 7 set off (down), if dusk is at 8:30PM and dawn is at 6:30AM (night time = 10 hours), then in ECO Mode the HSC110SS will turn the light ON at dusk for approximately the first half of the night until 1:30AM, when it will turn the light OFF for approximately the next quarter of the night until 4:00AM, when it will turn the light ON again for the last quarter of the night until dawn.

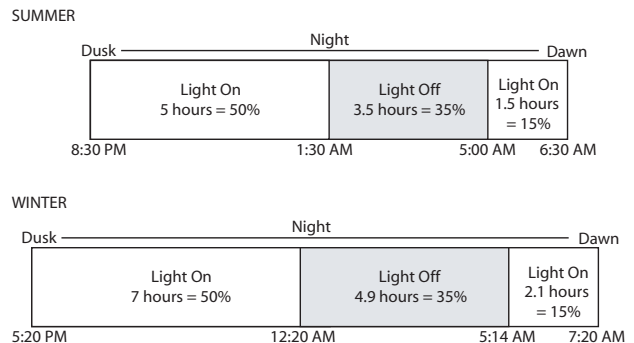
**ECO mode:** Switch 7 off (down) & Switch 8 on (up)



The second example, with switch 7 set on (up), if dusk is at 8:30PM and dawn is at 6:30AM (night time = 10 hours), then in ECO Mode the HSC110SS will turn the light ON at dusk for approximately the first half of the night until 1:30AM, when it will turn the light OFF for approximately the next 35% of the night until

5:00AM, when it will turn the light ON again for the last quarter of the night until dawn.

**ECO mode:** Switch 7 on (up) & Switch 8 on (up)



## 6 WARRANTY AND DISCLAIMER

CABAC warrant the product against manufacturing and material defect from the date of invoice to the initial purchaser for a period of 12 months. During the warranty period CABAC will replace products that prove to be defective where the product has been correctly installed and maintained and operated within the specifications defined in the product data sheet and where the product is not subject to mechanical damage or chemical attack. The warranty is also conditional on the unit being installed by a licensed electrical contractor. No other warranty is expressed or implied. CABAC shall not be liable for any direct, indirect, incidental or consequential damages.

**Warning: The HSC110SS is to be installed as part of a fixed wire electrical installation. By Law such installations must be made by an electrical contractor or similarly qualified person.**