

# Auto Night Switch

Technical Manual Rev 1r0



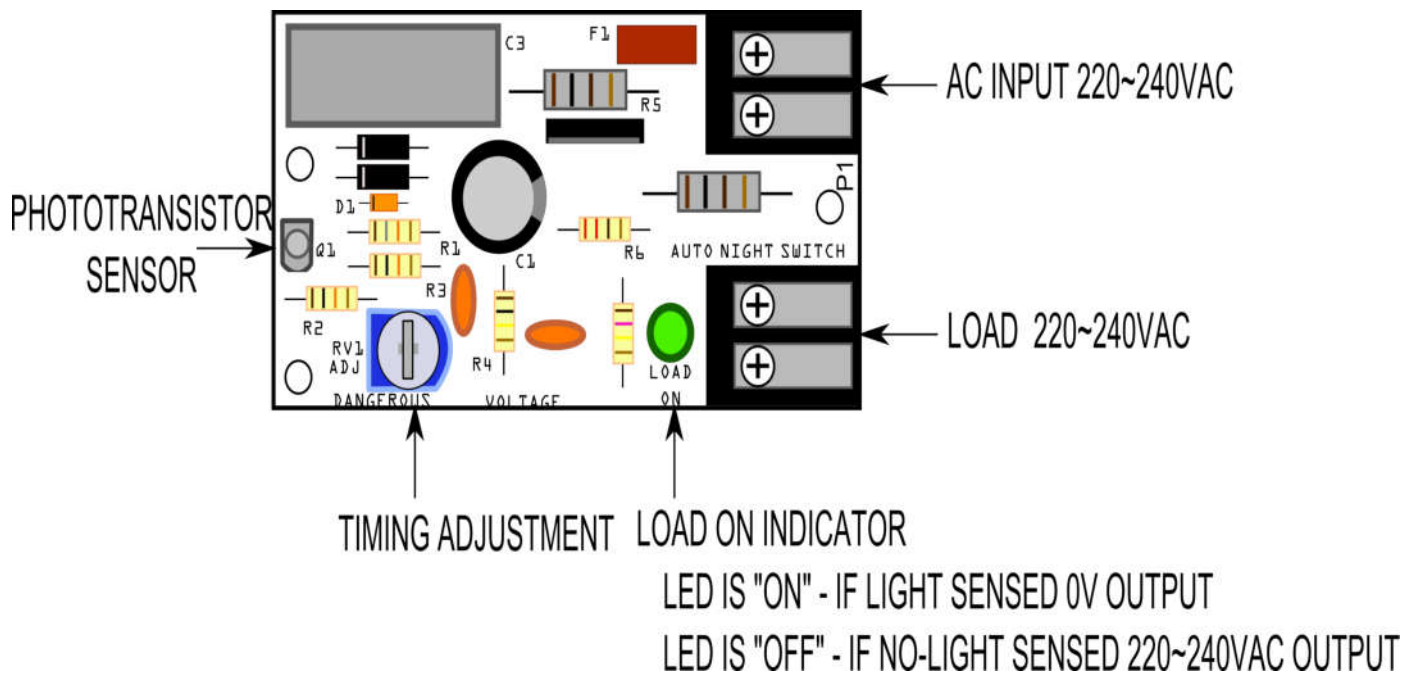
The e-Gizmo Auto Night Switch is a night light outdoor/indoor application can fully automatic switching ON and OFF your devices (like fluorescent tube or lamp, bulb, LED lights, etc.). It has triac sensitive gate for general purpose bidirectional switching and phase control applications. High photo sensitivity phototransistor for the sensor auto night switch. Applications as detector in electronic control and drive circuits.

## FEATURES:

- Energy Saving
- Fast response times
- Auto ON and OFF switch

## GENERAL SPECIFICATIONS:

- Input Supply: 220V ~ 240V AC
- AC load: 220V ~ 240V AC
- PCB Dimensions: 60mm x 35mm



**Figure 1.** Major Parts placement of Auto Night Switch

**Table 1.** Pin Descriptions

PIN NAME	DESCRIPTIONS
<b>P1</b>	AC INPUT 220V~ 240V AC
<b>P2</b>	AC OUT 220V ~240V AC
<b>RV1</b>	Time Adjustment
<b>D4</b>	LOAD LED Indicator
<b>Q1</b>	SENSOR

## LIGHT METER

*Foot candle (ft\*c, fc) [2000]*

### Formula:

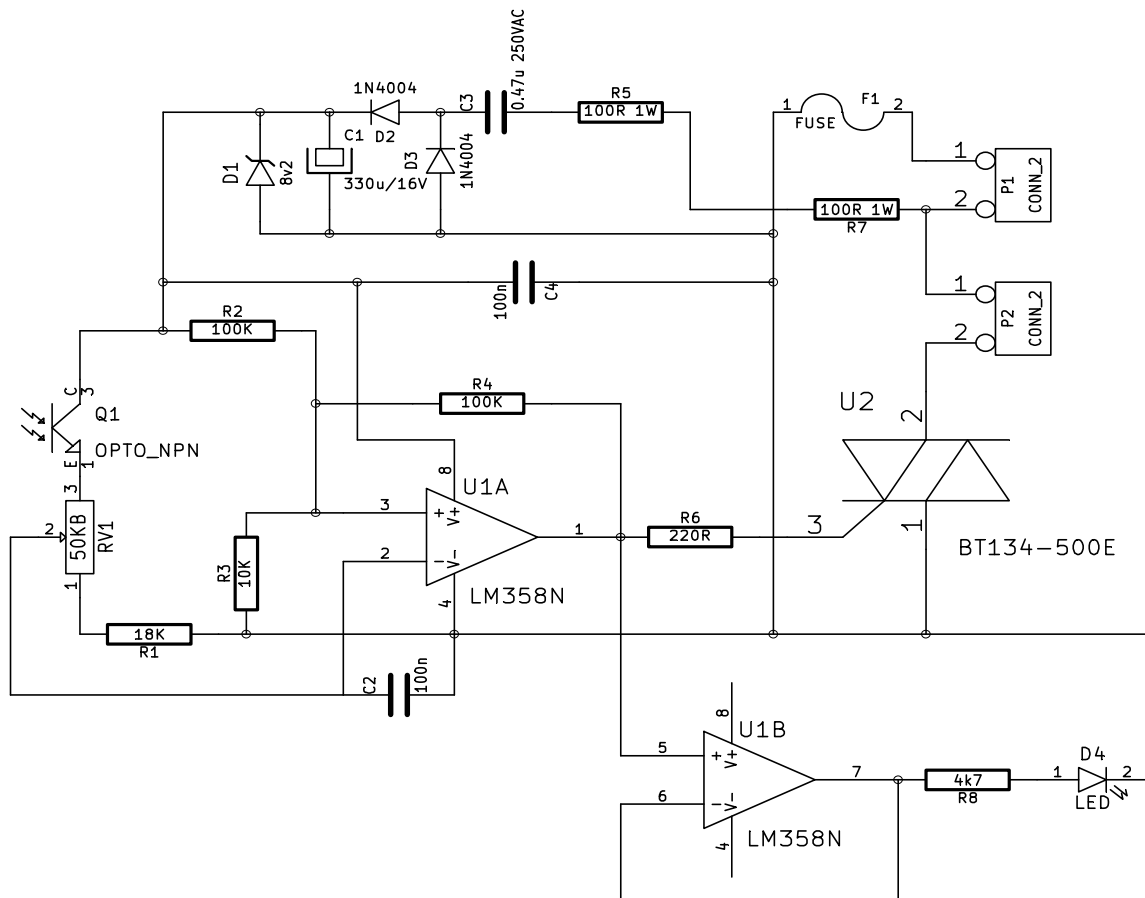
$$lux = FC/0.0929$$

*\*Sample Test Measurement using Light meter. (Indoor)*

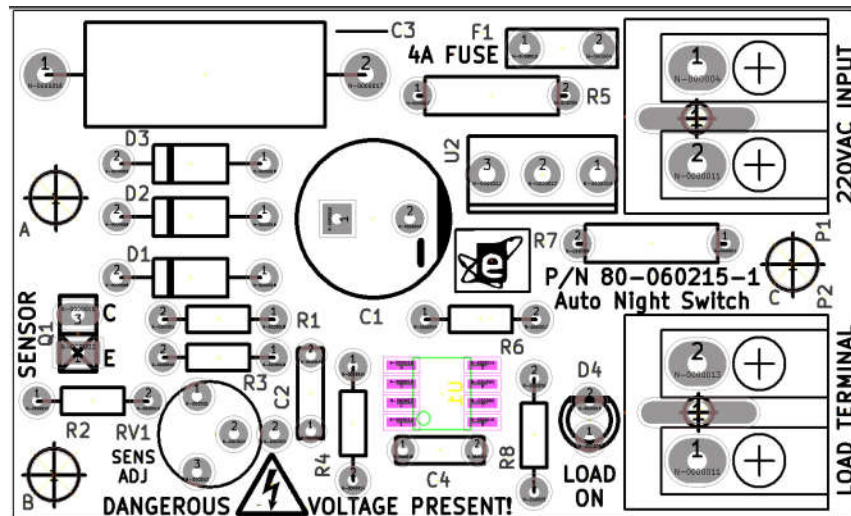
<i>Light</i>	<i>FC</i>	<i>LUX</i>
LED	1840	19806
CAMERA	399	4295

## BILL OF MATERIALS

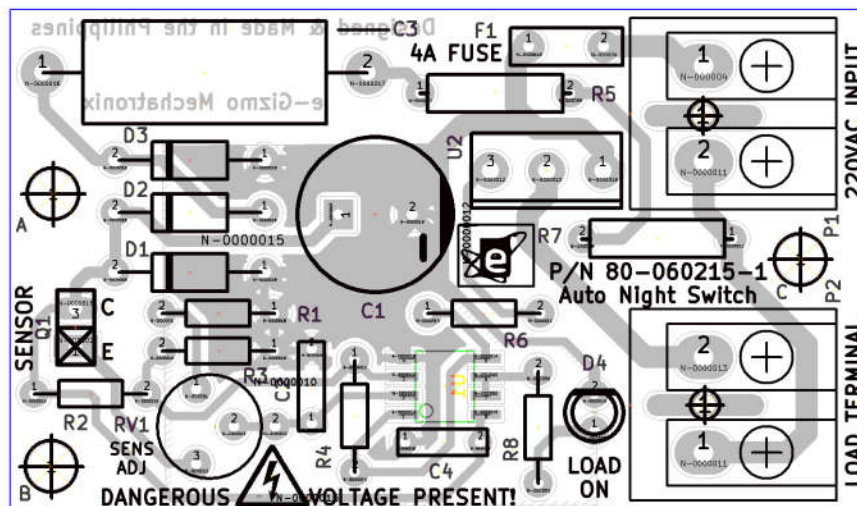
REFERENCE	DESCRIPTIONS
<i>R1</i>	18K Ohms 1/4W
<i>R2,R4</i>	100K Ohms 1/4W
<i>R3</i>	10K Ohms 1/4W
<i>R5,R7</i>	100R Ohms 1/4W
<i>R8</i>	4K7 Ohms 1/4W
<i>RV1</i>	50K Ohms Pot
<i>D1</i>	8V2 Schottky Diode
<i>D2,D3</i>	1N4004 Diode
<i>D4</i>	5mm LED Green
<i>C1</i>	330u/25V Electrolytic Cap
<i>C2,C4</i>	100nF Ceramic Cap
<i>C3</i>	0.47uF/250VAC
<i>U1</i>	LM358N IC SOIC 8
<i>U2</i>	BT34-500E TRIAC SOT82
<i>F1</i>	4A FUSE
<i>Q1</i>	BPV017NK-4-PhotoTransistor
<i>P1,P2</i>	2-PINS Terminal Block 300V/20A



**Figure 2.** Schematic Diagram of e-Gizmo Auto Night Switch



**Figure 3.** Component Layout of e-Gizmo Auto Night Switch

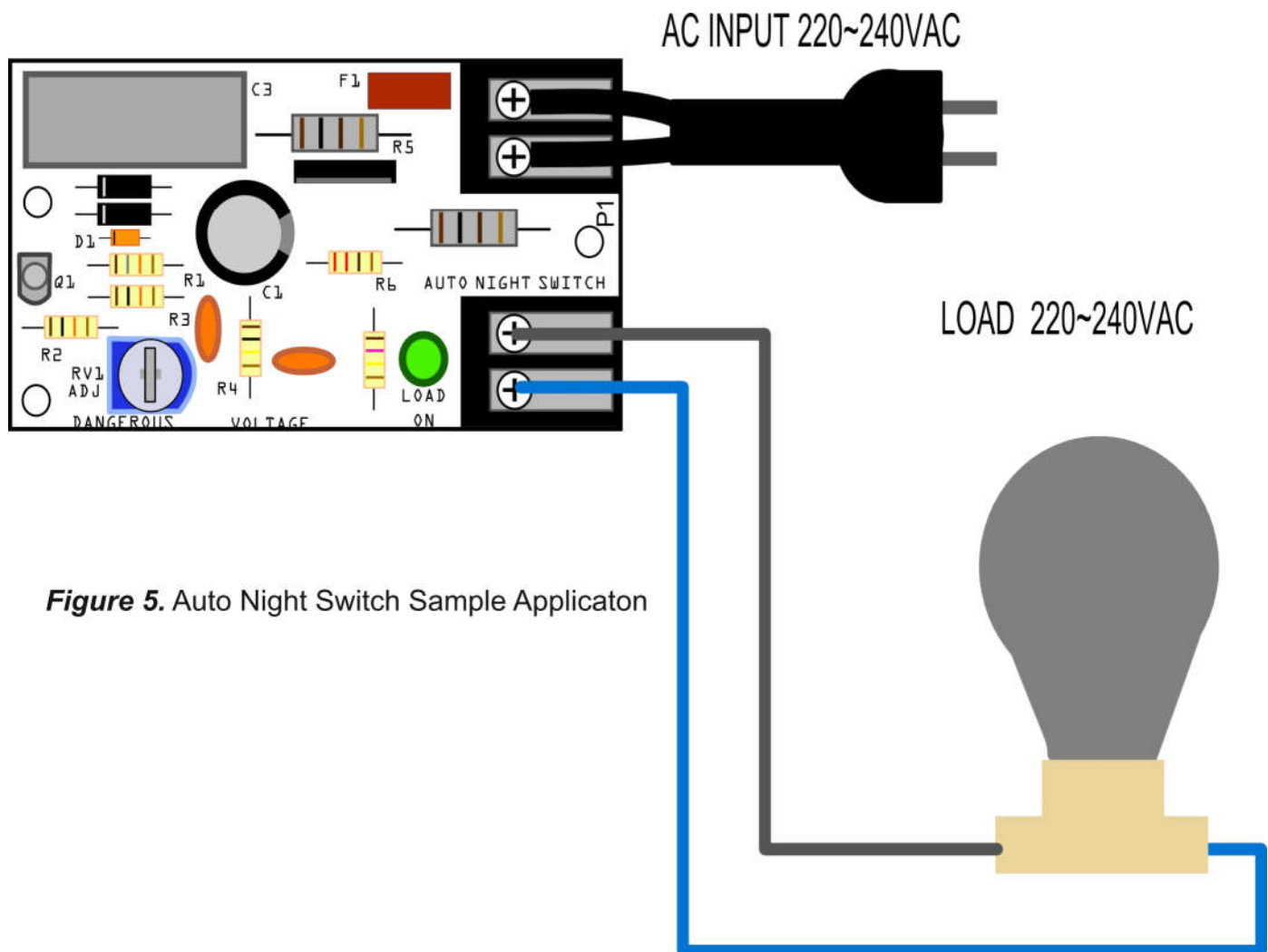


**Figure 4.** PCB Guide of e-Gizmo Auto Night Switch



## Safety Warning:

Do not touch the PCB board while the circuit is plugged and powered through the AC line.



**Figure 5.** Auto Night Switch Sample Applicator

## LOAD LED Indicator (D4):

If LED(D4) is "ON" the LIGHT is sensed, the AC load output is 0V (off).

If LED(D4) is "OFF" no-light is sensed, the AC load output is 220~240V AC(on).