Light Timer

Description:Light Timer

This is a simple timer for the lights in the stairs or other general purpose applications.

The sections are three: the power supply, that convert the voltage input (220v) to 5v, the timer (with an NE555 or similar as Maxim, Motorola, and so on) and the 5-to-220v interface (with a triac).

You can change the value of the RC for to change the timing. The pulse width is:

T = 1,1 x RC (C is C1 and R is R4+R5)

The power section (5-to-220v) is general purpose. You can change the triac for your applications. A simple triac (600v-10A) it's enough. In this project I've used an Motorola 16A triac (MAC16N). If you connect another pushbutton between the pin 4 of U1 and the ground (pin 1), you can reset the timer while the light is on (if you set a long period of light on, with a supplementry pushbutton you can turn off it when it's not necessary).

For comments or suggestions you can contact me at zerosys@tin.it

BILL OF MATERIALS:

Item	Quantity	Reference	Part
1	1	C1	100uF-35v
2	3	C2,C4,C6	0,1uF polyester
3	2	C3,C5	470uF-35v
4	1	D1	LED 3mm
5	1	F1	100mA fuse
6	1	ISO1	MOC3041 or equivalent
7	1	LP1	220v (light on stairs)
8	1	PD1	200v-1A (bridge)
9	1	Q1	MAC16N or other triac
10	1	RV1	v275la20 or other ge-mov
11	1	R1	150 ohm - 1w
12	1	R2	47 ohm - 1w
13	1	R3	330 ohm
14	1	R4	180 Kohm
15	1	R5	470 Kohm
16	2	R6,R7	47 Kohm
17	1	S1	PUSHBUTTON
18	1	T1	220 to 12v (min 8v, max 12v)
19	1	U1	NE555 or equivalent
20	1	U2	7805