

### This ULU

The *ULU.42 Status lights* offers twelve colored status lights. The color of the light and status light text can both be changed. It took me almost a year to find this elegant solution for universal colored status light.

### Used parts

The following standard parts are used:

- 1x casing 80 x 50 x 20mm;
- 3x 4-bit data connector;
- 3x colored O-ring 8 x 5 x 1.5mm;
- 1x power connector.

In addition to that, the following parts are used:

- 12x 4-position DIP switches;
- 12x 2x3mm red square LED;
- 12x 2x3mm yellow square LED;
- 12x 2x3mm green square LED;
- 4x 2x3mm blue square LED;
- 8x 2x3mm white square LED;
- 48x resistor to dim the LEDs;
- 12x 20mm 15x15x2mm aluminum tube.

### Construction

The standard ULU specifications are applicable as specified in the datasheet *ULU.00 – Common specifications*.

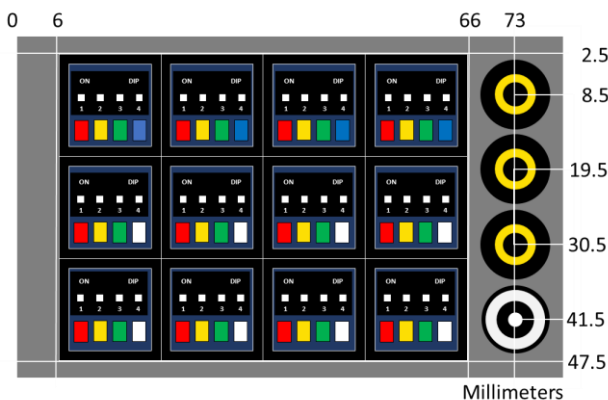


Figure 1 – Drill guide

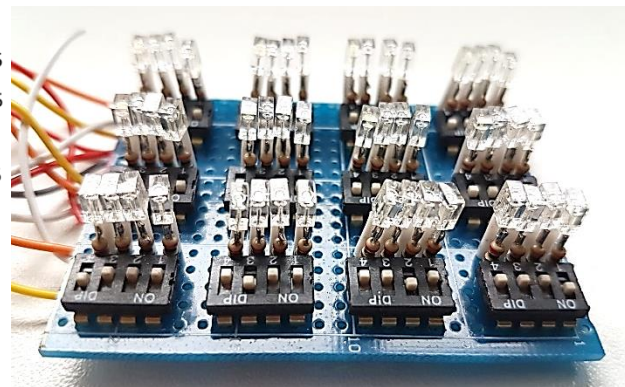


Figure 2 – PCB

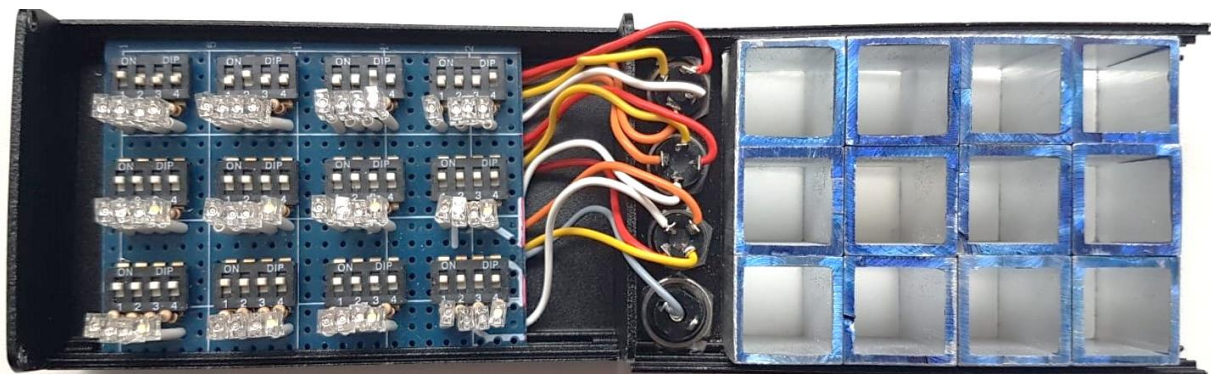


Figure 3 – ULU inside

First the 12 pieces of 15x15x2mm aluminum tubing are sawed and glued together with super glue. If necessary, some sanding can be applied. Then the resistors are soldered to the negative pole of the LEDs. For the yellow and red 300Ω, the other colors 200Ω. A piece of shrink fit tube is placed on the positive pole of the LEDs. The resistor wire is placed in the same hole as the DIP switch pins. The unused side of all the DIP switches is connected to the ground.

## Usage

Before this ULU can be used, a paper cover must be made (See Figure 6). For this purpose, a PowerPoint template is available. In ten steps the paper cover is made:

1. Enter/adjust text
2. Adjust colors (in the background shape)
3. Copy entire cover
4. Paste as picture
5. Resize to 64%
6. Flip the picture horizontally
7. Print
8. Check size and eventually adjust the 64%
9. Cut out the shape
10. Place cover on the ULU, text down



Figure 4 – Finished ULU with paper cover

After the cover is placed, the corresponding-colored LEDs can be switched on. A pencil or stick will be helpful. If the lightning is too weak, two or even more LEDs can be switched on. The colors can be used in the following way:

Red – faulty situation

Orange – warning

Green – nominal situation

Blue – power on

White – other message

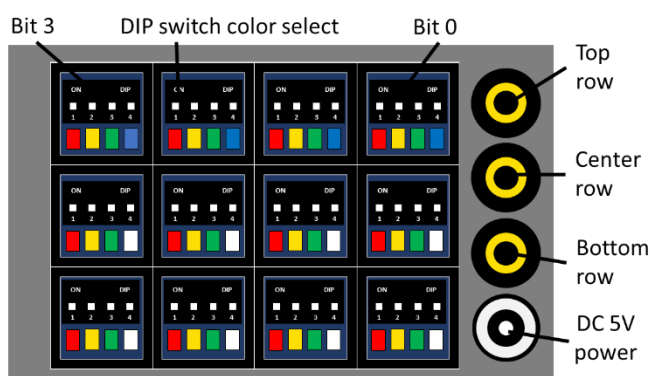


Figure 5 – Controls and connectors

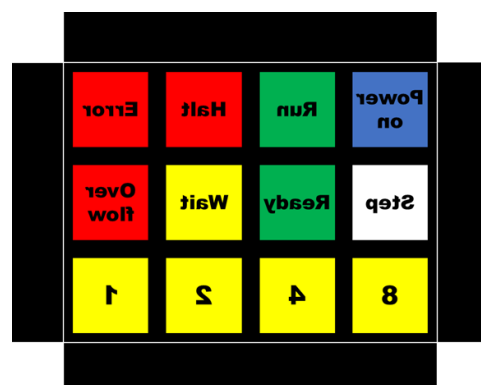


Figure 6 – Example paper cover