This ULU

The *ULU.26 Rotary word giver* uses a rotary switch to set a four-bit word. It can be used to set a reference value in cooperation with the *ULU.16 4-bit comparator*. In combination with the *ULU.24 Push button* and a signal to power cable, the output of the rotary word giver can be enabled by pushing the button.

Used parts

The following standard parts are used:
1x casing 50 x 25 x 25mm;
1x 4-bit data connector;
1x colored O-ring 8 x 5 x 1.5mm;
1x power connector;
4x 5mm rectangular LED;
4x resistor to dim the LED;
1x M3x5mm female/male standoff;
1x M3 lock nut;
1x M3x5mm hex bolt;
1x 4 x 5-holes prototype board.

The following extra parts are used:
1x four-bit rotary encoder;
1x 14mm x 16mm black aluminum knob.

Construction

The standard ULU specifications are applicable as specified in the datasheet *ULU.00 – Common specifications*. The circuit diagram is straight forward. The rotary encoder is fed by the 5V power and the output is connected with the LEDs and the data bus connector. The LEDs are connected to the ground, through appropriate resistors.

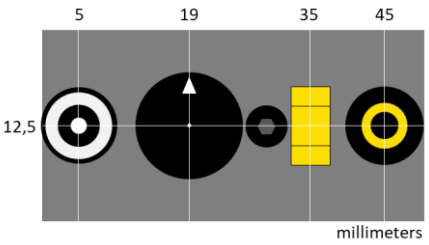

Figure 1 – Drill guide

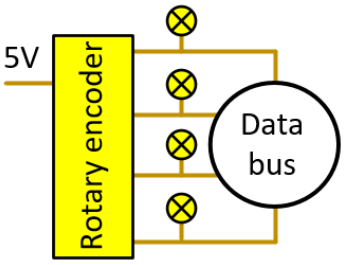

Figure 2 – Schematic (led ground & resistors are left out)

The base of the rectangular LEDs may need some filing, to make them fit properly. All the sides of those LEDs need to be colored black (use a black marker) to avoid light shining from one to another LED.

Figure 3 – ULU inside

Figure 4 – Finished ULU

Usage

After the ULU is powered, the rotary switch can be used to select the required 4-bit binary value. When enabling is required, the *ULU.24 Push button* in combination with the signal to power cable can be used to create a switched data word. Then only when the power is switched on, the data word is given.

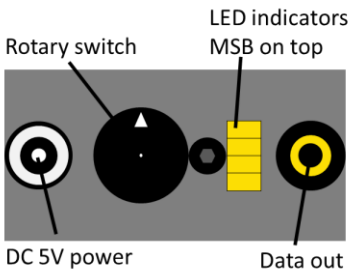

Figure 5 – Controls and connectors