This ULU

The *ULU.25 data word giver* switch can be used: to send 5 different signals or to send (give) a 4-bit word. To make a data bus connection possible, the switches can be enabled with a separate momentary switch.

To make the ULU practical usable, two additional cable convertors are necessary. The first one converts from the power bus (female) to 1-bit signal (male). The second one converts the 4-bit data bus (male) to four separate 1-bit signal connectors (female). The specifications for these connectors are given in given in the datasheet *ULU.00 – Common specifications*.

Because there is little space in the enclosure, no power plug and LED output indicators are incorporated. When the switches are set away (towards the experiment) a logical 1 is send: first set the rocker switches and then press the enable button.

Used parts

Only standard parts are used:

1x casing 80 x 25 x 25mm;	4x 1-pole ON-ON rocker switch;
2x 1-bit signal connector;	1x push switch.
1x 4-bit data bus connector;	

Construction

The standard ULU specifications are applicable and given in the datasheet *ULU.00 – Common specifications*.
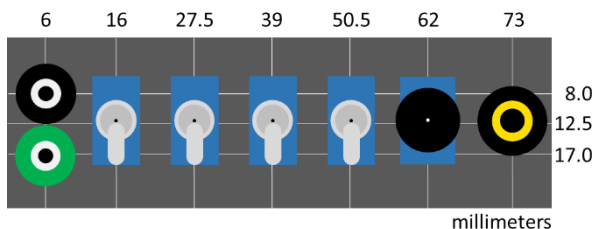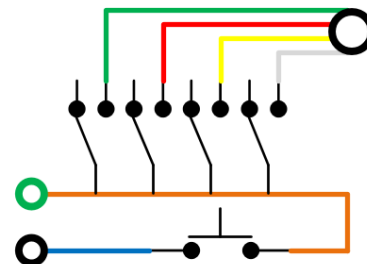

Figure 1 – Drill guide

Figure 2 – Schematic

Figure 3 – Word giver inside (flipped horizontally)

Figure 4 – The word giver

Usage

This ULU can be used in three ways:

1. Permanent word giver

The power is connected to the green signal input. The four toggle switches are passing their 4-bit word to the data bus. The push button is passing its signal to the black signal connector.

2. Set of five switches

The power is plugged into the green signal connector and the bus to quad signal adapter is connected. The four toggle switches are passing their signal to the 4 female connectors (4-bit data bus). The push button is passing its signal to the black signal connector.

3. Momentary word giver (Bus use)

The power is plugged into the black signal connector. When the enable button is pressed, the four toggle switches are offering their 4-bit word to the data bus. The green signal connector offers a signal that the 4-bit word is available (clock).
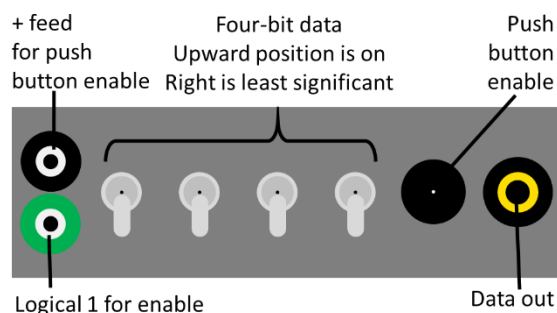

Figure 5 – Connectors & controls

Figure 6 – Word giver with power to signal convertor, signal expander and data bus to signal convertor