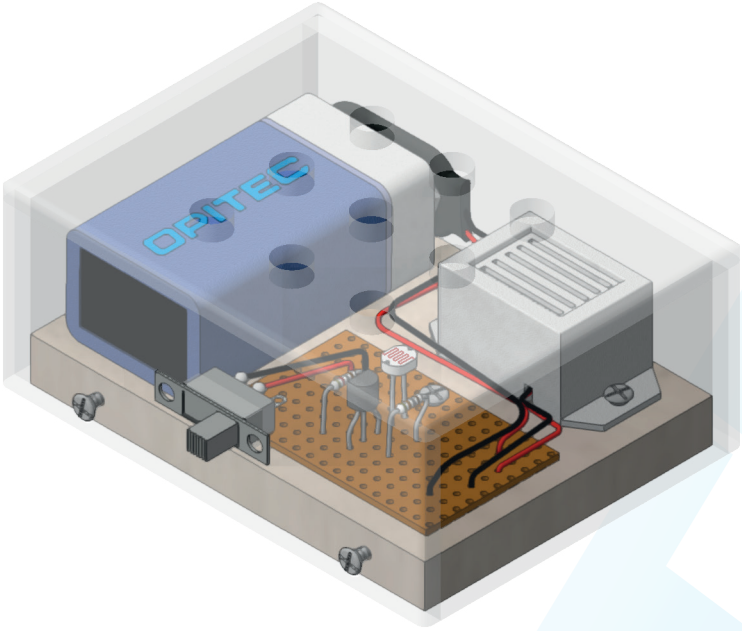
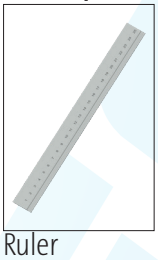
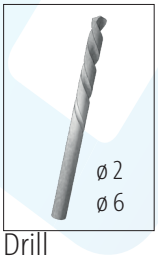
105.107

Light alarm system Cabinet guard

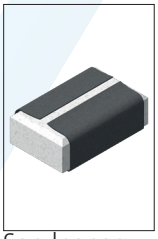


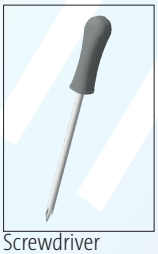
Tools Required:

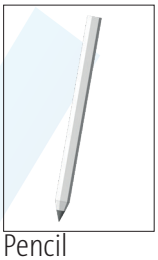

Ruler

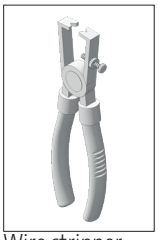


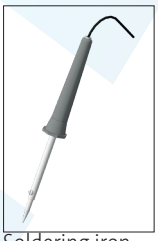
Drill

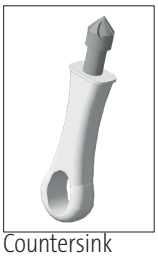

Sandpaper


Screwdriver

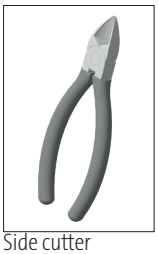

Pencil


Wire stripper


Soldering iron


Countersink


Edding marker


Side cutter


Jig saw

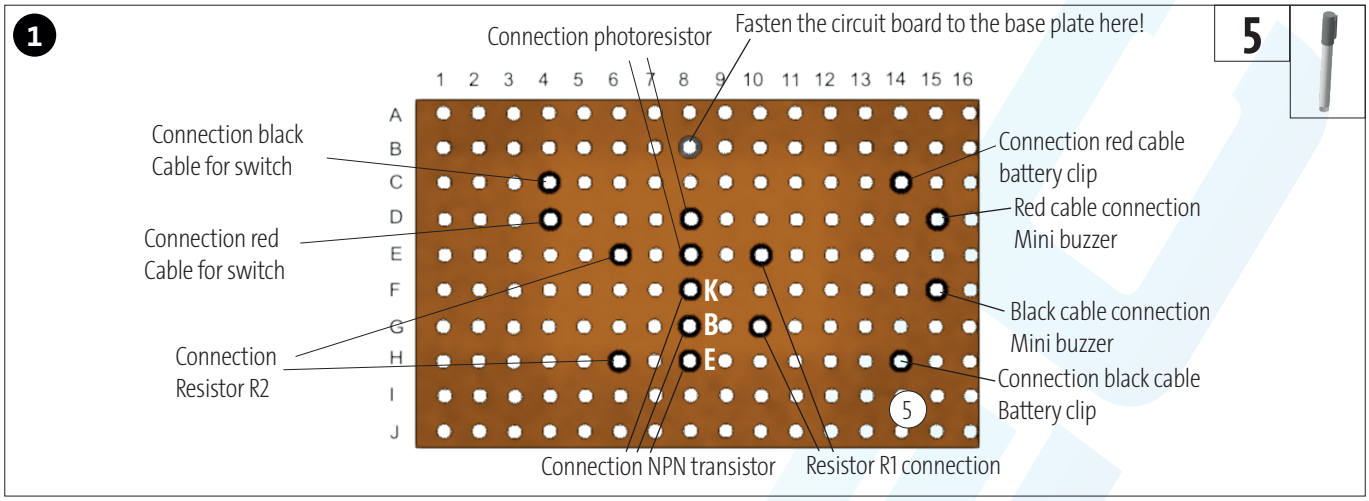

Superglue

NOTE:

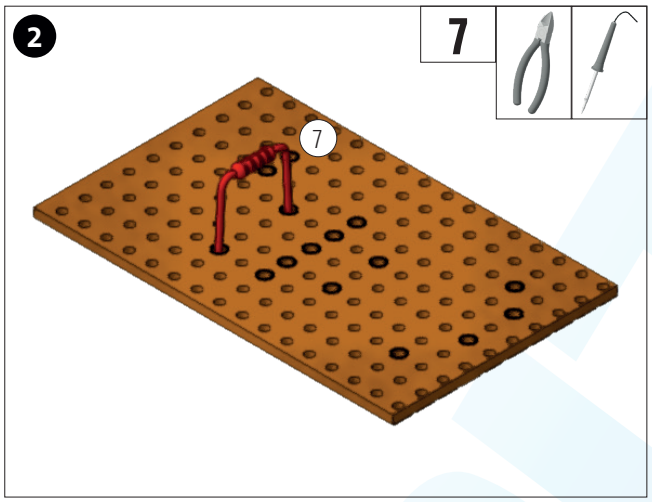
The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technology.These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation! Not suitable for children under 36 months. Choking hazard!

Part List	Quantity	Dimensions (mm)	Description	Part no.
Plywood	1	73x53x8	Base plate	1
Acrylic glass	1	110x30x3	Housing	2
Acrylic glass	1	161x30x3	Housing	3
Acrylic glass	1	80x60x3	Housing	4
Strip grid	1	40x25x2.54	Circuit Board	5
Resistor 1.8 kOhm (brown,grey,red)	1		Resistor R1	6
Resistor 18 kOhm (brown,grey,orange)	1		Resistor R2	7
Photoconductive cell oval	1		Photoconductive cell	8
Mini buzzer rectangular	1		Mini buzzer	9
NPN transistor BC 547	1		Transistor	10
Micro slide switch	1	19x6	Switch	11
Battery clip	1		Connection battery	12
Pan head cross recessed sheet metal screw	1		Fastening	13

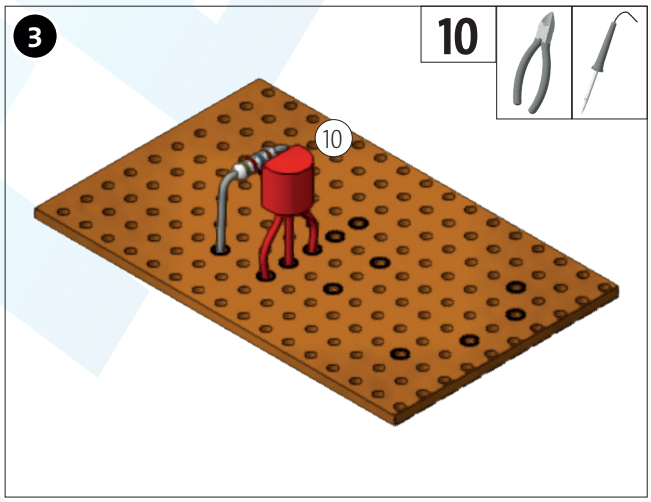
OPITEC



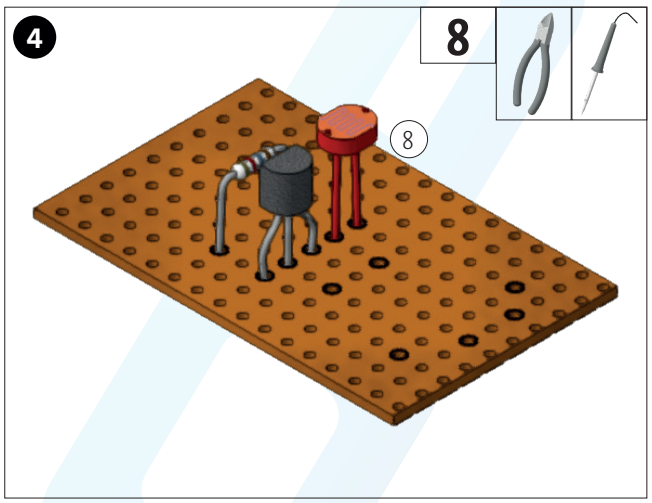
Take the strip grid (5) and mark the connection points on the top with a waterproof pen as shown.



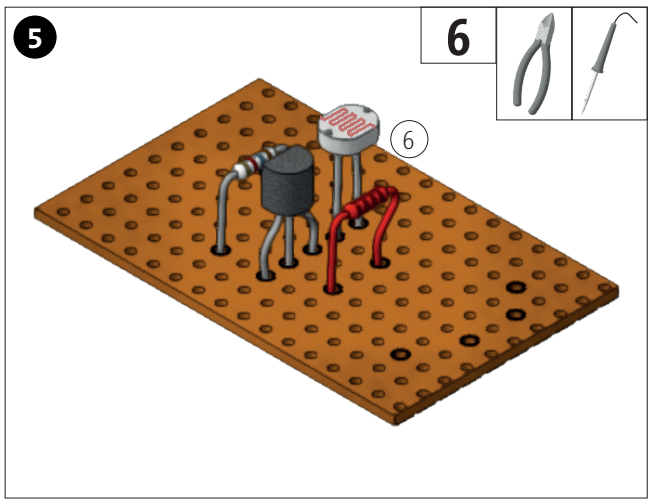
Solder the resistor R2 (7) in the circuit board (5) between the terminals E6 and H6 as shown.



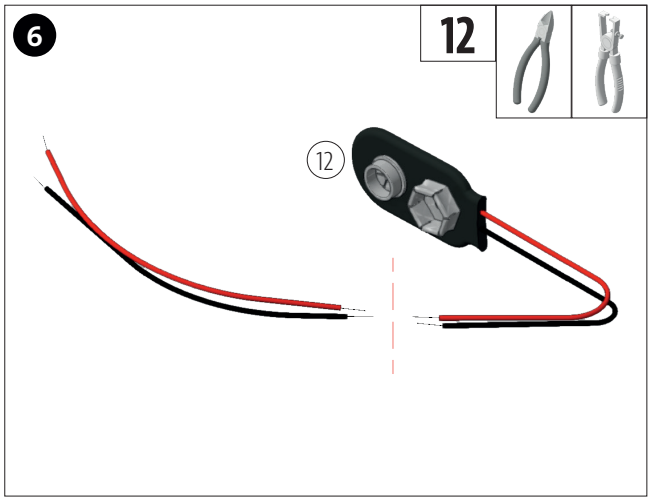
Solder the transistor (10) in the connections F8 (emitter), G8 (base) and H8 (collector).



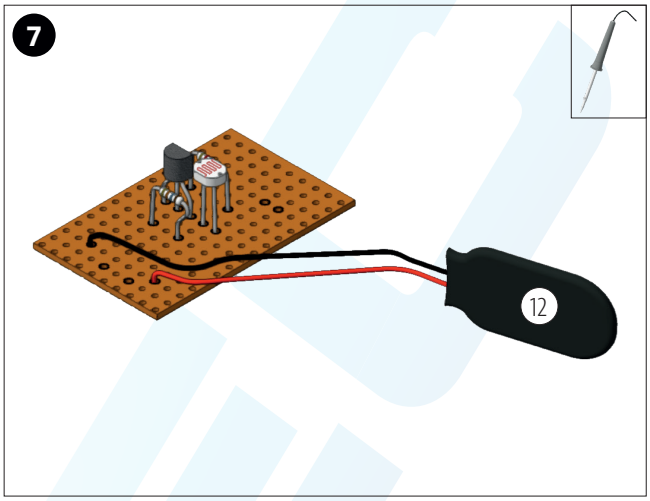
Solder in the photoresistor (8) at connection D8 and E8.



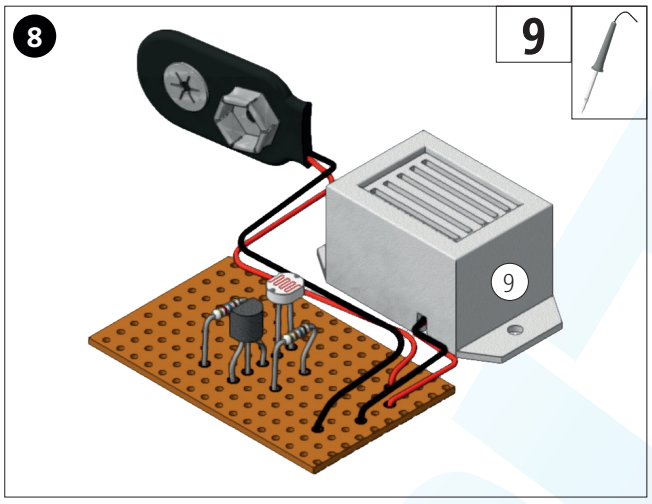
Solder resistor R1 (6) between terminals E10 and G10 as shown.



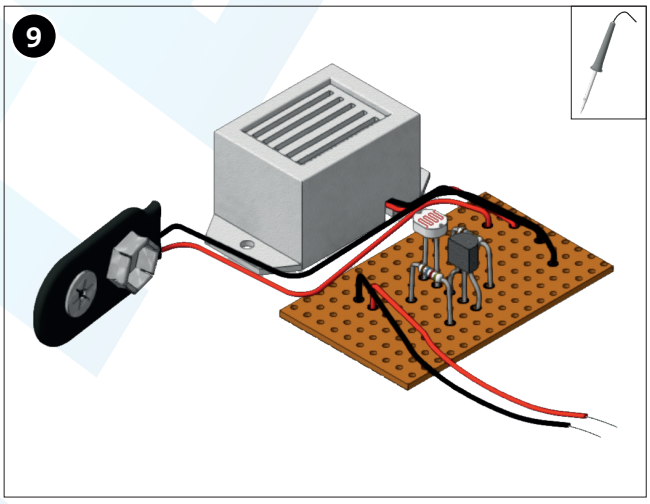
Cut the cables of the battery clip (12) in half. Strip approx. 5mm of insulation from all ends. The disconnected cable sections are used to connect the switch.



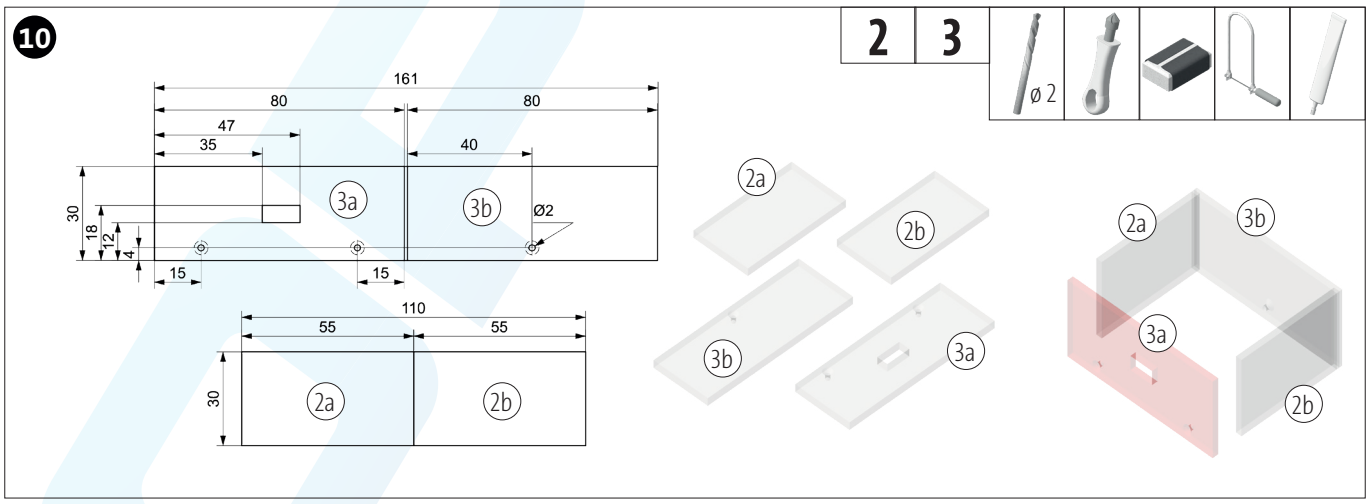
Solder the battery clip wires (12) to connector (C14-red) and connector (H14-black).



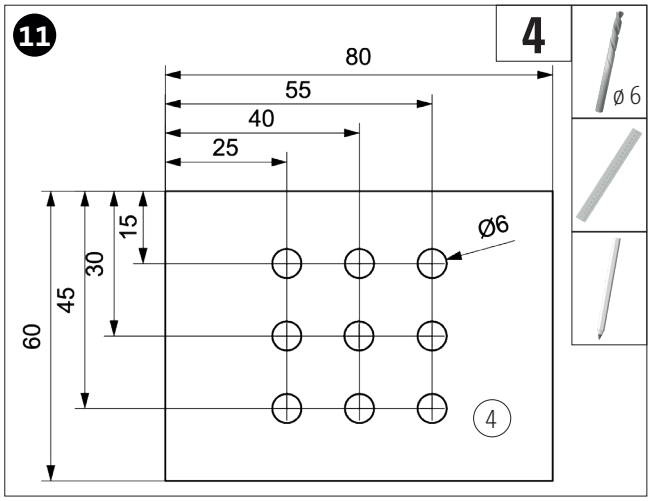
Solder the connecting cables of the mini buzzer (9) into the connections (D15-red) and (F15-black).



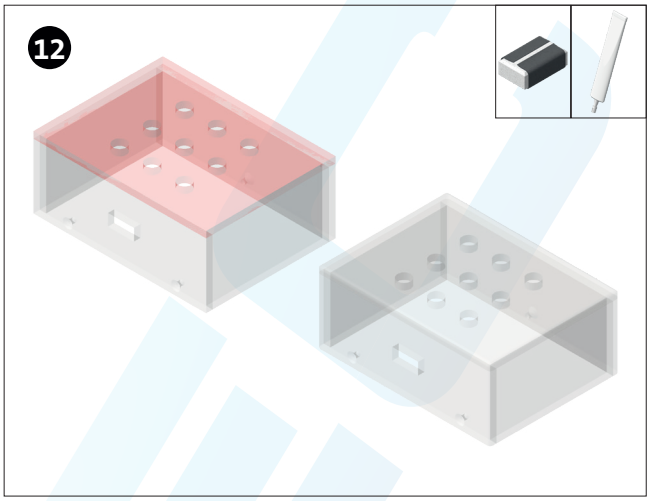
Solder in the two pieces of cable for the slide switch (11) at connection (C4-black) and (D4-red).



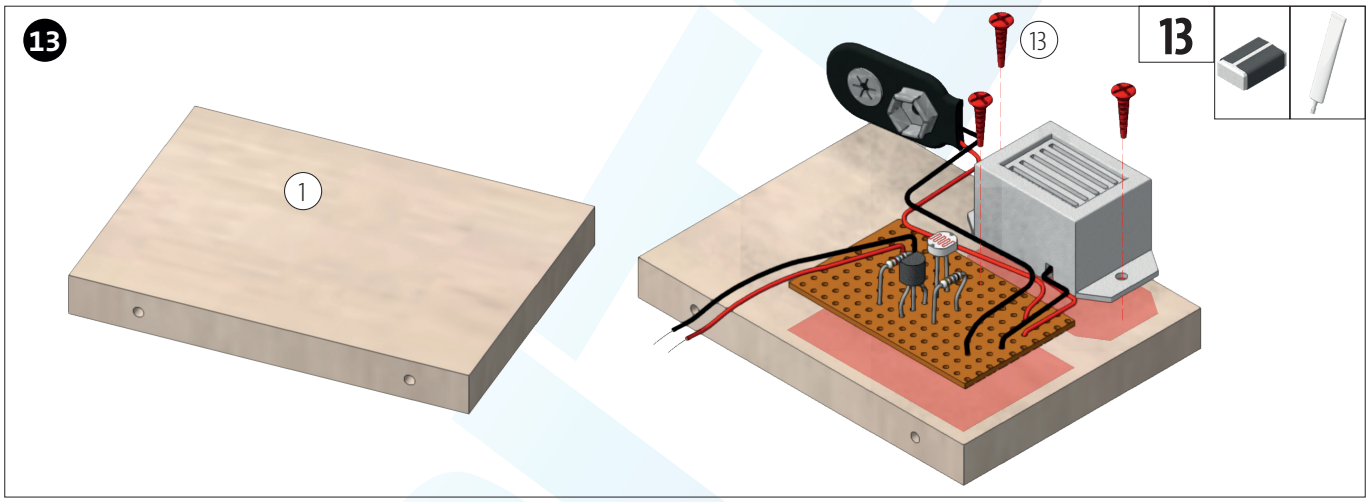
Cut the acrylic glass (2) as shown according to the template (page 7) and clean the saw cuts. Cut and drill the acrylic glass (3) according to the template on page (5) and saw out the recess for the slide switch. Clean saw cuts and countersink holes. Then glue the finished blanks together to form a frame as shown.



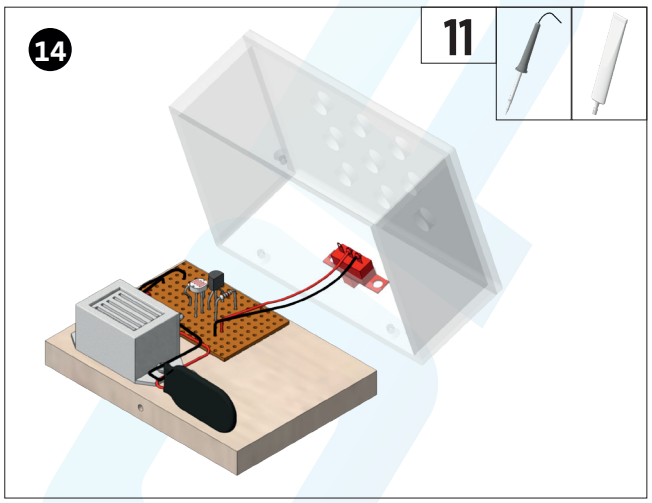
Mark the drill holes on the acrylic glass (4) using the template (page 7). Then carefully drill through the holes using a suitable drill bit and a little water/oil.



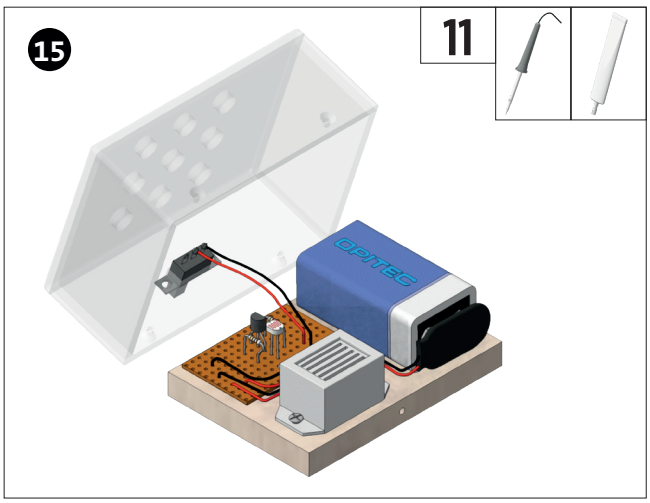
Glue the cover onto the frame. Once the adhesive has dried, round off the edges of the housing.



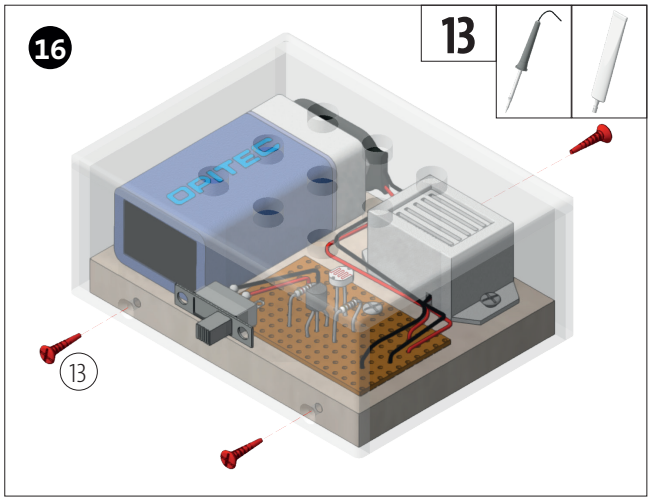
Pre-drill the screw holes in the base plate (1) according to the template (page 5). Fasten the circuit board to the base plate with a screw (13) through connection (B8) as shown. Then secure the buzzer with two more screws (13).



Glue the switch (11) into the opening provided as shown. Then solder the red cable to the centre switch connection. Solder the black cable to the outer switch connection.

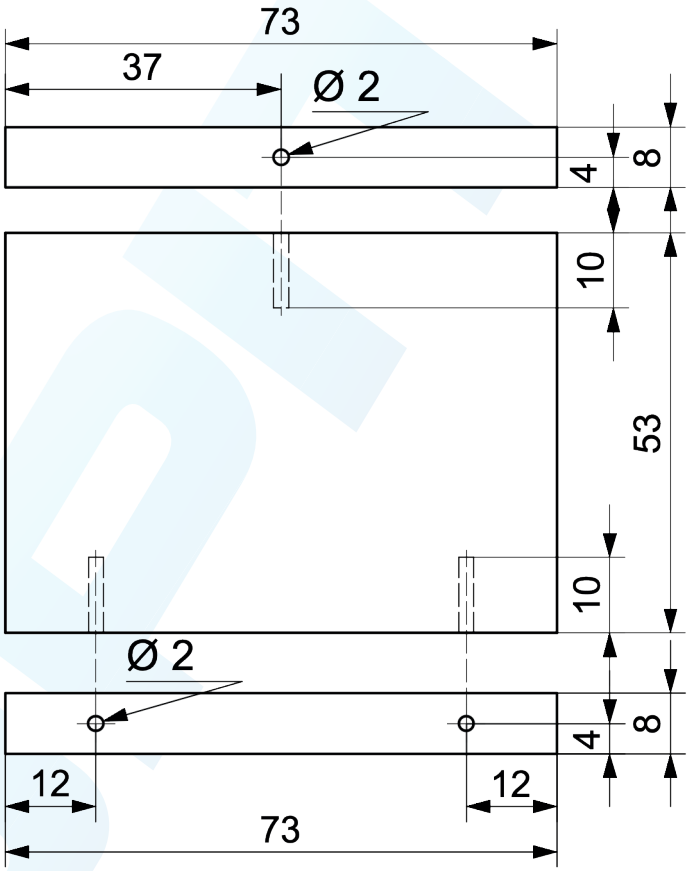


Insert a 9V battery and connect it to the battery clip.
Switch on switch and check function!



Secure the housing with the remaining screws (13) as shown.

Drilling template base plate
SCALE 1:1



Template acrylic glass cuts
SCALE 1:1