

Airbus A320 ECAM Control Panel Korry Style switch



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Summary

Switch / button for ECAM panel with smooth click action and no light bleed between illumination of text and indicator.

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Korry style switch used on ECAM Control Panel in Pedestal. Designed to look similar to a real switch, with focus on a smooth click movement and even illumination, with no light bleed between top and bottom indicators. Tolerance between button light guide and housing is small to eliminate wobble. Overall size is close to being correct, but design deliberately doesn't include rim around legend to make legend parts slightly larger. This makes them less fiddly to make and also gives slightly more space for engraving text. Legend has small 45 degree chamfer around edge to improve feel of button.

Design uses three 3D printed parts, a PCB, an acrylic legend, plus electrical components.

Designed to fit in acrylic panel with a 16mm x 11mm rectangular hole in top 3mm layer and a 19mm x 14mm rectangular hole in rear layer (and if used, middle layer)

3D printed parts are **Button Light Guide** and **Upper and Lower Housing**. Housing is in two parts to eliminate layer line on layer line friction and create smooth sliding action between parts. The Upper and Lower Housings are designed to fit snugly together and to be easily glued with CA glue.

Two versions of Button Light Guide are provided for split and single legend buttons.

Housing and Button Light Guide are best printed in matte black PLA. 100% infill.

DXF Files for both a full and half legend are included. These should be CNC machined or laser cut from 3mm acrylic. Text legends in Opal Acrylic and three bar indicators in smoke grey acrylic. The half legends can be painted black along edge before gluing to eliminate light bleed between the upper and lower illuminated indicators. The combined legend tile is then spray painted black and engraved. A small 0.5mm chamfer can be machined around legend if using a CNC to give button edges a more finished look and a smoother feel.

A ZIP file containing the PCB design is included for ordering from JLCPCB or similar. Being small, it is not expensive, I paid less than £7 for 25 from JLCPCB including shipping.

There is a LED assembly jig that can be 3D printed to aid alignment and assembly of the LEDs.

SVG files are included in ZIP archive for engraving legends.

Assembly instructions:

1. Glue the two housing halves together
2. Solder switch, SMD resistors and header pins on PCB
3. Insert 2 LEDs into assembly jig, checking colours and alignment of anode and cathode (Long and short legs) are correct
4. Insert Light guide in housing
5. Slide housing & light guide onto jig, aligning LED leads with holes in Light guide
6. Align and glue pcb in recess on back of Housing with LED leads protruding through PCB holes.
7. Solder LED leads
8. Glue legend in place on front of light guide
9. Assemble switch into panel from rear
10. Glue switch in place on back of panel

Sounds a bit complicated, but it is quick and easy, if a bit fiddly until you have done one or two.

Parts Needed:

- 3D printed Upper Housing
- 3D printed Lower Housing
- 3D printed Light Guide
- 3mm Acrylic Opal / smoked legend tiles
- ECAM Korry PCB
- 3mmx6mm Micro switch
- 2 - 2mmx5mm rectangular LEDs (color dependent on particular switch)
- 2 - 470 Ohm 1206 SMD resistors (sorry, there wasn't space to fit thru-hole components on the PCB)
- 4 pin 0.1 "header
- 2 pin 0.1" header

PCB Components:

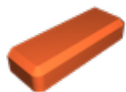
Switches: (4.3mm through hole version) [50/100PCS 3X6mm H=5/4.3mm DIP 2Pin SMT 260GF Micro Switch Black White Push Button Switch Momentary Tact Switch Key Power Button - AliExpress](#)

LED's : (Green and White) [100Pcs 2x5x7 mm Square LED Diode White Red Green Blue Yellow Orange 2x5x7mm Rectangular Clear Diffused DIY Lights Emitting Lamp - AliExpress](#)

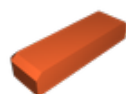
Resistors and headers are readily available from many places.

Model files

ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .dxf



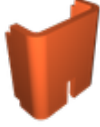
ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl



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ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl

ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .dxf

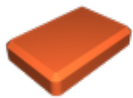


ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl



ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl

ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .dxf



ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl



ecam-15-6mm-x-10-6mm-single-and-double-legend-korry... .stl

Other files

ecam-button-pcb-ma01.zip

ecam-control-panel-button-engrave-files.zip

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