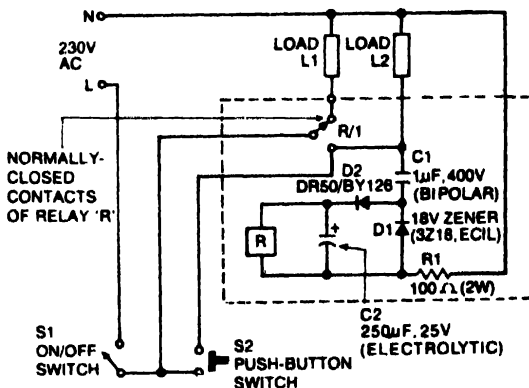


Changeover Switch With Built-in Priority

This simple circuit acts as a changeover switch with a fixed priority. When power is switched on, only the first load (L1) is connected, irrespective of initial conditions. Changeover to the second load (L2), which may be a precious gadget requiring protection from switching-on transients, is under your control and can be done only by pressing the push-button switch (S2). The load L1 may just be a dim light bulb or an indicator light.



When AC mains power is switched on through S1, power is applied to load L1 via the normally-closed contacts R/1 of relay R. If S2 is pressed momentarily, power is instantly applied to the load L2 and simultaneously to the electronic circuit.

Components C1, D1, R1, D2 and C2 form the transformerless low-voltage power supply. C1 is the excess voltage dropper. R1 is the initial surge current limiter. D2 rectifies and C2 smoothes the DC output.

When S2 is pressed, a DC voltage gets applied across the relay R and it operates. The relay's contacts move over to the other position, switching on load L2 and offering an alternative path to the AC current to keep the low-power supply alive. The load L2 will now remain 'on' even if the push-button switch S2 is released.

Now if the AC supply fails, or is switched off through S1, the relay's contacts R/1 will move back to their normally-closed position and get connected to the load L1. If the AC power is switched on again, only the load L1 will switch on. To switch on L2, the push-button S2 will have to be pressed once again.

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