

CONDUCTING LABORATORY CLASSES ON ELECTRICAL CIRCUITS

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Abstract: We cordially welcome you dear user of the COM3LAB course! Before you start working on the course, you should first familiarize yourself with the information about the educational hardware and software complex COM3LAB, contained on the following pages..

Keywords: electrical circuits, electrical lines, current generation. Experiment description

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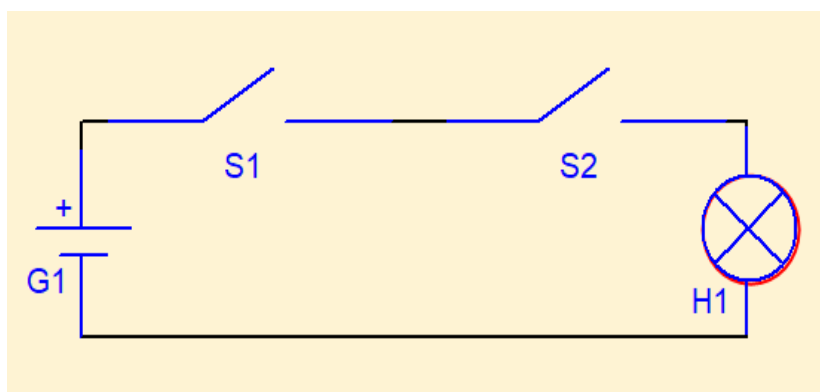
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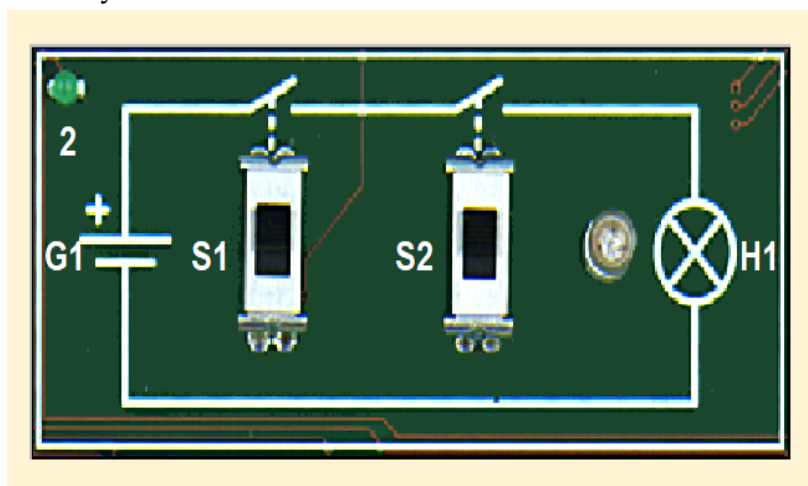


This experiment set up is similar to the previous one. However, its line path contains two switches connected in series.



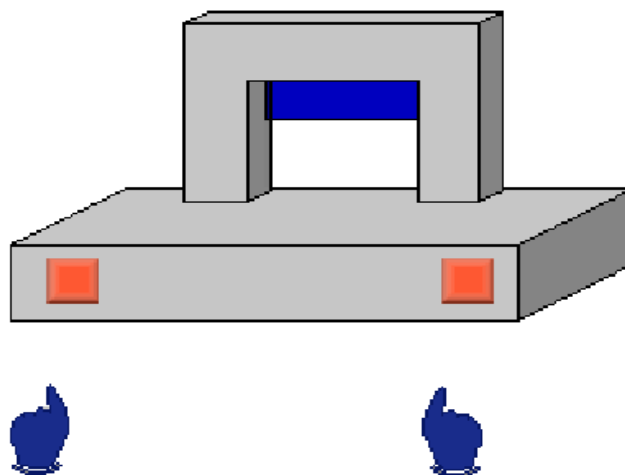
Work on the experiment panel

The aim of this experiment is to investigate a simple electrical circuit consisting of two switches and a lamp acting as the load. The switches are connected in series. They are closed when their slider is on the lower setting.



Applications of series connections

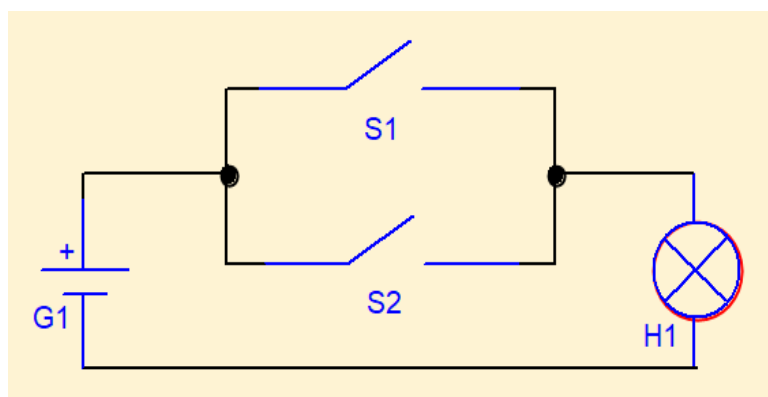
Series-connected switches are often used to electrically protect machines. Test the function of this protective mechanism in the display on the right.



The lamp only comes on when the left switch and the right switch are closed. By combining their individual states, series-connected switches can be used as and gates.

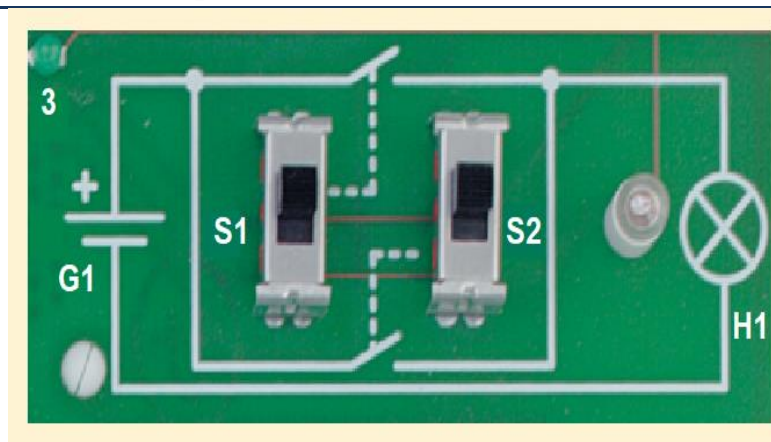
Experiment description

The aim of this experiment is to investigate how parallel-connected switches influence the current flow in an electrical circuit.



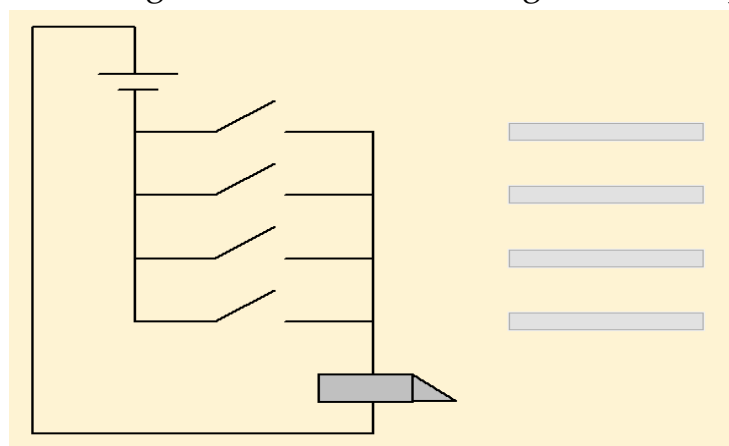
Work on the experiment panel

A simple electrical circuit consisting of two parallel-connected switches and a lamp acting as the load is investigated here. The switches are closed when their slider is on the lower setting.



Applications of parallel connections

The adjacent circuit diagram displays a door opening system which allows a building entrance door to be opened from four different floors. As the door opening buttons are connected in parallel, pressing any one of them closes the electrical circuit, thus allowing a current to flow through the door opener.



Summary

When the upper switch or the lower switch is closed the lamp comes on.

By combining their individual states, parallel-connected switches can be used as or gates.

LIST OF USED LITERATURE:

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