

Electricity with the Modular System

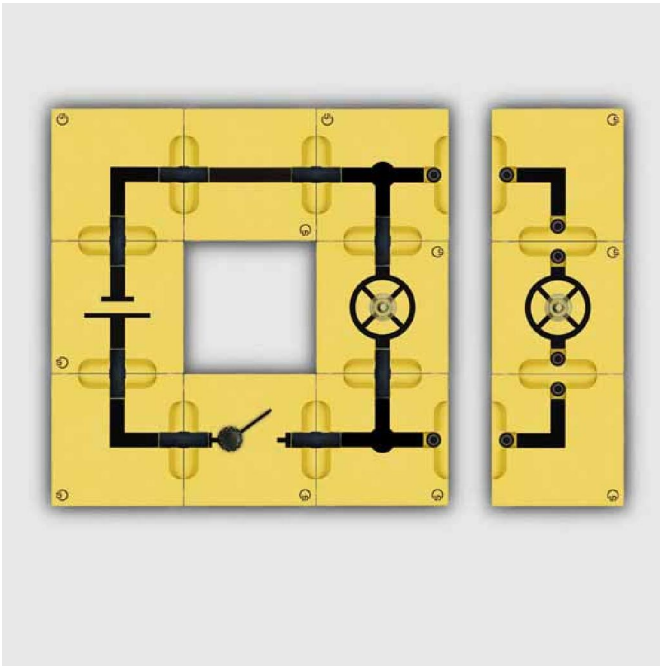
Basic Electric Circuits
Simple circuit

Connecting incandescent lamps in parallel

Objective of the experiment

To investigate the parallel connection of two lamps.

Setup



Apparatus

2		539 024	Lamp sockets E10, BST
2	from	505 11	Incandescent lamps 2.5 V / 0.1 A, E10
1		539 025	Toggle switch, BST
1		539 053	Battery element, BST
1		539 001	Connector block BST, straight
4		539 004	Connector blocks BST, 90° angle
2		539 006	Connector blocks BST, T branch
12		539 000	Bridging plug, BST
1		301 300	Demonstration experiment frame
1		301 301	Adhesive magnetic board

Carrying out the experiment

- Screw the incandescent lamps (2.5 V / 0.1 A) into the lamp sockets.
- Initially, set up the circuit with only one lamp (basic circuit) and observe its brightness after closing the switch.
- Connect a second lamp in parallel to the first one.
- Observe the brightness of the lamps and compare it to the brightness of the lamp in the basic circuit.
- While the switch is closed, unscrew one of the lamps from the lamp socket. At the same time, observe the other lamp.

Evaluation

In a parallel circuit, each of the lamps is individually connected to the battery and the switch by electric wires, forming a circuit.

If a second lamp of the same power is connected in parallel to a lamp, the brightness of the parallel-connected lamps is the same as the brightness of the single lamp in the circuit.

If one of the lamps burns out in a parallel circuit, the other lamp will continue glowing.