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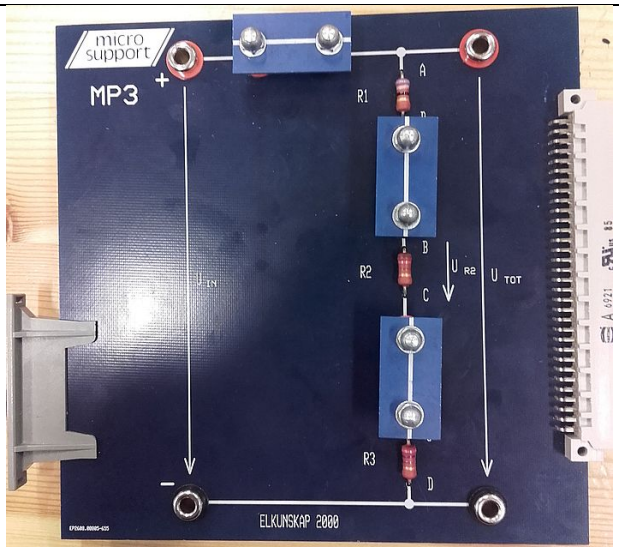
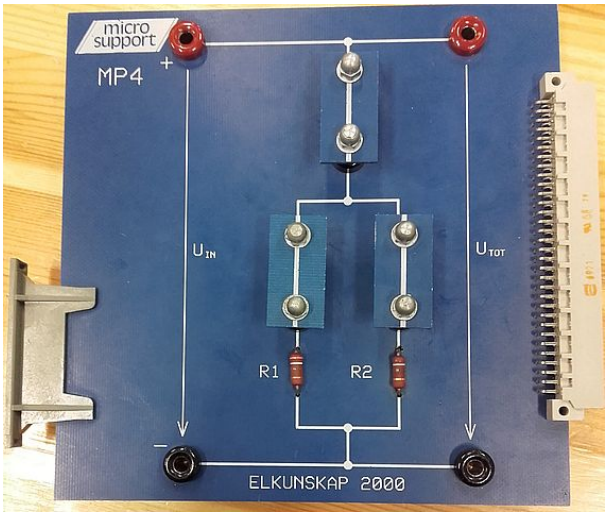
Activity 3

Physics: Electrical measure technology

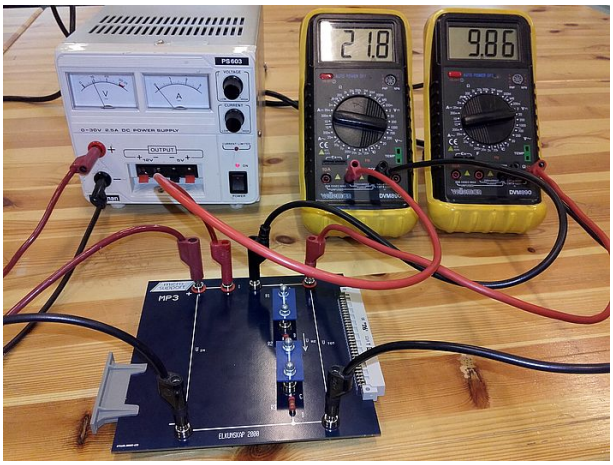
Project ICAROS **Report Code**	*[SE-LÅ-2017-03-15] Please follow this format:* *LL= 2 letter country code, PP = partner acronym, date*
Title	*Physics: Electrical measure technology.*
Start/End Date	*Started 15/3-2017 – Ended */3-2017*
Coordinator name and email	*Juan Bergdahl* *juan.bergdahl@vasteras.se*
Name of teachers	*Lars Åström, Sten-Hakan Andersson & Peter Werner*
Number and age of students	*20 students, 18 y.o.*
Description of activities	*Write one or two paragraphs describing in brief the activities with the students. What they planned, what they did. Mention any difficulties or challenges:* *Preparing the students to be able check the electrical connections on our drones with some test equipment developed for this kind of educational tasks within Physics/Electrical science.*
Learning outcomes	*Give a short description of what students learned and achieved:* *Some useful repetition of tasks done within their subject "Physics" done in their first year with us.*
Photos or other relevant material	*Select 3-4 good-quality photos or other relevant material, such as announcement, workshop agenda, plans, screenshots, log-book or web-link, and attach them in this report*  *Figur 1: Initial set-up*



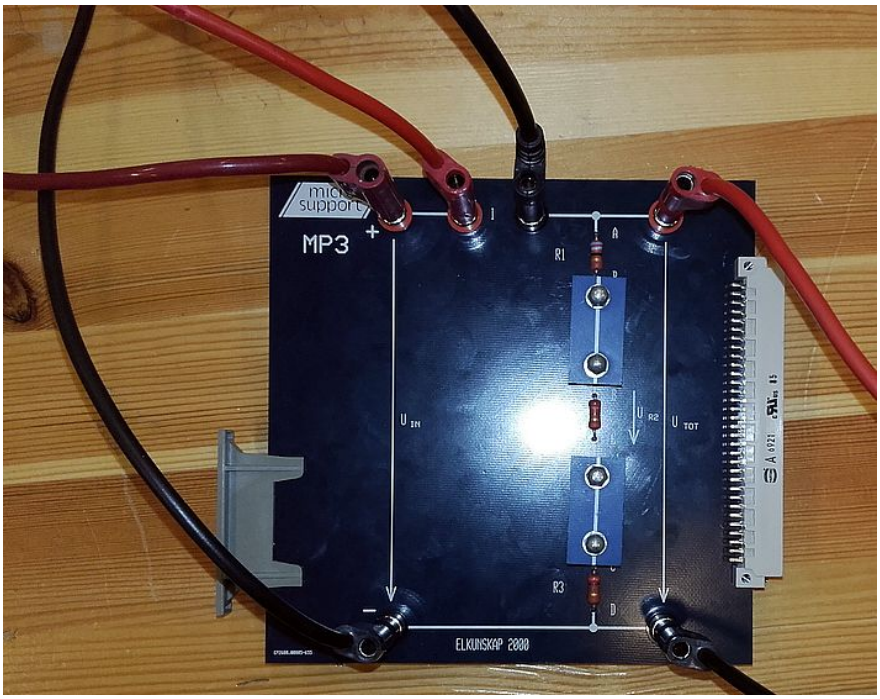
Figur 2: Resistors in serial



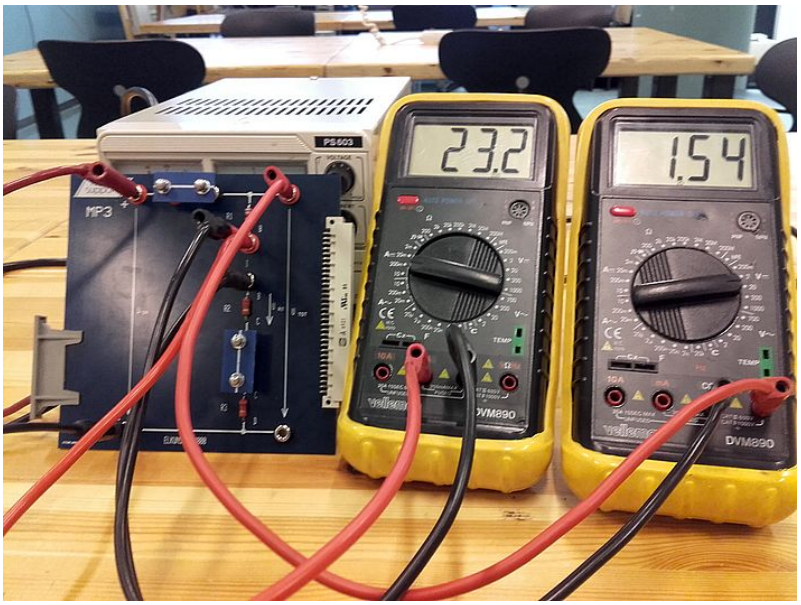
Figur 3: Resistors in parallel



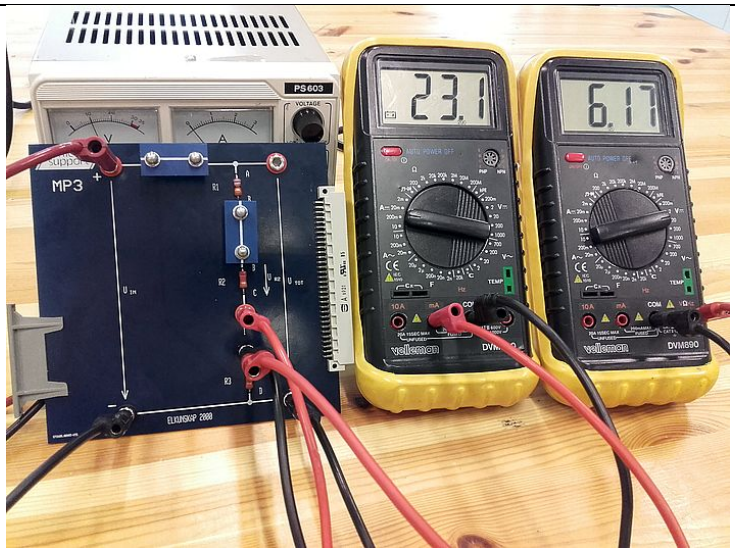
Figur 4: First assignment: Measure voltage and current in serial connection.



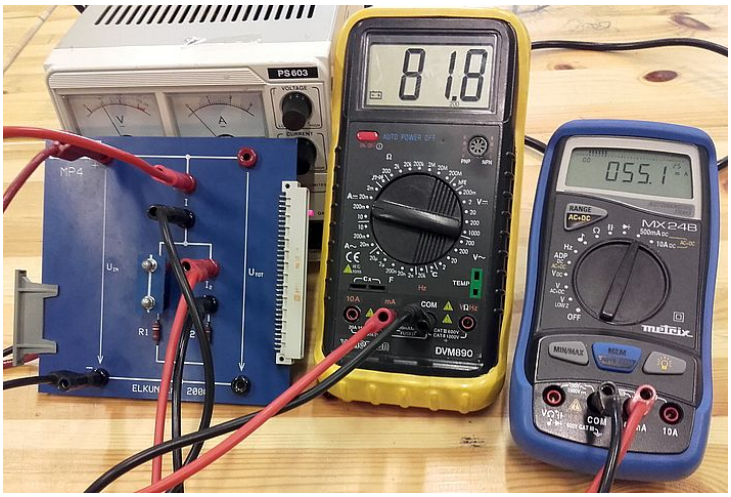
Figur 5: Connections in detail



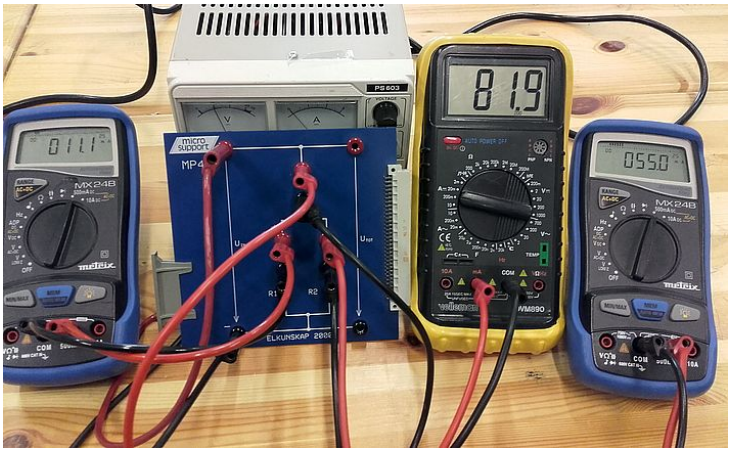
Figur 6: Proving Kirchoffs second law: The sum of all voltages out from a circuit is equal to the sum of all incoming voltages



Figur 7: Proving Kirchoffs second law: The sum of all voltages out from a circuit is equal to the sum of all incoming voltages



Figur 8: Testing of Kirchoffs first law: The sum of all currents in to the circuit is always equal of the sum of all currents out from the same circuit...



Figur 9: Both currents out of the circuit is almost equal to the current in... Why's the difference?
The answer is: A faulty multimeter to the left – the current should be 28mA instead of 11,1mA…