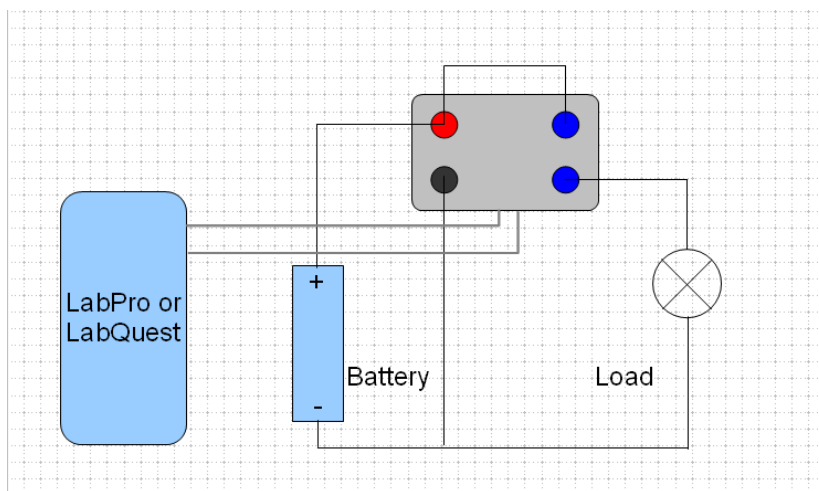# Example:

In the example circuit below the probe is connected to measure simultaneous voltage and current during the discharge of a battery through a load.

Combi Power Probe

for LabPro & LabQuest   Order code : COMBI-BTA

High Current - High Voltage probe for power analysis.
Simultaneous voltage and current measurements.

Specifications:

Fully overvoltage and overcurrent protected.
Galvanic isolated current section.

|	
Voltage probe range:	± 30 Volt
Current probe range:	± 10 Amp
Maximum voltage on any input:	220 V
Input impedance (voltage input):	30 KOhm
Input impedance (between current inputs):	<.02 Ohm
Linearity (current section):	1.5%
Linearity (voltage section):	0.01%
Resolution (voltage):	14 mV
Resolution (current):	6 mA
Supply voltage (from LabQuest/Labpro):	5 V DC
Supply current (typical):	10 mA
Output voltage range (voltage):	± 10 Volt
Output voltage range (current):	0 - 5 Volt
Transfer function (voltage):	$V_{out}=V_{in} * 0.331$
	Slope 0.302 V/V
	Intercept 0 V
Transfer function (current):	
	$V_{out} = 0.209 * I + 2.5$
	Slope 4.77A/volt
	Intercept -11.96 A

User Guide:

The probe is used with a LabPro or LabQuest interface connected to a PC with Logger-Pro software installed.

Probe connections
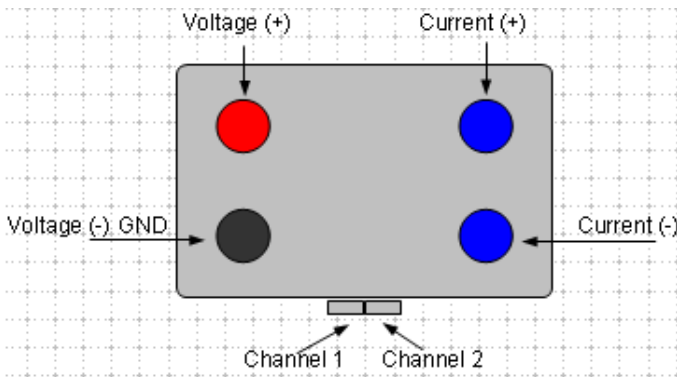
The probe has 4 safety type sockets for connection to the experiment and 2 telephone type sockets (RJ45) for connection to the interface (LabQuest/LabPro).

Connect the black and red terminals to the voltage to be measured.
Connect the current to be measured through the 2 blue terminals.
Connect the 2 cables to analog channels 1 and 2 on the LabPro/LabQuest

Start "LoggerPro on the PC
Load the file : COMBI_10_30.CMBL into the program.
(Download it at www.skolebutik.dk/downloads)
Start the data collection.

WWW.SKOLEBUTIK.DK - TLF. 44704000

Calibration:

Normally no calibration is needed. If, however the probe is used for measurements on small currents and voltages, improved accuracy can be obtained by making a zero calibration.
Calibration is done in the LoggerPro software as follows;

Select "EXPERIMENT"
Select "SET UP SENSORS"
Select "SHOW ALL INTERFACES"
Select "CH1"
The voltage section is now calibrated by shorting the voltage terminals and selecting "Zero" in the calibration section of the Logger Pro software.

The current section is calibrated a little differently, because the output is offset 2,5 volt.

Select "EXPERIMENT"
Select "SET UP SENSORS"
Select "SHOW ALL INTERFACES"
Select "CH2"
Select "CALIBRATE"
Check "1 point calibration"
Remove 1 lead from the current inputs
Select "CALIBRATE NOW"
Enter the value 2,50
Select "Keep"
If you want to store the new calibration with the setup file you must choose a new file name since the original file is write-protected.