



“inno” electronics

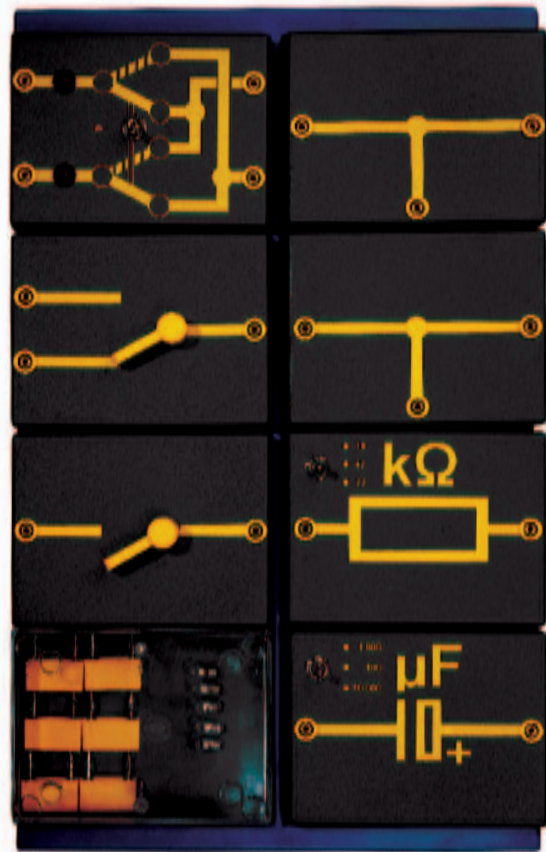
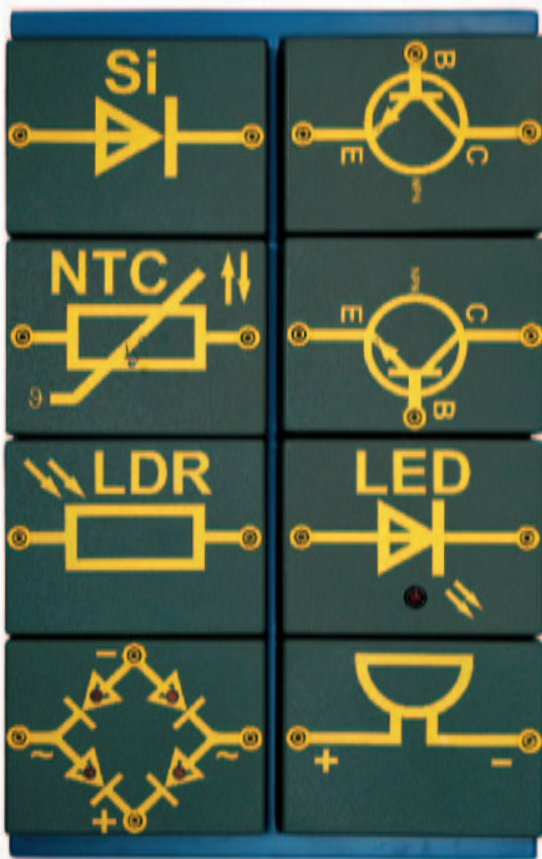
“inno” ELECTRONICS SYSTEM



Experimenting with the **magnetic “inno” module system (MBI)**:

Green ABS plastic case with yellow labelling and yellow, 4-mm safety jacks for 42 V maximum; four strong neodymium magnets are inset in the base for mounting the device magnetically on metal panels; base easily removed by means of the Phillips screws
Dimensions: approx. 160x120x45 mm

simple – fast – safe



DE750-1A Electronics, “inno” complete set consisting of:

DE750-1A1 Electronics, set A “inno”

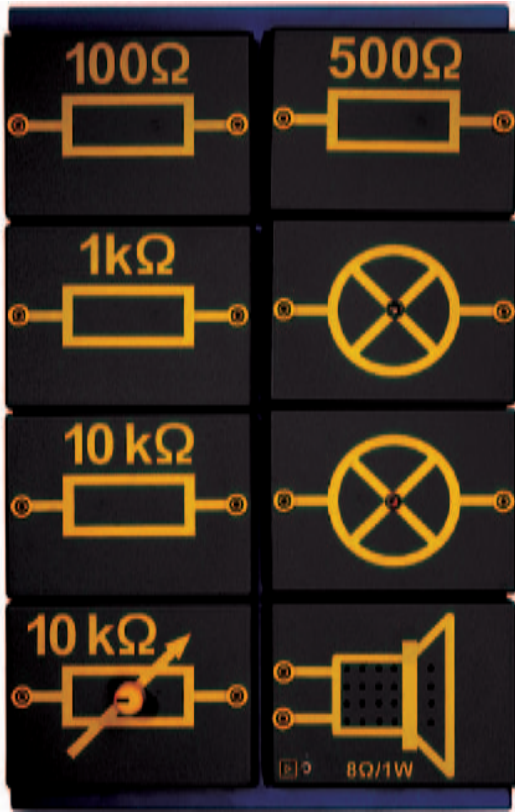
- DE730-1N 1x MBI NTC resistor
- DE730-1L 1x MBI Photo resistor (LDR)
- DE730-1S 1x MBI Si-diode
- DE731-1L 1x MBI LED
- DE732-1L 1x MBI Transistor NPN, base left
- DE732-1R 1x MBI Transistor NPN, base right
- DE730-2V 1x MBI Buzzer
- DE730-1B 1x MBI Bridge rectifier with 4 LEDs
- P7806-1B 1x Storage box, large
- P7810-1E 1x Box insert MBI

DE750-1A2 Electronics, set B “inno”

- DE732-3T 2x MBI Lead, t-shaped
- DE730-1W 1x MBI Decade resistance, 10, 22, 47 kOhms
- DE733-1K 1x MBI Decade capacitor, electrolytic capacitors, 100, 1000, 10000 µF
- DE720-1K 1x MBI Four-way switch
- DE720-2T 1x Double-throw switch
- DE720-2R 1x MBI On-Off switch
- DG500-5G 2x Jumper plugs with connector terminal, MBC, yellow
- DG500-5A 4x Jumper plugs MBC, yellow
- DE309-2S 1x Light bulb, 6 V/50 mA, E10, set of 5
- P7806-1B 1x Storage box, large
- P7810-1E 1x Box insert MBI



Electronics supplementary set DE750-2A, described below, is required, in case “inno” magnetic module sets Electricity A (DE712-1A) and Electricity B (DE712-1B) are not available:



DE750-2A Electronics, “inno” supplementary set consisting of:

- DE720-4W 1x MBI Resistor 100 ohms
- DE720-5W 1x MBI Resistor 500 ohms
- DE720-6W 1x MBI Resistor 1 kOhm
- DE720-7W 1x MBI Resistor 10 kOhms
- DE720-8W 1x MBI Variable resistor 10 kOhms
- DE720-2A 2x MBI Light bulb sockets, E10, “inno”
- DE720-2L 1x MBI Loudspeaker with amplifier
- P7806-1B 1x Storage box, large
- P7810-1E 1x Box insert MBI



P3120-4B Battery, variable, “inno”

The variable “inno” battery, equipped with four 1.5-volt D-size batteries, may be set to deliver 1.5, 3, 4.5 or 6 volts of fixed direct current.

Recommended power supplies:

(see power supply section for detailed technical descriptions)

P3120-1N Fixed-voltage transformer, “inno”

Output voltage: 6 V DC, stabilized, max. 7 A, and 7 V AC, max. 9 A

or:

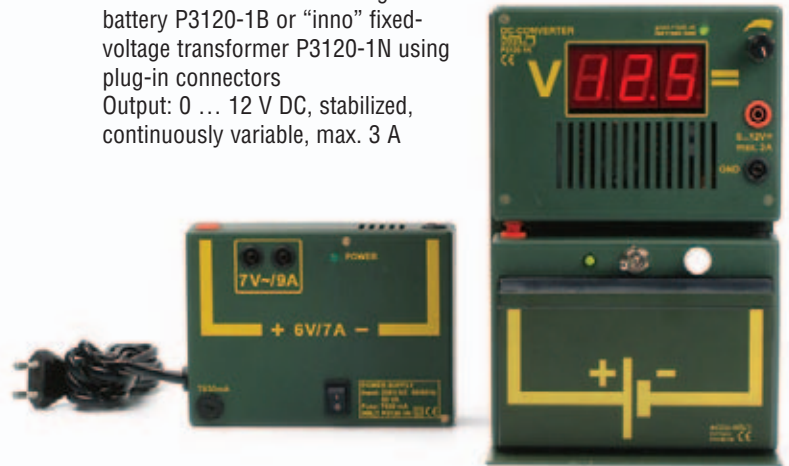
P3120-1B Rechargeable battery, “inno”, 6V/10 Ah

Output voltage: 6 V DC; short-circuit current: >30 A

In combination with:

P3120-1K DC converter “inno”

Variable DC power supply suited for an average load, may be combined with 6 V/10 Ah “inno” rechargeable battery P3120-1B or “inno” fixed-voltage transformer P3120-1N using plug-in connectors
Output: 0 ... 12 V DC, stabilized, continuously variable, max. 3 A



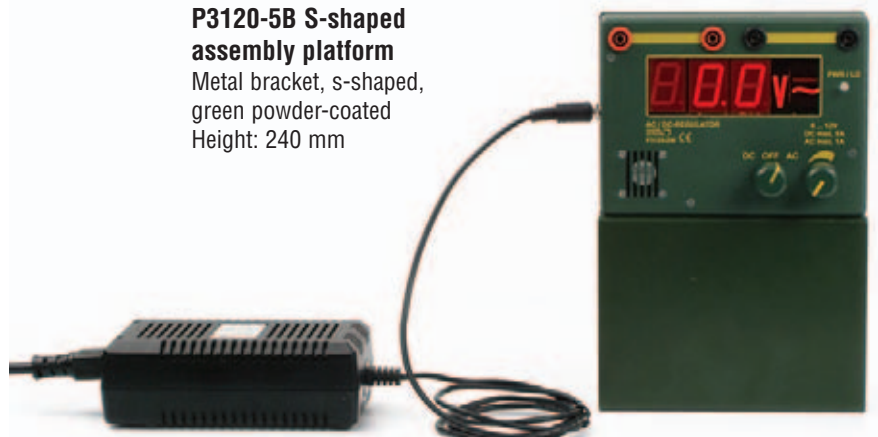
P3125-2W AC/DC regulator, “inno”

Output terminals: 0...12 V DC, max. 5 A, and 0...12 V AC, max. 0.7 A
Voltage source: 12 V stabilized DC, approx. 5 A, e.g. P3130-2P

P3130-2P Fixed voltage transformer 12V/5.8A

P3120-5B S-shaped assembly platform

Metal bracket, s-shaped, green powder-coated
Height: 240 mm



Use: “Inno” AC/DC regulator connected to 12V/5.8 A fixed-voltage transformer P3130-2P and mounted on s-shaped assembly platform used as a table model



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Recommended measuring instruments (see pages 270 and 273 for detailed technical descriptions)



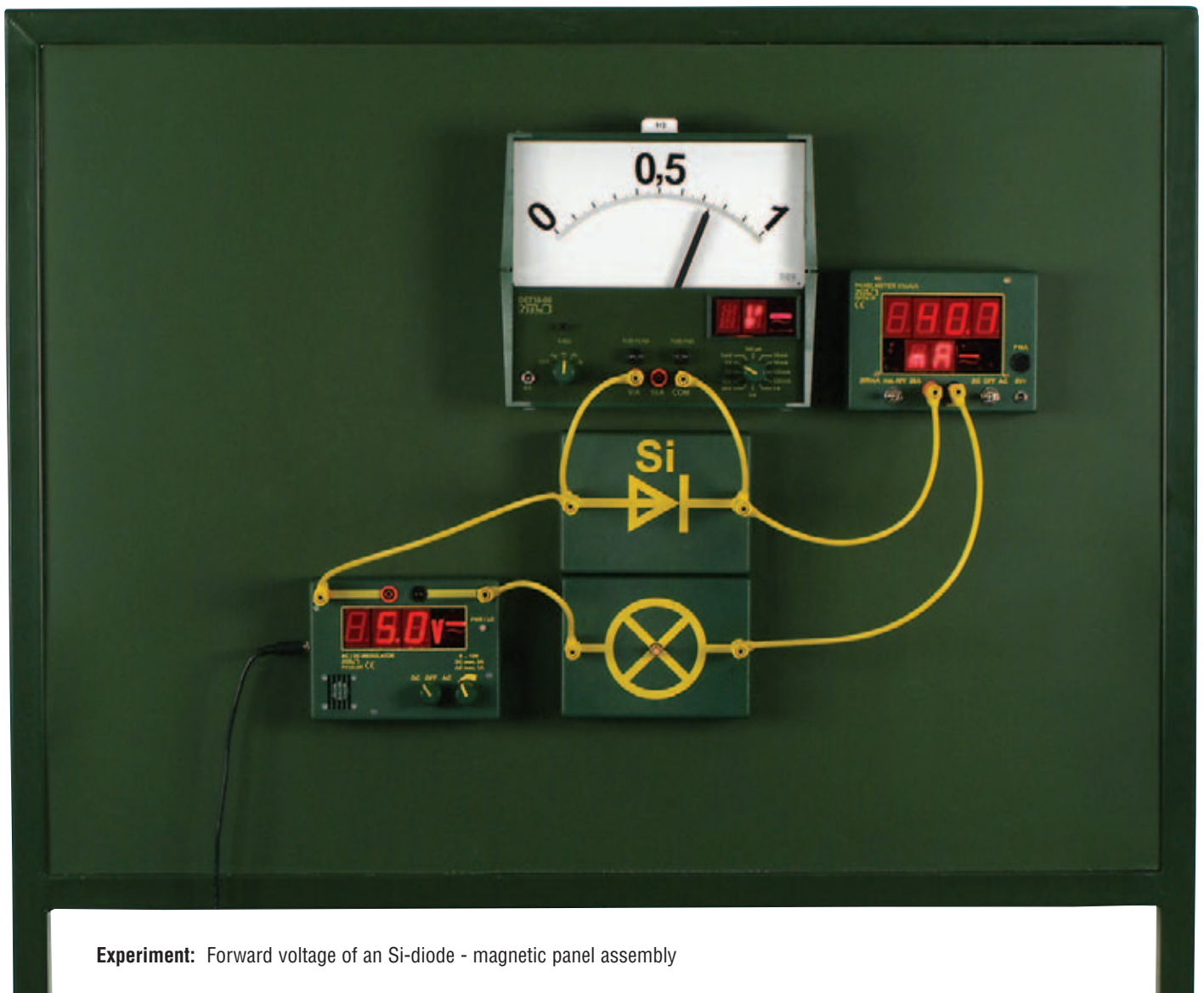
DE710-00 Universal multimeter “inno”, magnetic

Durable remote-control measuring instrument for use in any position; zero may be set to left or to centre; three insertable double scales: 1/3 - 10/30 - 100/300 (included) Arc length of scale: approx. 200 mm Digit height: 26 mm LED display indicates measuring units and type of current: mV DC, V AC and DC, μ A AC and DC, mA AC and DC, A AC and DC

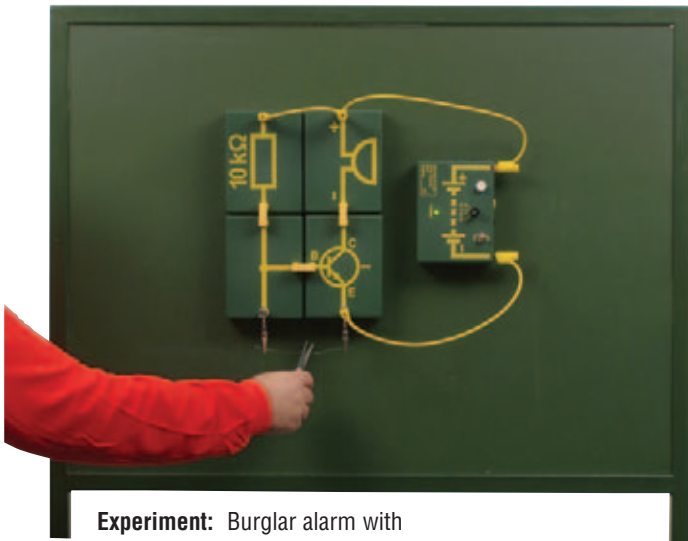


DE722-1P Panelmeter “inno”

Display: 3 1/2-digit LED display; digit height 26 mm Measuring ranges: 0 ... 200 mA, 0 ... 20 A, 0 ... 40 V AC/DC



Experiment: Forward voltage of an Si-diode - magnetic panel assembly



Experiment: Burglar alarm with trip wire - magnetic panel assembly

Experiments on the topic of:

ELECTRONICS (“inno” system)

DE750-1SE Experiment manual “Electronics”, b/w booklet
DE750-1CE Experiment manual “Electronics”, CD-ROM

Semiconductors - Resistors

- EOI 001 NTC resistor
- EOI 002 Model of an electric thermometer
- EOI 003 Photo resistor (LDR)
- EOI 004 Model of a light meter



Diodes

- EOI 005 Silicon diode - an electrical valve
- EOI 006 Forward voltage of a silicon diode
- EOI 007 Diodes protect measuring devices
- EOI 008 Light-emitting diode (LED)
- EOI 009 Forward voltage of a light-emitting diode

Transistors

- EOI 010 The transistor as a double diode (NPN)
- EOI 011 Transistor as a switch - base current lets collector current through (NPN)
- EOI 012 The transistor as an amplifier
- EOI 013 Light sets off alarm
- EOI 014 Base voltage divider
- EOI 015 Burglar alarm with trip wire
- EOI 016 Automatic illumination
- EOI 017 Alarm using light barrier
- EOI 018 Fire detector
- EOI 019 Model of an electric thermometer
- EOI 020 The conducting transistor

Capacitors

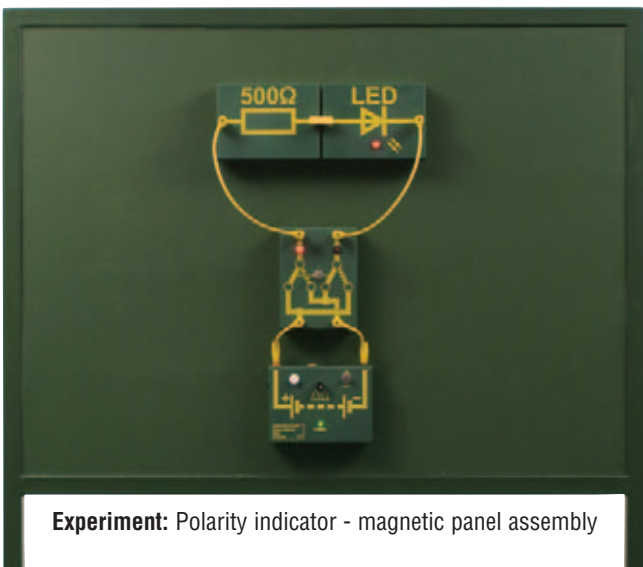
- EOI 021 A capacitor can store charges
- EOI 022 Direction of charging and discharging current
- EOI 023 Charging a capacitor
- EOI 024 Discharging a capacitor
- EOI 025 Capacitor supplies base current
- EOI 026 Capacitance
- EOI 027 Timer relay
- EOI 028 Capacitor cuts off direct current
- EOI 029 Capacitor under AC voltage
- EOI 030 Half-wave rectification
- EOI 031 Smoothing rectified voltage
- EOI 032 Bridge circuit

Multivibrator circuits

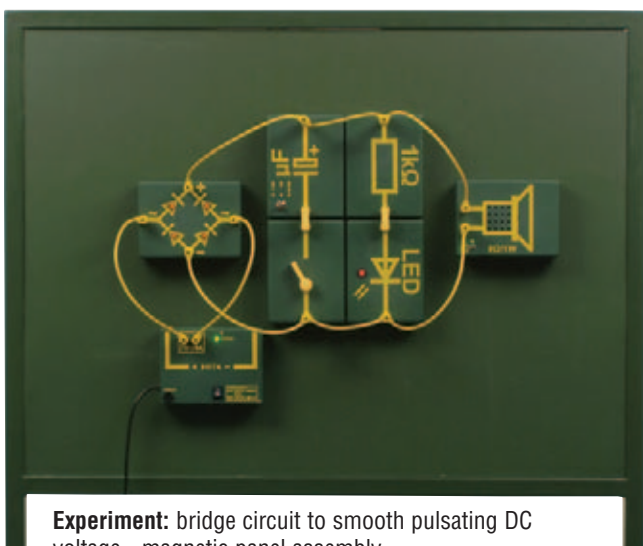
- EOI 033 Bistable multivibrator
- EOI 034 Discharging a capacitor
- EOI 035 Capacitor prevents base current
- EOI 036 Support from a capacitor
- EOI 037 Monostable multivibrator

Amplifier circuits with two transistors

- EOI 038 Resistance of the human body
- EOI 039 One transistor stage controls another
- EOI 040 Automatic level measurement - Darlington circuit
- EOI 041 Lie detector - Darlington circuit



Experiment: Polarity indicator - magnetic panel assembly



Experiment: bridge circuit to smooth pulsating DC voltage - magnetic panel assembly