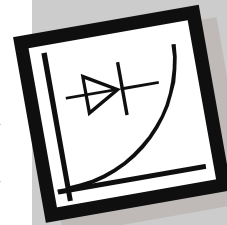


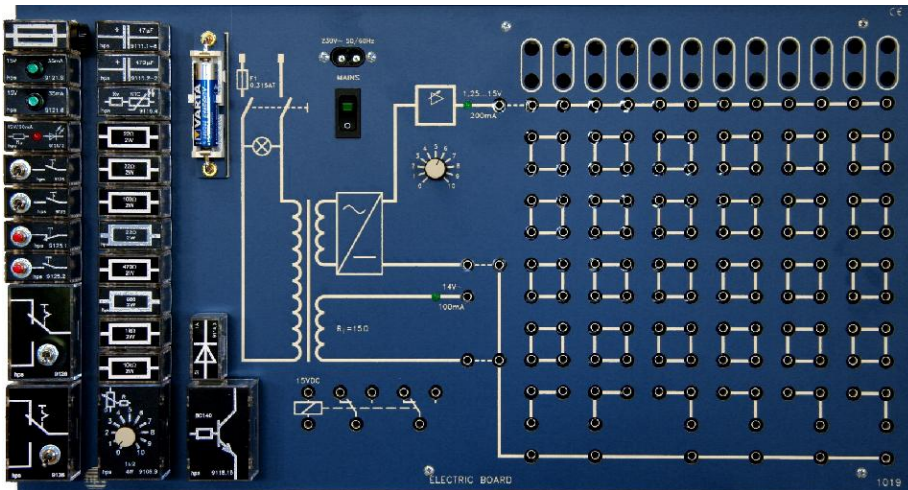
# Fundamentals of Electrical Engineering



## ELECTRIC BOARD

Type 1019

**New**  
with 4 mm  
safety jacks



Front view of the ELECTRIC BOARD

- Universal training and instruction system for non-electrical professions
- With integrated DC and AC sources
- All functions are short-circuit-proof and monitored by LEDs
- Clear arrangement of accessories directly on the basic unit
- Detailed instructions for experiments with solutions
- Components protected against incorrect connection

With the ELECTRIC BOARD, hps SystemTechnik offers a universal training and instruction system which is ideally suited for conducting basic experiments in DC and AC engineering.

It is used e. g. in industrial metalworking professions.

The ELECTRIC BOARD has an adjustable DC source and an AC source, both of which are overload-protected and short-circuit-proof.

LEDs indicate the function of both power supply units directly.

4 mm safety jacks are arranged in a 19 mm grid on a jack field. A group of four safety jacks is electrically connected and engraved white.

When setting up a circuit, the individual groups of jacks are connected by plugs or leads and by the pluggable components according to the

given circuit diagram. This reduces the time for setting up the experiments to a minimum.

In order to conduct the experiments, the ELECTRIC BOARD is placed on a table or suspended in an hps rack for demonstration purposes.

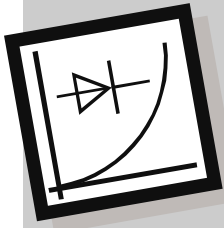
The ELECTRIC BOARD can also be screwed into a Box for safe transport and storage of the ELECTRIC BOARD.

All experiments can directly be conducted in the Box.

The left-hand section of the Board is provided for storing the pluggable components and connecting plugs. The respective circuit symbols are printed on the board thus enabling a clear arrangement.

hps SystemTechnik also offers the „Fundamentals of Electrical Engineering“ experiment manual (Type V 0106) in conjunction with the ELECTRIC BOARD.

It contains numerous experiments with problems and solutions for the following subjects (excerpt):



## ELECTRIC BOARD

### Type 1019

- The electrical circuit
- Ohm's law
- Electric measuring equipment
- Electric power
- Electric resistors
- Resistors in series
- Resistors in parallel
- Voltage dividers
- Mixed electric circuits
- Electric fuse
- Lamp circuits
- Relay circuits
- Voltage sources in series
- Voltage sources in parallel
- Capacitor
- Diode
- LED
- Transistor as a switch
- Half-wave rectifier
- Logic circuits

### Recommended Accessories

- Experiment manual: „Fundamentals of Electrical Engineering“ (Type V 0106)

## Fundamentals of Electrical Engineering

### Technical Data

#### Mains connection

- Voltage: 230 V AC/115 V AC (110 V AC)  
50 ... 60 Hz; approx. 40 VA

#### DC and AC voltages available on the Board

- DC voltage and current: 1.25 ... 15 V; 0.2 A
- Sinewave voltage and current: 14 V (rms); 0.1 A

The outputs of both voltage sources are short-circuit-proof and monitored by LEDs.

#### Relay

- Contacts: 2 changeovers
- Contact power: max. 1 A
- Operating voltage: 15 V DC

The individual electric components are connected by 4 mm safety jacks with 4 mm plugs or leads.

#### Mechanical data

The front panel of the ELECTRIC BOARD is made of 5 mm thick laminate, matt blue colour with white engraving representing the built-in function groups. The rear of the Board is protected with a grey plastic cover. Its shape allows the Board to be placed at an ergonomically favourable angle for example on a table.

#### Dimensions and weights

- Board version (Type 1019):  
532 x 297 x 120 mm (w x h x d)  
weight: approx. 4.0 kg
- Box version, consisting of:  
ELECTRIC BOARD (Type 1019) and  
Box (Type 1019.20):  
580 x 450 x 155 mm  
total weight: approx. 6.6 kg

Subject to technical modifications.