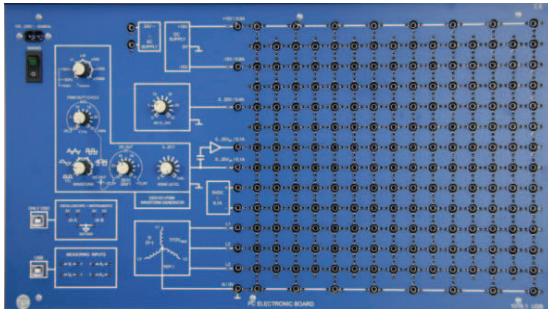


## PC ELECTRONIC BOARD with PC-connection

**NEW!**  
• PWM Output  
• DC Offset Output  
• optional:  
USB-Oscilloscope

### PC ELECTRONIC BOARD (Type 1018.1 USB)

With USB-interface (incl. operators software)  
and the option to upgrade the PC ELECTRONIC BOARD  
with the measuring interface and USB-Oscilloscope



PC ELECTRONIC BOARD Type 1018.1 USB



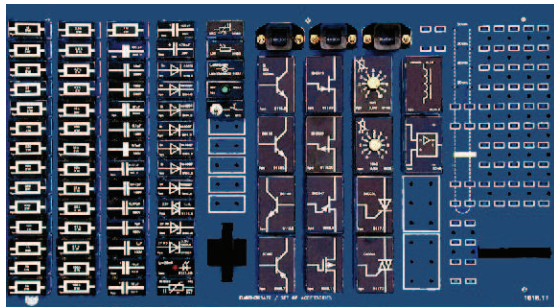
### PC ELECTRONIC BOARD

#### 1018.1 USB

- Useable with or without a PC
- If the measuring interface incl. measuring software (1018.4) is used, there are two inputs for current and two inputs for voltage available.
- Optional: 2-channel USB-Oscilloscope with FFT Software

PC (not supplied) to control the  
PC ELECTRONIC BOARD  
(if the unit is upgraded  
Measuring interface and the  
measuring software 1018.4)

- Universal training and instruction system for the principles of electrical engineering / electronics / analog technology
- With integrated DC, AC and three-phase current sources as well as a function generator
- Function generator, DC and three-phase current sources short-circuit proof and LED-monitored
- The out signals of the voltage generator can be adjusted with a PC via built-in USB-connection and the operators software. These signals can be simultaneously projected with a beamer
- Clear storage of accessories on a separate imprinted Board
- Detailed experiment instructions with solutions



### Set of Accessories (Type 1018.11) incl. Storage board

With the PC ELECTRONIC BOARD hps SystemTechnik offers a universal training and instruction system perfectly suitable for conducting following experiments:

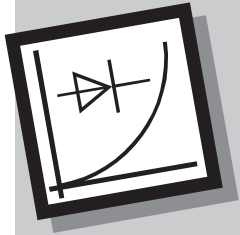
- DC, AC and three-phase current technology
- Characteristics of diodes and transistors
- Characteristics of thyristors and triacs
- Amplifier circuits
- Oscillator circuits
- Modulators and demodulators
- Multivibrators
- Power supply circuits
- Switched power supplies and DC voltage converters
- Power electronic circuits

The PC ELECTRONIC BOARD is equipped, in addition to the power supplies required for conducting the experiments, with a large jack field for setting up experiments with plug-in components. On this jack field, 4 mm jacks are arranged in a 19 mm grid. Each of them is surrounded by and electrically connected to four 2 mm jacks.

When setting up a circuit, the individual groups of jacks are connected by connecting plugs or leads and by the plug-in components given by the circuit. On this jack field 4 mm safety connecting leads with fixed isolated sleeves are useable.

With the optional measuring interface incl. measuring software (1018.4) the measured data are easily shown on a PC-monitor.

With the optional USB-Oscilloscope (1018.5) you can view all signals time or frequency based.



## PC ELECTRONIC BOARD

### 1018.1 USB

To conduct the experiments, the PC ELECTRONIC BOARD is placed on a table or suspended in an hps rack for demonstration purposes.

A Board is provided for storing the plug-in components. The Board is printed with the relevant circuit symbols, allowing simple, clear storage.

The PC ELECTRONIC BOARD is also available in a Box (Type 1018.20). In the Box version the Set of Accessories is screwed into the lid of the Box.

The individual electrical components are connected through 2 mm and 4 mm jacks and plugs.

## Accessories Required

- Set of Accessories (Type 1018.11), consisting of: storage board, resistors, capacitors, semiconductors, transformer coils
- Set of Accessories (Type 1018.11.1), consisting of: connecting leads and plugs
- Experiment manuals:
  - Direct Current Technology (Type V 0101 4th Ed.)
  - Alternating Current Technology (Type V 0102 4th Ed.)
  - Semiconductor Components (Type V 0103 4th Ed.)
  - Basic Electronic Circuits (Type V 0104 4th Ed.)

## Accessories Recommended (optional):

- Measuring interface (Type 1018.4) incl. measuring software to display measured data on a PC-monitor
- USB-Oscilloscope (Type 1018.5) incl. Software to view signals time or frequency based
- IC BOARD (Type 3530) for additional experiments with commercial components

## Fundamentals of electrical engineering / electronics / analog technology

## Technical Data

### Mains connection

- Voltage: 230 V AC / 115 V AC (110 V AC)  
50 ... 60 Hz; approx. 70 VA

### AC and DC voltages

- DC voltage:
  - +15 V ( $\pm 5\%$ ); 800 mA
  - 15 V ( $\pm 5\%$ ); 800 mA
  - + 5 V; 100 mA
  - 0 ... 25 V; 300 mA
- AC voltage: 24 V AC; max. 100 mA

### Function generator

- Sinewave / Squarewave / Triangal:
  - $U_{pp}$  = 0 ... 20 V; 100 mA
  - $f$  = 1 Hz ... 250 kHz
  - $R_i$  = 60  $\Omega$
- Squarewave, positive:  $U$  = 5 V / TTL
- PWM 10 kHz; Pulse width 0 ... 100 %
- DC Offset +12 V ... -12 V

### Three-phase current generator

- Phase voltage: 7 V<sub>eff</sub>
- Line voltage: 12 V<sub>eff</sub>
- Line current: max. 50 mA
- Frequency: approx. 50 Hz

The outputs of the function generator, DC and three-phase current sources are short-circuit-proof and LED-monitored.

### Mechanical Data

The front panel of the PC ELECTRONIC BOARD is made of 5 mm thick laminate, matt blue in colour with white printing 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

- PC ELECTRONIC BOARD (Type 1018.1 USB):  
532 x 297 x 120 mm (w x h x d), weight: 3.9 kg
- Set of Accessories (Type 1018.11):  
532 x 297 x 150 mm (w x h x d), weight: 4,0 kg
- Box version, consisting of:  
PC ELECTRONIC BOARD (Type 1018.1 USB),  
Set of Accessories (Type 1018.11 and Type 1018.11.1)  
and Box (Type 1018.20): 580 x 450 x 200 mm
- total weight: 12 kg

Technical changes without prior notice!