HELP3-TR Multipurpose training bench for electrical engineering

	Workstation Frames	
HELP3L17	Help3 multipurpose workstation, 1710 x 580-810 mm	1 x
LOCK3M	Manual lock for Help3 workstation	1 x
	Power Supply Units	
(S1) SU1	1-phase supply unit	1 x
	Modules	
(1) STRBOX500	Storage box for the device panel, 500 mm	1 x
(2) FG8216A	Function generator, 3 MHz	1 x
(3) TBS1052BEDU	Digital oscilloscope, 50 MHz, 1 GS/s, 2 channels, education model	1 x

USB1BT	USB-interface back side of the panel	1 x
(4) OMDYMRS14	Digital multimeter, 2000 counts	1 x
(5) DCAEL302R	Variable DC power supply, 0-30 V, 2 A	1 x
	Accessories	
C15PU	Stool, black, polyurethane (OPTION)	2 x

HELP3L17 Multipurpose workstation

- Multipurpose construction: electric workstation and theory desk in one solution
- Built-in instrument panel for integrated electrical instruments, instrument panel located under a sliding table top
- Sliding table top movable forwards and backwards to enable / hide the instrument panel
- Sliding table top can be locked to prevent access to the instrument panel
- Modular instrument panel:
  - Devices can be added afterwards
  - Instrument panel is slanted to achieve best possible usability
- Integrated modules are covered with polyester film to ensure long lifetime for the markings in the front panel
- Workstation frame and instrument panel made of steel
- L-shaped ergonomic legs for more space under workstation
- Adjustable height 710-780 mm
- Adjustment screws under the workstation to eliminate the roughness of the floor
- Table top with laminate coating, durable plastic edges, colour light grey
- 4 pcs sockets in the energy channel located at the rear part of the workstations. Sockets are available also when the table top is in closed position.
- Can be equipped with upright tubes for fixing accessories such as training panel frames, shelves etc.
- Dimensions: 1710(W) x 580-810(D) mm

LOCK3M Manual lock for Help3 workstation

- Manual lock for the sliding table top in Help3 workstation
- Two keys

SU1 1-phase supply unit

- Main switch for the workstation with START position
- Green indicator light
- Integrated emergency switch, reset from the main switch
- Automatic restart prevention system e.g. after power failure
- 16 A thermal overload protector
- Fault current protection 0.03 A for all devices connected to the supply unit
- Earth terminal screw
- Outlets for the device modules
- Dimensions: ½-module, 125(W) x 200(H) mm

STRBOX500 Storage box

- Integrated storage box for the device panel
- Powder-painted steel frame
- Suitable for storing training sets, test leads etc.
- Internal dimensions: 480(W) x 380(D) x 180(H) mm

FG8216A Function generator

- Frequency range: 0.3 Hz - 3 MHz, 7 ranges
- Waveforms: sine, square, triangle, ramp
- TTL/CMOS output
- 6 digit display
- Amplitude: 10 V_{PP} (into 50 ohm load)
- DC offset: ± 5 V (into 50 ohm load)
- Duty cycle control with signal inversion capability
- Two-step (-20 dB × 2) and variable attenuator
- Standard accessories: power cord, instruction manual, 2 x test leads (BNC - Alligator head)
- Dimensions: 1 module, 250(W) x 200(H) mm

TBS1052BEDU Digital storage oscilloscope

- Bandwidth: 50 MHz
- 2 channels
- Sample rate (each channel): 1 GS/s
- Record length (each channel) : 2500
- Vertical resolution : 8 bits
- Vertical sensitivity: 2 mV - 5 V / DIV
- Time base range (s/div): 2.5 ns - 50 s
- 7 inch WVGA (800X480) Active TFT Color Display
- 34 automated measurements
- Dual window FFT, simultaneously monitors both the time and frequency domains
- Integrated Courseware feature: Lab content can be loaded directly onto the oscilloscope, Students can review lab content, perform step-by-step instructions, record lab results and create lab reports all on the scope
- Dual channel frequency counter
- Zoom Function
- Advanced triggers including pulse and line-selectable video triggers
- Autoset and signal auto-ranging
- Autoset enable/disable feature with password protection
- USB 2.0 host port on the front panel for quick and easy data storage
- USB 2.0 device port on rear panel for easy connection to a PC
- Multiple language user interface
- Dimensions: 1 ¾ module, 437.5(W) x 200(H) mm
- Standard accessories: passive probes (one per channel), OpenChoice software, LabVIEW driver, Traceable certificate of calibration - NIM/NIST, CD including: Courseware Editor software, Example Courseware labs, oscilloscope tutorials

USB1BT USB connection

- Single USB-connection for connecting PC to a panel device
- Type B connector at the back of the device panel

OMDYMRS14 Digital multimeter

- 2000 counts LCD display with function indication, backlight
- Manual / auto selection of range
- Data / max hold
- Diode test
- Continuity test
- Equipped with power supply, no need for battery

change
- Fuse at the front panel for easy replacement
- Standard accessories: manual, test leads, type K temperature probe
- Dimensions: ½-module, 125(W) x 200(H) mm

DC voltage

Range	200,0 mV...600 V
Best resolution	0,1 mV
Best accuracy	± (0.5 % + 2 digits)

AC voltage

Range	200,0 mV...600 V
Best resolution	0,1 mV
Best accuracy	± (1.2 % + 3 digits)

DC current

Range	200,0 µA...10 A
Best resolution	0.1 µA
Best accuracy	± (1.0 % + 3 digits)

AC current

Range	200,0 µA...10 A
Best resolution	0.1 µA
Best accuracy	± (1.5 % + 5 digits)

Resistance

Range	200,0 Ω...20,00 MΩ
Best resolution	0.1 Ω
Best accuracy	± (1.0 % + 2 digits)

Temperature

Range	-50 ºC...+1000 ºC
Best resolution	1 ºC
Best accuracy	± (3 % + 5 digits)

DCAEL302R Variable DC power supply

- Output values: 0-30 V, 0-2 A, 60 W
- Linear regulation
- Constant voltage or constant current operation
- Voltage Setting: By coarse and fine controls
- Current Setting: By single logarithmic control
- Independent digital voltage and current meters for each output with 4 digit resolution
- Voltage meter:
  - Resolution: 10 mV
  - Accuracy: 0.3 % of reading ± 3 digits
- Current Meter:
  - Resolution: 1 mA
  - Accuracy: 0.5 % of reading ± 3 digits
- Ripple & noise: Typically < 1 mV rms (CV mode, 20 mHz bandwidth)
- Switchable local or remote sensing

- Silent fan-free cooling
- DC output on/off switch
- All outputs are intrinsically short circuit proof, and are protected against external voltages and reverse currents
- Output terminals: Universal 4mm safety binding posts on 19mm (0.75”) spacing. Terminals can accept fixed shroud 4 mm plugs, standard 4 mm plugs, fork terminals and bare wires
- Dimensions: ¾ module, 187,5(W) x 200(H) mm

C15PU Stool (OPTION)

- Stool
- Black
- Polyurethane
- Height adjustment
- Castors with load-sensitive brakes
- Seat height: 460-630 mm