

Electronics and ICT workstation



| Workstation Frames | | |
|--------------------|---|-----|
| HELP5L20 | Help5 motorized multifunction workstation, 2000 x 1062 mm | 1 x |
| HELP5PC2 | Integrated PC cable series for HELP5 | 1 x |
| Equipment Panels | | |
| DEFAULT_HELP5L20 | Default panel for HELP5 model | 1 x |
| Power Supply Units | | |
| (S1) SU1 | 1-phase supply unit, 230 V | 1 x |
| Modules | | |
| (1) ELPSL2 | 1-phase schuko socket outlets, 2 pcs | 1 x |

| | | |
|--------------------|---|-----|
| (2) LAN-8 | LAN switch, 8 ports | 1 x |
| (3) FLUKE175 | Digital multimeter, 3 ¾ digits, TRMS | 1 x |
| (4) DCAEX355R | Variable DC power supply, 0-35 V, 5 A | 1 x |
| (5) SSWT1012SET | Soldering station, 80 W | 1 x |
| (6) ELPSL2 | 1-phase schuko socket outlets, 2 pcs | 1 x |
| (7) ACA505 | 1 phase variable AC power supply, 0-50 V, 5 A | 1 x |
| (8) FLUKE175 | Digital multimeter, 3 ¾ digits, TRMS | 1 x |
| (9) DCAEX355R | Variable DC power supply, 0-35 V, 5 A | 1 x |
| (10) ELPSL1USB | 1-phase socket outlet + USB charger | 1 x |
| (11) SUNET | Supply unit control module | 1 x |
| Accessories | | |
| TMLC | Mobile laboratory control | 1 x |
| C20PU | Chair, black, polyurethane | 1 x |
| C20PU | Chair, black, polyurethane | 1 x |

HELP5L20 Motorized multifunction workstation

- Multipurpose construction: electric workstation and theory desk in one solution
- Construction includes a fixed table section (2000 x 620 mm) in the front and a motorized panel section (2000 x 470 mm) in the rear
- Motorized panel section includes a built-in device panel for integrated electrical equipment and a storage unit below it
 - Device panel is modular: devices can be added later on. Integrated modules are covered with polyester film to ensure long lifetime for the markings in the front panel
 - Storage space is suitable for storing training kits, motors, soldering equipment etc. Storing space is equipped with sockets and Ethernet connection. Storage space dimensions: 1780(W) x 420(D) x 268(H) mm
- Motorized panel equipped with fast, silent and service free electric motors for moving panel up / down
- Motorized panel can be used in three positions: down (flat work surface), middle (device panel available), up (device panel + storage space available)
- While panel is down, devices and equipment are safe from unauthorized use
- Panel can be driven either using a manual controller, or using laboratory control software
- Safety switch between the motorized panel and workstation



frame for finger protection

- Workstation body made of ESD painted steel
- L-shaped ergonomic legs in the front
- Table tops with laminate surface, durable rounded plastic edges, colour light speckled grey
- Load capacity for workstation: 250 kg
- Adjustment screws to eliminate the roughness of the floor
- Integrated connections: USB, 2 x Ethernet, 4 x socket
- Can be connected to LAN and used with TLC software
- Total dimensions: 2000(W) x 1090(D) mm

HELP5PC2 Integrated cable series for Help5 workstation

- To be used with desktop computers
- 2 integrated signal cables for the displays (RGB, DVI, HDMI)
- Panel top equipped with 2 openings and 2 sockets for powering the displays
- USB cable for storage unit

SU1 1-phase supply unit

- Operating voltage: 230 V \pm 10 % AC, 50-60 Hz
- 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



ELPSL2 1-phase socket outlets

- 2 pcs earthed schuko socket outlets
- Dimensions: ¼-module, 62.5(W) x 200(H) mm



LAN-8 Ethernet switch

- 8-port 1 G Ethernet switch
- 1 x RJ45 at the front panel for an optional device
- 1 x RJ45 at the table frame for laboratory network connection
- 6 x RJ45 inside the module for panel equipment
- Dimensions: 62.5(W) x 200(H) mm



FLUKE175 Digital multimeter

- 3 $\frac{3}{4}$ digit display, max. reading 6000
- True-rms AC voltage and current for accurate readings on all waveforms
- Audible continuity and diode test
- Automatic / manual selection of range
- Display hold and autohold
- Max / min / average -recording mode with min / max -alert
- Smoothing mode for filtering rapid changes in input
- Equipped with power supply
- Fuse at the front panel
- Standard accessories: manual, test leads
- Dimensions: $\frac{1}{2}$ -module, 125(W) x 200(H) mm



DC voltage

| | |
|-----------------|-------------------------|
| Range | 600 mV...1000 V |
| Best resolution | 0.1 mV |
| Best accuracy | $\pm 0.15\% + 2$ digits |

AC voltage

| | |
|-----------------|------------------------|
| Range | 600 mV...1000 V |
| Best resolution | 0.1 mV |
| Best accuracy | $\pm 1.0\% + 3$ digits |

DC current

| | |
|-----------------|------------------------|
| Range | 60 mA...10 A |
| Best resolution | 0.01 mA |
| Best accuracy | $\pm 1.0\% + 3$ digits |

AC current

| | |
|-----------------|------------------------|
| Range | 60 mA...10 A |
| Best resolution | 0.01 mA |
| Best accuracy | $\pm 1.5\% + 3$ digits |

Resistance

| | |
|-----------------|-------------------------------|
| Range | 600 Ω ...50 M Ω |
| Best resolution | 0.1 Ω |
| Best accuracy | $\pm 0.9\% + 1$ digit |

Capacitance

| | |
|-----------------|------------------------|
| Range | 1000 nF...9999 μ F |
| Best resolution | 1 nF |
| Best accuracy | $\pm 1.2\% + 2$ digits |

Frequency

| | |
|-----------------|-----------------------|
| Range | 100 Hz...100 kHz |
| Best resolution | 0.01 Hz |
| Best accuracy | $\pm 0.1\% + 1$ digit |

DCAEX355R Adjustable DC power supply

- Output values: 0-35 V, 0-5 A, 175 W
- Mixed-mode 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 \pm 3 digits
- Current Meter:
 - Resolution: 1 mA
 - Accuracy: 0.5 % of reading \pm 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



SSWT1012SET Soldering station

- Power: 80 W
- Channels: 1
- Temperature range: 50-450 °C
- Temperature accuracy: \pm 9 °C
- Temperature stability: \pm 2 °C
- Graphical backlit LC-Display
- Soldering iron:
 - 80 W, 24 V
 - Heat-up time (ca) in seconds (50-350°C): 10
- ESD safe
- Includes: power unit, soldering iron, safety rest and cleaning sponge for soldering iron, soldering tip (2.4 mm)
- Operating voltage: 230 V, 50/60 Hz
- Dimensions: ¾ module, 187.5(W) x 200(H) mm



ELPSL2 1-phase socket outlets

- 2 pcs earthed schuko socket outlets
- Dimensions: ¾-module, 62.5(W) x 200(H) mm



ACA505 1 phase variable AC power supply

- Variable transformer 0-50 V, 5 A AC
- Galvanic isolation
- Overload protection
- Output: 4 mm safety terminals
- Digital meters for output voltage and current
- Voltage measuring: 0-10 V AC, best resolution 1 mV and 10-50 VAC 10 mV, accuracy 1 %
- Current measuring: 0-5 A AC, best resolution 10 mA, accuracy 1 %
- Main switch with indicator light
- Dimensions: 1 module, 250(W) x 200(H) mm



FLUKE175 Digital multimeter

- 3 ¾ digit display, max. reading 6000
- True-rms AC voltage and current for accurate readings on all waveforms
- Audible continuity and diode test
- Automatic / manual selection of range
- Display hold and autohold
- Max / min / average -recording mode with min / max -alert
- Smoothing mode for filtering rapid changes in input
- Equipped with power supply
- Fuse at the front panel
- Standard accessories: manual, test leads
- Dimensions: ½-module, 125(W) x 200(H) mm



DC voltage

| | |
|-----------------|--------------------|
| Range | 600 mV...1000 V |
| Best resolution | 0.1 mV |
| Best accuracy | ±0.15 % + 2 digits |

AC voltage

| | |
|-----------------|-------------------|
| Range | 600 mV...1000 V |
| Best resolution | 0.1 mV |
| Best accuracy | ±1.0 % + 3 digits |

DC current

| | |
|-----------------|-------------------|
| Range | 60 mA...10 A |
| Best resolution | 0.01 mA |
| Best accuracy | ±1.0 % + 3 digits |

AC current

| | |
|-----------------|-------------------|
| Range | 60 mA...10 A |
| Best resolution | 0.01 mA |
| Best accuracy | ±1.5 % + 3 digits |

Resistance

| | |
|-----------------|------------------|
| Range | 600 Ω...50 MΩ |
| Best resolution | 0.1 Ω |
| Best accuracy | ±0.9 % + 1 digit |

Capacitance

| | |
|-----------------|------------------------|
| Range | 1000 nF...9999 μ F |
| Best resolution | 1 nF |
| Best accuracy | $\pm 1.2\%$ + 2 digits |

Frequency

| | |
|-----------------|-----------------------|
| Range | 100 Hz...100 kHz |
| Best resolution | 0.01 Hz |
| Best accuracy | $\pm 0.1\%$ + 1 digit |

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- 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: $\frac{3}{4}$ -module, 187,5(W) x 200(H) mm



ELPSL1USB 1-phase socket outlets + USB charger

- 1 pcs earthed schuko socket outlets, 230 V, 16 A
- 2 pcs USB charging connections, type A, 5 V, total current max. 2.1 A
- Dimensions: $\frac{1}{4}$ -module, 62.5(W) x 200(H) mm



SUNET Supply unit control module

- Enables remote control for electricity in the workbench (requires TLC software)
- Features
 - Connection permission for power
 - Power off control
 - Power on/off status information
- Key switch for bypassing software control
- Ethernet connection
- Dimensions: ¼ module, 62.5(W) x 200(H) mm



TMLC Mobile laboratory control

Unique TEKLAB Mobile Laboratory Control (TMLC) gives teacher a possibility to control a laboratory remotely using a mobile device such as a tablet or a smart phone.

With TMLC the teacher can:

- Open the laboratory by driving the Help5 benches up and enabling electricity
- Close the laboratory by switching power off and driving Help5 benches down
- Apply voltage and current limitations to power supplies (requires ACP/TLP Client options)

TMLC includes:

- TMLC software
- Tablet device



C20PU Chair

- User-friendly and quick adjustability
- Large, ergonomically designed seat and backrest and lumbar support
- Black
- Polyurethane
- Height/backrest/tilt adjustment
- Castors with load-sensitive brakes
- Seat height: 440-620 mm

