

## CAN BUS MULTIPLEX SYSTEM TRAINER



The ConsuLab MP-1918-1 is a CAN Bus Multiplex trainer that communicates in J-1939 protocol. Digital and analog inputs and outputs can be activated. Analog signals can be displayed using the J-1939 display. The trainer utilizes the "Moduponent®" design feature which allows unlimited expansion capabilities. This unit is equipped with an integrated electronic fault box containing 12 faults.

### EDUCATIONAL ADVANTAGES

- The MP-1918-1 Trainer uses SAE J1929 communications protocol to operate a 4 module CAN Bus network , which includes both a DLC and a Deutsch Connector.
- The trainer demonstrates common multiplexing circuit controls via a high speed CAN Bus network.
- Students connect modules and components using included jumper wires.
- The MP-1918-1 can be used as a CAN Bus demonstration trainer, or, using the included comprehensive student lab manual, as a CAN Bus training course.
- Built in electronic fault box allows fault insertion into circuits for diagnostic training and student comprehension.
- CAN Bus diagnostics can be taught using a DMM and DSO to look at Bus resistance, wake up signal and high speed information packets.
- Diagnostic strategies learned on the MP-1918-1S are easily transferred to a vehicle.
- Available single sided (#053037) or double sided (#053038).
- Upgrade kit available (#053039) — This upgrade kit converts a single sided trainer to a double sided.

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### MAIN FEATURES

- Included user manual with theory explanations of CAN Bus, student exercises, schematics, sample scope patterns and check tests.
- Includes four (4) modules that replicate heavy vehicle applications including (instrument cluster, input, engine and output modules). Trainer can also be used to instruct basics of CAN Bus automotive.
- Includes digital and analog inputs/outputs.
- Each module has test points for individual diagnosis and testing.
- J-1939 display on Moduponent panel for observation of real time circuit changes.
- Sturdy powder coated metal stand equipped with lockable storage drawers and a UL approved 120VAC/12VDC power supply (w/analog voltmeter and ammeter).
- Jumper wire storage racks mounted to frame.
- Stand has two fixed and two lockable casters for easy trainer movement.

### INCLUDED COMPONENTS

#### MODUPONENT MP-1918-01 MASTER PANEL (TOP):

- Electronic fault box with 12 integrated faults and connector (keypad controlled with instructor key)
- Diagnostic test terminals
- Instrument cluster section
- Turn signal switch
- Brake switch
- Hazard switch
- Backup switch
- Headlamp switch
- Power indicator lamp
- Circuit fuses
- Input module section
- Engine brake mode switch
- End of line (termination resistor) #1
- Ground terminals (Black)
- Battery terminals (Red)
- CAN Bus LO terminals (Green)
- CAN Bus HI terminals (Yellow)

#### MODUPONENT MP-1918-02 CAN Bus PANEL (MIDDLE):

- Engine control module section
- Accelerator pedal switch
- CAN Bus junction block
- Output module
- End of line (termination resistor) #2
- Ground terminals (Black)
- Battery terminals (Red)
- CAN Bus LO terminals (Green)
- CAN Bus HI terminals (Yellow)
- Fault box connector

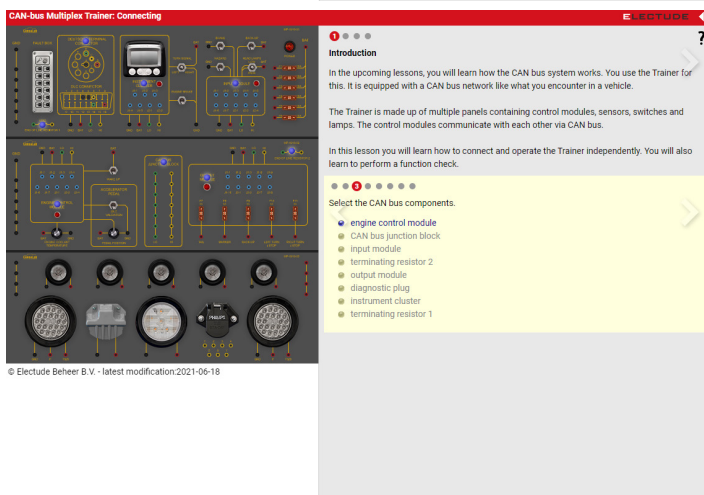
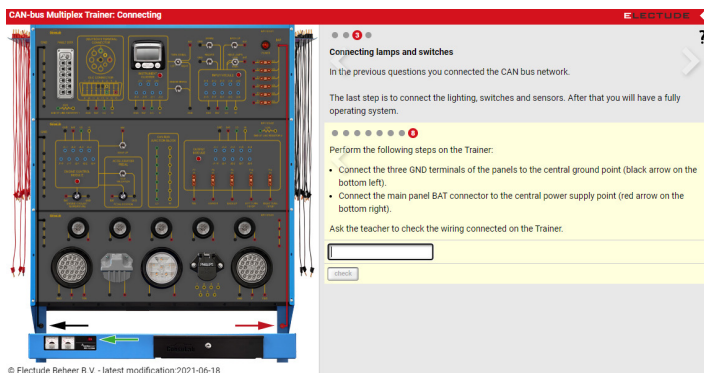
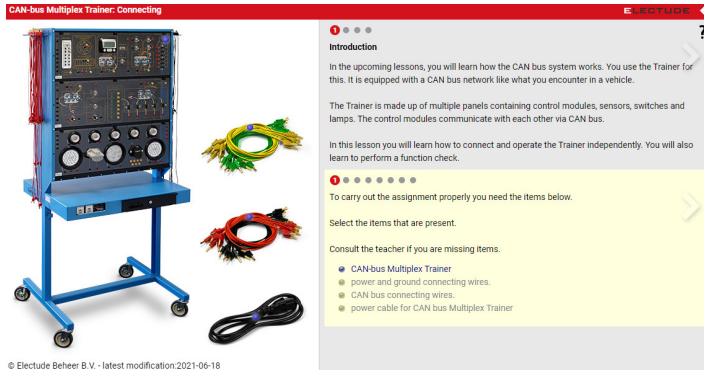
#### MODUPONENT HV-1918-03 REAR LIGHTS PANEL (BOTTOM):

- Rear clearance marker lights
- Positive terminals (Red)
- Right/turn/stop LED lights
- 7-way trailer connector & terminals
- Black, red, green & yellow jumper wires for circuit connections
- Backup light
- License plate light
- Left/turn/stop LED lights
- Ground terminals (Black)

### TECHNICAL INFORMATION

- **Dimensions:** 47 x 54 x 39 inch (119.4 x 137.2 x 99.1 cm)
- **Weight:** 361 lbs (163.7 kg) with packaging

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# ELECTUDE

## THE CONSULAB MP-1918-1 CAN BUS MULTIPLEX-SYSTEM TRAINER IS NOW AVAILABLE WITH ELEC-TUDE COURSEWARE (SOLD SEPARATELY).

The CAN bus Multiplex Trainer consists of a practical set-up and the associated E-learning. The Trainer has a completely functioning CAN bus network consisting of four control modules, which communicate via the J-1939 protocol. The CAN bus components are connected to each other using the associated wiring set. By operating switches and sensors, analogue signals are converted to (digital) serial communication. Via measuring connections, both analog and digital signals can be measured with a multimeter or oscilloscope. In addition, sensor values can be read via the information display. The Trainer has a fault box with 12 faults and a CAN bus controlled lighting system. This makes the Trainer extremely suitable for teaching CAN bus networks, CAN bus communication, CAN bus diagnosis and CAN bus lighting systems.

Through the preparatory theory and practical assignments, the participant learns :

- Theoretical knowledge about CAN bus communication systems.
- To identify the function and applications of the various CAN bus components.
- To connect the CAN bus network step by step.
- To measure, analyse and evaluate the power supplies, grounds, signal voltage and network resistances using a multimeter.
- To measure, analyse and evaluate the CAN bus signal using an oscilloscope (1-channel and 2-channel).
- To measure the wake-up signal and explain its function.
- To observe the applications and benefits of serial communication (sharing information).
- To apply and explain different network structures (topology).
- In-depth knowledge about serial communication by decoding a CAN bus message.
- To identify and explain various wiring problems and network failures using an oscilloscope (1-channel and 2-channel).

**Includes 15 learning modules for a total of 17 hours of instruction.**