

DIGITAL LAB STATION

OMEGA TYPE DL-1049



OMEGA TYPE DL -1049 DIGITAL LAB STATION is designed for the logic beginners to enhance the comprehension of basic logical theory. The digital lab covers regular digital circuits by solder-less interconnections on breadboard and as well as compatible with all optional modules through use of 2mm brass terminals and patch cords. The design of the equipment is easy to operate and understand. It is equipped with various kinds of basic logic gates, debounced logical switches, LED indicators, DC power supply with short circuit protection, pulse generator and solderless breadboard. The unit housed in attractive enclosure is supplied with mains cord, patch cords, Instruction manual.

Learners in high schools, Polytechnic Colleges and Universities, can use the trainer as independent activity tool. Experimental Coverage:

- 01 Logic gates operation
- 02 To prove De-morgan's theorem with boolean logic equations
- 03 Binary to Gray code conversion
- 04 Gray code to Binary conversion
- 05 Binary to Excess-3 code conversion
- 06 Binary Adder and Subtractor
- 07 Binary Multiplier
- 08 EX-OR gate implementation
- 09 Application of EX-OR gate
- 10 Johnson Counter
- 11 To verify the dual nature of Logic Gates
- 12 Study of Flip-Flops RS, JK, D&T
- 13 Multiplexer and Demultiplexer
- 14 4 Bit Binary up and down counter
- 15 Study of 8 to 3 Line Encoder
- 16 Study of 3 to 8 Line Decoder
- 17 Study of Shift Register (SIPO)
- 18 CMOS-TTL Interfacing
- 19 Study of Crystal oscillator
- 20 Study of pulse stretcher circuit
- 21 4 Bit Ring Counter
- 22 Modulo 12 Counter By Direct Clearing
- 23 Decade counter
- 24 Shift Register SISO and PIPO
- 01 **SOLDER LESS BREADBOARD:** Interconnected nickel plated with a total of 2120 tie points in total, fitting all DIP sizes and components with lead and solid wire in diameter of AWG #22-30 (0.3 - 0.8mm)
- 02 **DC POWER SUPPLY :** Variable DC power:
 - Positive output voltage: 0 to +15V
 - Negative output voltage: 0 to -15V
 - Maximum output current: 300 mA
 - Line regulation: < 0.05%/V (Ta=25°C)
 - Load regulation: < 30 mV (Ta=25°C)
 - Fixed power supply:
 - Positive output voltage: 5V ± 0.25V
 - Maximum output current: 1.5 Amp
 - Line regulation: < 50 mV
 - Load regulation: < 100 mV
 - Negative output voltage: -5V±0.25V
 - Maximum output current: 1.5 Amp.
 - Line regulation: < 25 mV
 - Load regulation: < 30 mV
 All DC Power Supplies are equipped with short circuit protection.

- 03 **FUNCTION GENERATOR:** Frequency ranges:
 - 1Hz - 11Hz
 - 10Hz - 110Hz
 - 100Hz - 1K1KHz
 - 1KHz - 11KHz
 - 10KHz - 110KHz
 - Sine wave output : 0 to 8 Vp-p variable
 - Triangle wave output : 0 to 6 Vp-p variable
 - Square wave output : 0 to 8 Vp-p variable
 - 04 **DIGITAL VOLTMETER :**
 - 3 1/2 digits LED display Four ranges:
 - 0 - 199.9V full scale
 - 0 - 19.99V full scale
 - 0 - 1.999V full scale
 - 0 - 199.9mV full scale
 - Input impedance: 10 Meg. Ohm for any range
 - 05 SEVEN SEGMENT LED display 2 digit common cathode
 - 06 EXCHANGE ADAPTERS BNC/Socket Exchange Adapter
 - 07 LED DISPLAY Eight Buffered
 - 08 DATA SWITCH Eight
 - 09 FUNCTION SWITCHES Two
 - 10 PULSE SWITCH Two
 - 11 POWER : 230 V ± 10%, 50 Hz
 - 12 **COMPONENTS PROVIDED:**
 - ICs-4001/1, 4049/1, 4069/1 7400/1, 7402/1, 7404/1, 7406/1, 7408/2, 7410/2, 7411/ 3, 7420/2, 7432/3/7474/2, 7476/2, 7486/1, 7495/2, Resistors-330E/1, 1K/2, 15K/1, 47K/1, 1M/2, Capacitors-0.01uF/1, 0.1uF/1, Crystal-32.768MHz/1.
 - 13 **ACCESSORIES:**
 - Mains cord, Operating and Experimental manual, Red & Black patch cords (2mm with Pin) 10 each, Red & Black patch cord (Pin to Pin) 10 each Wire 24/25 SWG. 1 Meter each 5 Colour
 - 14 **INSTRUCTION MANUAL:**
 - Strongly supported by detailed operating instructions.
 - 15 Weight : 5 Kg. (Approx)
 - 16 Dimension: W 415 x H 165 x D 315
- OPTIONAL MODULES FOR DIGITAL LAB STATION:**
Apart from above given experimental coverage of 24 experiments on breadboard, customers can purchase these optional modules. These are ready to use modules with wired components & circuit schematic drawn on top compatible to use with Digital Lab.
- D025 Decimal to BCD Converter
 - D026 Astable Multivibrator using Digital IC
 - D027 Bistable Multivibrator
 - D028 Monostable Multivibrator
 - D029 Octal to binary Encoder
 - D030 4 Bit Magnitude Comparator
 - D031 Interface of TTL-IC to CMOS- IC & CMOS IC to TTL-IC
 - D032 Digital to analog converter
 - Weight : 0.7 Kg. (Approx)
 - Dimension : W 176 x H 131 x D 37

We are committed to the continuous development of our products, and therefore reserve the right to amend specifications without prior notice

OMEGA ELECTRONICS

Works:
28E & F, Malviya Industrial Area,
Jaipur-302 017 (INDIA)
Phone: 0141-2751559

E-mail : info@omegaelectronics.net
: omegajipur62@gmail.com

www.omegaelectronics.net

Marketing Division:
B-28, Fateh Singh Scheme, Opp. Rajputana
Palace Sheraton, Jaipur-302006 (INDIA)
Phone : 091-141-2375647, 2379223