OMEGA®

A SIGN OF QUALITY PRODUCT

LOGIC LAB

OMEGA TYPE DL-1047

OMEGA TYPE DL-1047 Logic Trainer 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 solder less bread board. 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 To verify the dual nature of Logic Gates

SPECIFICATIONS:

Basic Logic Gate Units : It contains 6 kinds of logic gates, i.e. AND GATE X 6, OR GAGE X 6, NAND GATE X 6, NOR GATE X 6, XOR GATE X 3, NOT GATE X 3.
Input voltage of HI level > 2.25V
Input voltage of LO level < 0.8V

DC Power Supply : Equipped with short circuit protection and indicator.
(**a**) Output voltage +5V ± 5%
Max. output current 1 Amp.
Line regulation<50mV
Load regulation<100mV
(**b**) Output voltage – 5V ± 5%
Max. output current 500 mA
Line regulation<25mV
Load regulation<30mV
(**c**) Output voltage ± 15V ± 5%
Max. Output current 500 mA
Line regulation<150mV
Load regulation<150mV

Pulse Generator : 3 kinds of time interval, 1 sec, 0.1 sec, 0.01 sec.
Output voltage +5V

Debounced Logic Switch: 4 No's HI / LO

LED Indicator : 8 Bits LED Output Indicator, Max. Input Voltage<= 15V DC

Breadboard : Interconnected Solder less Breadboard having 2120 tie points, fitting all DIP sizes and all components with lead and solid wire AWG # 22-30 (0.3 – 0.8 mm)

Weight : 5 Kg. (Approx.),

Dimension : W415 x H165 x D315

LIST OF ACCESSORIES:

Mains Cord, Instruction Manual, Red & Black patch cords (2mm with Pin) 10 each, Red & Black patch cord (Pin to Pin) 10 each. Wire 24/25 SWG. 1Meter each 5 Colour

OTHER APPARATUS REQUIRED (NOT INCLUDED):

Apart from above given experimental coverage of 10 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.

D001 Logic gates operation
D002 To verify De-morgan's theorem with boolean logic equations
D003 Binary to Gray code conversion
D004 Gray code to Binary conversion
D005 Binary to Excess-3 code conversion
D006 Binary Adder and Subtractor
D007 Binary Multiplier
D008 EX-OR gate implementation
D009 Application of EX-OR gate
D010 Johnson Counter
D011 To verify the dual nature of Logic Gates
D012 Study of Flip-Flops RS, JK, D&T
D013 Multiplexer and Demultiplexer
D014 4 Bit Binary up and down counter
D015 Study of 8 to 3 Line Encoder
D016 Study of 3 to 8 Line Decoder
D017 Study of Shift Register (SIPO)
D018 CMOS-TTL Interfacing
D019 Study of Crystal oscillator
D020 Study of pulse stretcher circuit
D021 4 Bit Ring Counter
D022 Modulo 12 Counter By Direct Clearing
D023 Decade counter
D024 Shift Register SISO and PIPO
D025 Decimal to BCD Converter
D026 Astable Multivibrator using Digital IC
D027 Bistable Multivibrator using Digital IC
D028 Monostable Multivibrator using Digital IC
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

OMEGA ELECTRONICS

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

E-mail : info@omegaelectronics.net
: omegajaipur62@gmail.com

www.omegaelectronics.net

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

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