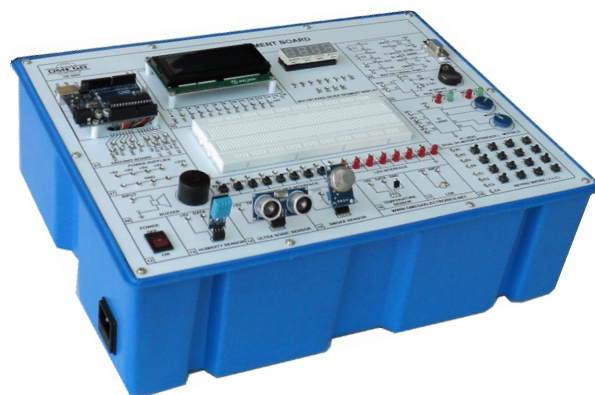


ARDUINO DEVELOPMENT BOARD

OMEGA TYPE - SEN-ALL

OMEGA TYPE SEN-5005 Experimental Set Up has been designed specifically for beginners to learn Arduino and apply it in embedded applications. The board contains the necessary components and sensors that covers the basic as well as advanced areas of embedded system. All the practical can be implemented using Arduino Programming Language which is an open source project with **codes & library** available on **github**. Practical experience on this set up carries great educative value for Science and Engineering Students



OBJECT

To develop Arduino program for

- 01 Blinking of LED.
- 01.1 Controlling LED arrays.
- 02 Controlling LED using Push button.
- 03 Interfacing 20x4 LCD.
- 04 Interfacing 7 segment display.
- 05 Generating tone using buzzer.
- 06 Designing Real time Clock using DS1307 IC.
- 07 Control DC motor.
- 08 Interfacing 4x4 keypad matrix.
- 09 Sensing environment humidity by interfacing humidity sensor DHT11.
- 10 Measuring distance by interfacing ultrasonic sensor HC-SR04.
- 11 Sensing smoke & its level by interfacing Smoke sensor MQ-135.
- 12 Sensing temperature by interfacing LM35 temperature sensor.
- 13 Interfacing LDR.
- 07 Buzzer for indicating output or to generate tone.
- 08 BREAD BOARD One Terminal Strips with 640 tie points and 2 Distribution Strips with 100 tie points each, totaling to 840 tie points. For further expansion.
- 09 DS1307 IC to be used as Real Time Clock
- 10 L293D Dual H-Bridge Motor Driver IC with two 5V DC motor.
- 11 MAX232 IC with DB9 Connector for serial port communication.
- 12 Humidity Sensor DHT11.
- 13 Ultrasonic Sensor HC-SR04.
- 14 Gas/Smoke/Alcohol Sensor MQ-135.
- 15 Temperature Sensor LM35.
- 16 LDR.
- 17 4x4 Keypad Matrix.
- 18 Weight : 3.0 Kg. (Approx.)
- 19 Dimension : W 415 x H 165 x D315

FEATURES

The board consists of the following:

- 01 +5V & +3.3V D.C. at 100mA, IC regulated power supply internally connected.
- 02 Arduino UNO Board with USB port for up loading programming and data communication.
- 03 20x4 LCD for displaying output values.
- 04 4 digit seven segment display for displaying output values.
- 05 8 push buttons for controlling LED or to use it as an input unit.
- 06 8 LED for indicating output.

ACCESSORIES

- 01 CD with programs and software.
- 02 Mains Lead.
- 03 RS-232 Cable.
- 04 Arduino Cable.
- 05 Operating Instruction Manual.

OTHER APPARATUS

- 01 Cathode Ray Oscilloscope 20MHz (CRO).
- 02 PC System with Windows 7, 8, 8.1 or 10 with 32 or 64 bit Operating System.

Continue...2

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

OMEGA ELECTRONICS

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Phone : 091-141-2375647, 2379223

**DIFFERENT TYPE SENSOR'S TRAINER
AND MODULES**

OMEGA TYPE - SEN-ALL

OMEGA TYPE SEN SERIES: Sensors Trainer Board is an excellent learning tool for starters for studying different types of sensors & interfacing them with Atmega328 microcontroller using Arduino Programming. The board could be ideal training systems for learning "How sensors value could be read using microcontroller" The training kit has been enriched by the ideas of students who have put their inputs in designing/developing the same. System housed in attractive enclosure is supplied 5 volt adapter as power supply and instruction manual and no other accessories / equipments required.

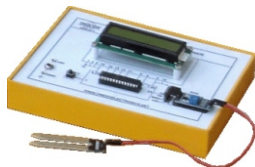
BOARD CONSIST OF FOLLOWING PART

- 01 16*2 LCD for result display or LED/Buzzer for result indication
- 02 Reset Switch .
- 03 Detail operating instruction manual.

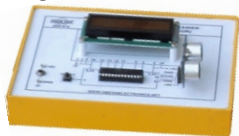
FEATURES

- 01. Weight : 200 Grams
- 02. Dimension : W 176 x H 131 x D 50mm

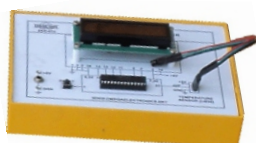
SEN-011 Soil Moisture Sensor Trainer
Detection of percentage of moisture in any sample of soil.



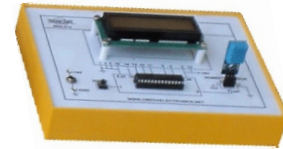
SEN-012 Distance Measurement Trainer
(Using Ultra Sonic Sensor)
Measurement of distance using ultrasonic sensor by transmitting /receiving ultrasonic waves.



SEN-013 Temperature Sensor Trainer
Determination of temperature of hot/cold object in Celsius Scale



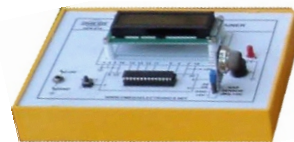
SEN-014 Humidity Sensor Trainer
Measurement of dampness/humidity or present of water vapour in atmospheric air.



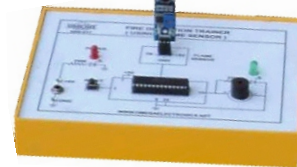
SEN-015 Human Detection Trainer
(Using PIR Sensor)
Live Human/Animal detection by motion sensing.



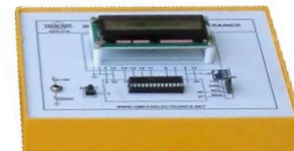
SEN-016 Gas Leakage Detector Trainer
Detection of Gas leakage with alert & alarm.



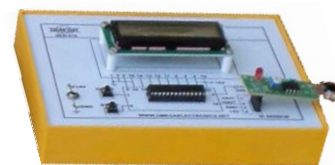
SEN-017 Fire Detection Trainer
Fire Detection with alarm



SEN-018 Biometric Pressure Sensor Trainer
Measurement of environmental air pressure & temperature.



SEN-019 IR Sensor Trainer
Measurement of speed of fan (Digital Tachometer)



Continue...3

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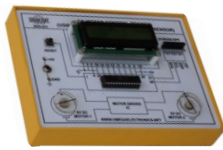
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**DIFFERENT TYPE SENSOR'S TRAINER
AND MODULES
OMEGA TYPE - SEN-ALL**

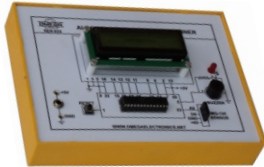
SEN-020 Tilt Detector Trainer
(Using ADXL335 Accelerometer)
Tilt Detection along with direction



SEN-021 DC Motor Control Trainer
(Using Gyroscope Accelerometer Sensor)
Speed Control of DC motor by tilting the sensor.



SEN-022 Alcohol Level Detector Trainer
Measure the level of alcohol consumed by sensing



SEN-023 Smoke Detector Trainer
Measure the volume of smoke present in any environmental condition.



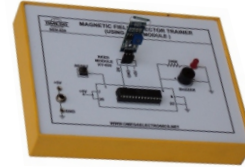
SEN-024 Multi Color Generator Trainer
Generation of huge number of color lights LED for decoration



SEN-025 Sound Intensity Measurement Trainer
Measurement the sound level, intensity and loudness.



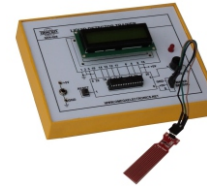
SEN-026 Magnetic Field Detector Trainer
Detection of presence of magnetic field.



SEN-027 UV Ray Intensity Measurement Trainer
Measurement of intensity of UV light



SEN-028 Liquid Detector Trainer
Detection of Water or any liquid



SEN-029 RFID Based Security System Trainer
RFID based Door Locking/opening Security System.



SEN-030 Color Sensor Trainer
Determination of frequency of various colors and determining color.



SEN-031 Rain Fall Detector Trainer
Detection of rain and quantity of rain fall



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