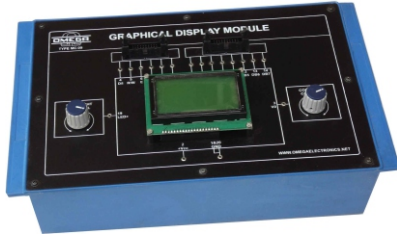


**APPLICATION MODULES FOR
MICROCONTROLLER WITH PROGRAMMER
AT89S51/52, AVR ATMEGA8515
OMEGA TYPE MCM-09 & MCM-10**

GRAPHICAL DISPLAY MODULE

OMEGA TYPE MCM-09



DISPLAY & SWITCH MODULE

OMEGA TYPE MCM-10



Omega Type MCM-09 Graphical Display helps the user to gain invaluable practical experience of the principles and application of Graphical LCD display in microcontroller based projects.

The objective is to connect and program a microcontroller to display data, images and monitoring.

Graphical Display Module MCM-09 is generally used in the applications such as temperature monitoring, Industrial automation, outdoor moving sign, video wall and many more. We give a Contrast control and Backlight control in the board.

OBJECTS:

- 01 To study the interfacing and Display Text on Graphical LCD with microcontrollers
- 02 To study the interfacing and Moving Display on Graphical LCD with microcontrollers

TECHNICAL SPECIFICATIONS

- 01 Display : 128 x 64 graphical LCD display
 - 1.1. Contrast control : 0 to -5 V (Variable)
 - 1.2. Back light control : 0 to 5 V (Variable)
- 02 Power supply : From Microcontroller development board with programmer trainer OE-5001 & OE-5003
- 03 Interface : Using 20 pin FRC cable
- 04 Test points : 18 Nos
- 05 LCD outline Dimension (mm) : W 93 x D13.5 x H 70
- 06 Dimension : W340 x H125 x D210 (mm)
- 07 Weight : 800 gm (approx)

GENERAL SPECIFICATIONS:

- 01 PC based Programming
- 02 Expansion connectors for plug in with Microcontroller Unit and prototyping area
- 03 Every pin is marked in order to make work easier
- 04 Input/Output test points provided on board
- 05 Ready Experiments
- 06 Exhaustive course & reference material

LIST OF ACCESSORIES:-

- 01 Operating Manual

Omega Type MCM-10 Display and Switches module, is an Extension module. The objective is to have a clear understanding of how input peripherals are interfaced and controlled with microcontroller. The objective is to connect and program a microcontroller to display data and monitoring.

Display and Switches module, MCM-10 has input and output terminals for connection of external real world applications

OBJECTS:

- 01 To study interfacing 4 x 4 Matrix Keypad and its operation.
- 02 To study interfacing 16X2 Character LCD and its operation
- 03 To study implementation and analysis of 4 digit seven segment display
- 04 To study interfacing of Relay & Buzzer and their operation
- 05 To study and Analyze Interfacing of DIP Switches

TECHNICAL SPECIFICATIONS

- 01 Switches : DIP Switch (8-Switches)
- 02 Display : 16 x 2 Character LCD
 - 2.1. Contrast control : 0 to -5 V (Variable)
 - 2.2. Back light control : 0 to 5 V (Variable)
- 03 Seven segment display : Four
- 04 Keypad : 4 x 4 Matrix Keypad
- 05 Buzzer : +5V DC
- 06 Relay : +5V DC
- 07 Power supply : From Microcontroller Development board with programmer trainer OE-5001 & OE-5003

- 08 Test Points : 47
- 09 Interface : Using 20 pin FRC cable
- 10 Dimension : W415 x H165 x D315 (mm)
- 11 Weight : 1.5 Kg (approx)

GENERAL SPECIFICATIONS:

- 01 PC based Programming
- 02 Expansion connectors for plug in with Microcontroller Unit and prototyping area
- 03 Every pin is marked in order to make work easier
- 04 Input/Output test points provided on board
- 05 Ready Experiments
- 06 Exhaustive course & reference material

LIST OF ACCESSORIES:-

- 01 Operating Manual
- 02 Patch Cord 2mm length 50cm Red & Black 04

Note : These modules work only in combination with Omega Type OE-5001 & OE-5003 Trainers

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

OMEGA ELECTRONICS