



# INTERFACING MODULES FOR TRAINING KITS



## **MOTOR DRIVER (ET-MOTD)**

Stepper motor and 12V DC Motor Interface card with motors mounted to illustrate Speed, direction control. Optional - RPM measurement. LM35 temperature Sensor (0-12 V)

## **ELEVATOR SIMULATOR (ET-ES)**

Four Floor Elevator Simulator model. Each Floor LED indication are provided. Up & Down Lift position indication by 10 Nos. of LEDs. Four Keys are provided to access each floor. Connect to 8255 using 26 pin FRC Connector. Request keys, child protection lock, Optional- Opto-coupler, Relay, Buzzer.

## **RELAY OPTO MODULE (ET-RO)**

This module has two Relays and two Opto Isolators. This module will help students understand the Industrial controls in a better way.

## **TEMPERATURE CONTROLLER (ET-TEM)**

This module controls the temperature of water to a desired degree using proportional control. The module uses a sensor for monitoring temperature and a heater for heating the water.

## **DC MOTOR CONTROLLER (ET-DMC)**

This module will demonstrate to the students as to how DC motor can be controlled through Microprocessors. This module can precisely set the speed of the Motor to the desired RPM.

## **DISPLAY MODULE (ET-DIS)**

This module has four digit display using shift registers. The data is fed from the MSB register and clock terminal is pulsed. Has the capability of displaying any segment combination.

## **ADDA MODULE (ET-ADDA)**

This module has one ADC0809 and one DAC0800 on a single board. Can be used for studying A/D, D/A converters and for closed Loop system

## **12 BIT ADC USING 7109 (ET-7109)**

This module demonstrates the functioning of ADC with 12 bit accuracy. The chip is very useful in industrial application where higher resolutions are required.

## **KEYBOARD MODULE (ET-KB)**

This module will allow the students to study a number of techniques used in keyboard interfacing like software debouncing, two key lock-outs and keyboard encoding and pausing. It will also allow them to study as to how matrix of keys is scanned.

## **LOGIC CONTROLLER / DIGITAL INPUT DIGITAL OUTPUT MODULE (ET-LC)**

The logic controller provides the user with eight TTL/CMOS buffered inputs/outputs. The logic state of each input and output is indicated by LED's This module can be effectively used to teach 8255 modes. It can also simulator ladder network.

## **DUAL DAC MODULE (ET-DAC)**

DAC module using DAC-0800.8-bit accuracy DAC chip. Dual Channel DAC using 2 Nos. of DAC-0800. • DAC Settling time 100 ns. DAC Output are provided at 2 Test Points. Compatible with 8085 and 8086 Microprocessor and 8051 Microcontroller Trainer. Connect to 8255 / IO Terminal using 26 pin FRC Connector. Attractive ABS Plastic Enclosure. User's Manual with Sample Programs.

## **ADC MODULE (ET-ADC-0809)**

This module demonstrates the functioning of ADC chips and also as to how these peripheral chips can be interfaced to the I/O lines of the Microprocessor etc. The successive approximation technique can be learnt on this module.

## **IC TESTER MODULE (ET-ICT)**

This module demonstrates as to how a tester can be made using I/O lines of 8255 chip and the powers of the Microprocessors. The personality modules are to be inserted in three different sockets for the IC under test. A socket is provided for inserting the IC to be tested.

## **TRAFFIC LIGHT CONTROLLER (ET-TLC-2)**

4way Traffic Lane sections. 20 / 26 pin Box Connector. Traffic light of 2 intersections cum logic study card with 24 tags and 24 LED's. Optional Opto-coupler, Relay, Buzzer.

## **SCANNED DISPLAY WITH THUMBWHEEL (ET-TWD)**

The Module uses a Thumb wheel for scanning a display and displays the message on the selected display through I/O lines

## **REAL TIME CLOCK MODULE (ET-RTC)**

This module provides and RTC chip on the Board for the Real Time Clock. The data for Hour, Minute & Seconds are displayed on the seven segment display of the kit. The data is also displayed on the Module using LED's.

## **8x8 LED MATRIX MODULE(ET-MAT)**

This module will allow the students to understand how alphanumeric characters/designs can be displayed using 8X8 LED matrix.

## **16X2 LCD MODULE(ET-LCD)**

This module will allow the students to understand how to use 16X2 LCD to display different alphanumeric characters.

## **LDR INTERFACING MODULE(ET-LDR)**

This module allows the students to understand the nature of Light Dependent Resistance and appreciate the use of light dependent application

## **GRAPHICAL LCD MODULE(ET-GLCD)**

This module allows the students to understand how to use Graphical LCD. The Graphical LCD is of 128x64 pixels.

*Note : Specifications are subject to change due to our constant efforts for Improvement. Please refer to quotation for final specifications.*