HEM ELECTRONIQUES,C-46, M.I.D.C, MIRAJ –416410

P.C.BASED TRAINERS

P.C .based D.C.motor Speed controller:-(PC-1)

1 H.P. D.C. motor is provided along with the loading arrangement. Tachogenerator is coupled to the motor for speed measurement.Thyristorized Power electronics circuitry is provided with necessary test points and Ammeter for measuring load current and Voltmeter for measurement of O/P voltage.Isolation is provided between hi and low voltage circuitry. All the control will be through software loaded in the computer .Software will be provided with the system . Operating modes P,P+I,P+I+D On-line monitoring of the system is also possible.(Graphs for time responses) Over current protection is also provided.

Necessary Interface will be provided between Computer and other hardware .

P.C.based P.I.D. controller (Temperature):- (PC-2)

This system comes with necessary process model ,RTD (PT-100) as temp sensor, Heating system , necessary Power electronics circuitry .

Isolation is provided whenever necessary. Necessary Interface will be provided between Computer and other hardware .(ADC & DAC)All the control will be through software loaded in the computer .Software will be provided with the system .

Operating modes P,P+I,P+I+D and ON/OFF

On-line monitoring of the system is also possible.(Graphs for time responses)

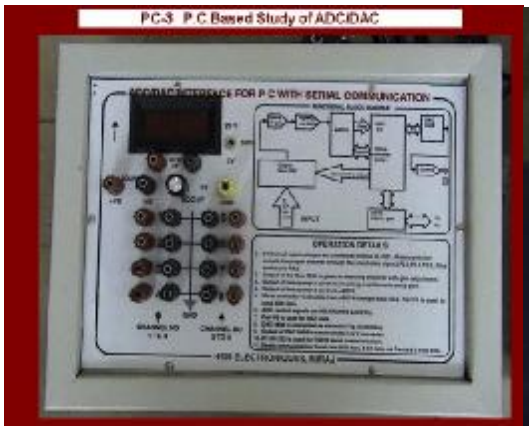
P.C.based Study of ADC/DAC:- (PC-3)

Here 12 Bit ADC (AD574) and 8 Bit DAC (DAC0808) are studied thorugh a microcontroller based serial interface (RS-232) and application software .A-D conversion is carried out and Analog value can be Seen on D.P.M. as well as on computer screen ,at the same time digital value Also can be seen on screen. Vice versa for DAC conversion can be studied . Also students can Study DAC gain, equivalent Hex conversions. Also RS-232 Serial communicationcan be studied.

PC-4 Computer Interfacing to Various Electro Mechanical systems (PC-4)

We provide custom made PC based Data acquisition and control systems for Various Electro mechanical systems. The scope of supply includes Sensors,signal conditioning units, Serial / USB data acquisition /control (ADC/DAC) cards, customized Powerful GUI.

Typical applications covered till now such as Data acquisition for Hydraulic Lab Test rig ,Heat Transfer Lab Test rig, Temperature controllers. Motor controllers.



Robotic arm trainer

It is a simple basic set up designed to give the student a feel about operation of a typical robotic system. It is a low cost elegant module for the purpose of demonstration.

The Robot arm trainer is a jointed arm co ordinate robot that has a certain amount of range of motion. The robot's range of motion is described by degrees of freedom. To be useful for the work place a robot requires at least 6 degrees of freedom. The robot arm trainer has 4 degrees of freedom, 3 major and one minor. The three major degrees of freedom are found in the base ,shoulder , and elbow joints which allow the robot to move up/down , left /right and in/out. This combination provides three dimensional movement. The minor degree of freedom is wrist rotation or roll.

The system comes with complete hardware for 5 degrees of motion with small 5 d.c. motors and related gear boxes. The unit can be used in manual control and software control. The software control is operated by interfacing the system with p.c. through an interfacing circuit using parallel port. The software enables the student to program the robot arm in various motions, using a very powerful user friendly software. The robot can be made to perform in repeat mode also.The students themselves can design their own applications with reference to the hardware provided alongwith the system . The scope of supply includes

1.Basic Robot with 5 dergees of motion.
2.Necessary power supply.
3.Control pad for manual control/
4.Interfacingunit for p.c. along with necessary cables for parallel port.
5. Detailed instruction manual.

P.C. is not included in the scope of supply.

ROBOTIC ARM TRAINER