



DEGEM  
SYSTEMS

Tech-Prep

# TP-3721

## Basic Electronics Training System

Solar energy training system

Wind energy training system

Solar water heating energy training system

Polar robot & robotics principles training system

Conveyors & sorting machines training system

Cartesian robot & computerized storage training system

CNC lathe machine training system

CNC milling machine training system

Process control training system

Basic electronics training system

Basic communications systems

Basic pneumatics training system

Basic hydraulics training system

Basic mechanics training system

Pressure forming & inflation training system

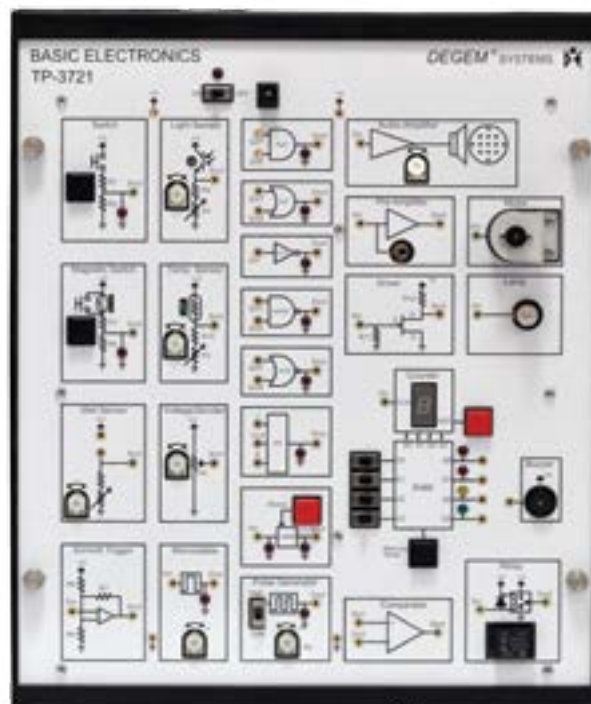
Bending & vacuum forming training system

### Objectives

This course introduces the student to analog and digital electronic systems, based on a problem-solving approach and cover topics such as: switches and sensors, driver and loads, gate applications, timers and counters, system control, power regulation, amplifiers, measurements in electronic systems as well as challenging exercises. This course is specially aimed for students in the fields of mechatronics, autotronics, general schools and junior high schools. Some practical applications of these elements in everyday life are demonstrated.

### Description

The system is a self-contained training system and contains all the electronic equipment necessary to carry out the experiments. The experimental area is located in the central region of the module including the circuit diagram, test points and the signal input and output peripherals. The upper printed circuit is protected by a sturdy transparent cover and contains visible components.



# Specifications

## TECHNICAL CHARACTERISTICS

- Sensors: touch, wet, light, magnetic, temperature.
- Loads: lamp, motor, relay, buzzer
- Logic gates: AND, OR, NOT, NAND, NOR
- Latch with reset push button
- JK Flip-flop
- Read-write memory
- Schmitt trigger
- Relay
- Pulse generator
- Monostable timer
- Driver
- Audio amplifier
- Voltage divider
- Comparator
- Potentiometer

## LEARNING PROGRAM

- Tech Prep pedagogical guidelines
- Introduction to analog electronics
- Input and output components
- Introduction to digital components
- Logic and the AND gate
- OR gate
- NOT gate
- NAND gate
- NOR gate
- Logic combinations
- Flip-flops
- Current, voltage and resistance
- Operational amplifiers
- Challenge exercises

## SUPPLIED ACCESSORIES

The learning unit is supplied with the following accessories:

- Set of patch cords
- External power adaptor (110 – 230 VAC)

The courseware or e-book contains the essential theory and detailed procedures for each hands-on activity.