



**DEGEM  
SYSTEMS**

Tech-Prep

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

# TP-3712

## Conveyor & Sorting Machine Training System

### Objectives

This course introduces the student to the technological field of sensors, conveyors and industrial automation. It teaches several sensing devices and how to use them in an industrial production line. The use of a conveyor in production line transport, and element sorting by characteristics are demonstrated. The student will apply logic, sequencing and control methods. The student will be able to supply logical thought processes and employ them in formulating basic algorithms for problem solving. He also applies and learns about the advantages of simulation in industry. The student will be able to write, test and run his own programs by applying the user friendly, icon-based set of control commands.

### Description

The system includes a conveyor, three sensors, and a DC motor that moves the sorting barrier to one of four barrier positions. Small discs of different materials can be sorted. The system includes a dedicated, user friendly, control software package. This package allows creating the sequence flow diagram and executing the procedure on the actual system. Measurement and control are all implemented using the computer.



# Specifications

## LEARNING PROGRAM

- Tech Prep pedagogical guidelines
- Introduction to the sorting conveyor
- Automation
- Introduction to the TP-3712 software
- The world of sense and sensors
- The world of senses in nature
- Process control technology
- Experiments with logic tools

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

## TECHNICAL CHARACTERISTICS

- Four sorting barrier positions driven by a DC motor
- Resolution of barrier position ( $\pm 1$  mm)
- Number of storage cells (4)
- Optical sensors (2)
- Inductive sensor
- Magnetic sensor
- Nominal movement range of the conveyor (180 mm)
- DC conveyor motor
- Operating voltage (100 - 240 VAC, 50 / 60 Hz)
- General dimensions (610(w) x 420(l) x 480(h) mm)
- Emergency stop button
- Main power switch
- Computer - machine connection ( USB)

## SUPPLIED ACCESSORIES

The training unit is supplied with the following accessories:

- Discs of the following types:
- 2 stainless steel, 6mm thick
- 3 steel, 6mm thick, black
- 3 steel, 3mm thick, black
- 3 plastic 6mm thick, black
- 3 plastic 3mm thick, black
- 2 clear plastic, 6mm thick

Software application and courseware or soft copy electronic book for MS-Windows PC (not supplied)

## REQUIRED ACCESSORIES

Personal computer with MS Windows

## SAFETY FEATURE

The following safety feature is provided by the learning unit:

- 'Emergency Stop' pushbutton that cuts off all electricity to the unit when pressed.