MODULE

TPS-3910 CNC MILLING MACHINE TRAINING SYSTEM

Objectives

The TPS-3910 CNC Milling machine training system introduces the students to the world of CNC technology.

The study course includes: description of the system and its components, hardware, operation, CAD/CAM software usage, and software simulation as well as programming exercises in G-Codes. The system enables the student to develop CNC programming step by step.

Description

The CNC Milling machine training system is a compact, desk-top unit designed with the latest CNC technology.

The system includes an open controller, which enables the student to program the controller for basic and advanced applications in CNC machines.

The system includes all the necessary components for performing exercises, a metal base with fully protected transparent cover that includes magnetic sensor ensuring safe operating process.

M O D U L E
TPS-3910
CNC Milling Machine Training System

Tecnical Caracters

The CNC Milling machine training system is composed of a metal case and transparent cover, which ensures easy handling and good visibility of the CNC machine.
The trainer includes simultaneous controlled axes X,Y and Z.

The system includes the following specification:

- X axis .....90 mm
- Y axis .....95 mm
- Z axis .....40 mm
- Spindle speed .....0-3000 RPM
- Table surface .....150 X 230 mm
- Mechanical resolution .....- 0.01 mm
- Spindle motor .....DC
- X , Y and Z axis motors .....servo type; 24 V DC
- Spindle bore .....10mm, Morse taper No. 1.
- Emergency stop button
- Low voltage lighting
- Vacuum cleaner unit
- Computer - machine connection..... RS-232 or USB port
- General dimensions..... 650 x 590 x 590 mm

The system is accompanied by control software for Windows that controls the system operation via the computer.

The software enables exercising programming, simulating various CNC machines Keyboards controls such as FANUC and SIEMENS. Complete programming system, which includes: 3D graphics simulation, circular interpolation of multiple quadrants, absolute and incremental co-ordinates movement, repeat facility program call, datum shift, program storage capability programming and control system FANUC type, tool length offsets (15 tools), automatic error checking with messages, directory listing, programming in mm and full edit mode allowing alter, delete, insert. CAD/CAM software.

Control unit

- An easy to operate card for applications development in CNC machine and machine controllers.
- The card is based on a powerful microcontroller.

The control system includes:

- The CNC controller enables to write CNC control application programs
- 8 digital inputs
- 8 outputs with 8 indicating LEDs and drivers 0-9V/0.7A with overload protection
- 8 analog input channels of Analog to Digital Converter 8 bit 0-9V
- 2 analog output channels of Digital to Analog Converter 8 bit 0-9V
- Micro-controller for communicating with the PC
- 8K EPROM for program downloading
- Power supply unit 9V 1A
- Operated via RS-232
- Interface cable
- Can be used as an independent controller after program downloading
- Icon base programming software
- Ladder diagram programming software
- C language programming software
- Assembler programming software
- Can be operated by various programs such as:
- High-level languages: BASIC, VISUAL BASIC, PASCAL and DELPHI (not included)
- A51 or C51 compilers
- G-CODE
- Can be operated in offline or in online mode

Accessories

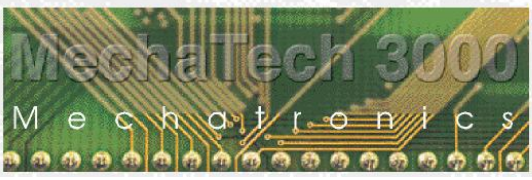
- 5 blocks of Perspex .....90 x 80 x 20 mm
- 2 cutting tools (3 mm, 6 mm)
- Tools kit
- Cleaning brush

Experiments

This system enables the student to perform several experiments and covers the following topics:

- The system's description
- G&M-CODE language
- Installing the SESMILL software
- Operating the system
- Monitor
- First Milling Program - Slot processing
  Profile processing
- Pocket processing
- Drill processing

An experiment operating and programming manual for the student and instructor manual accompany the system.



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