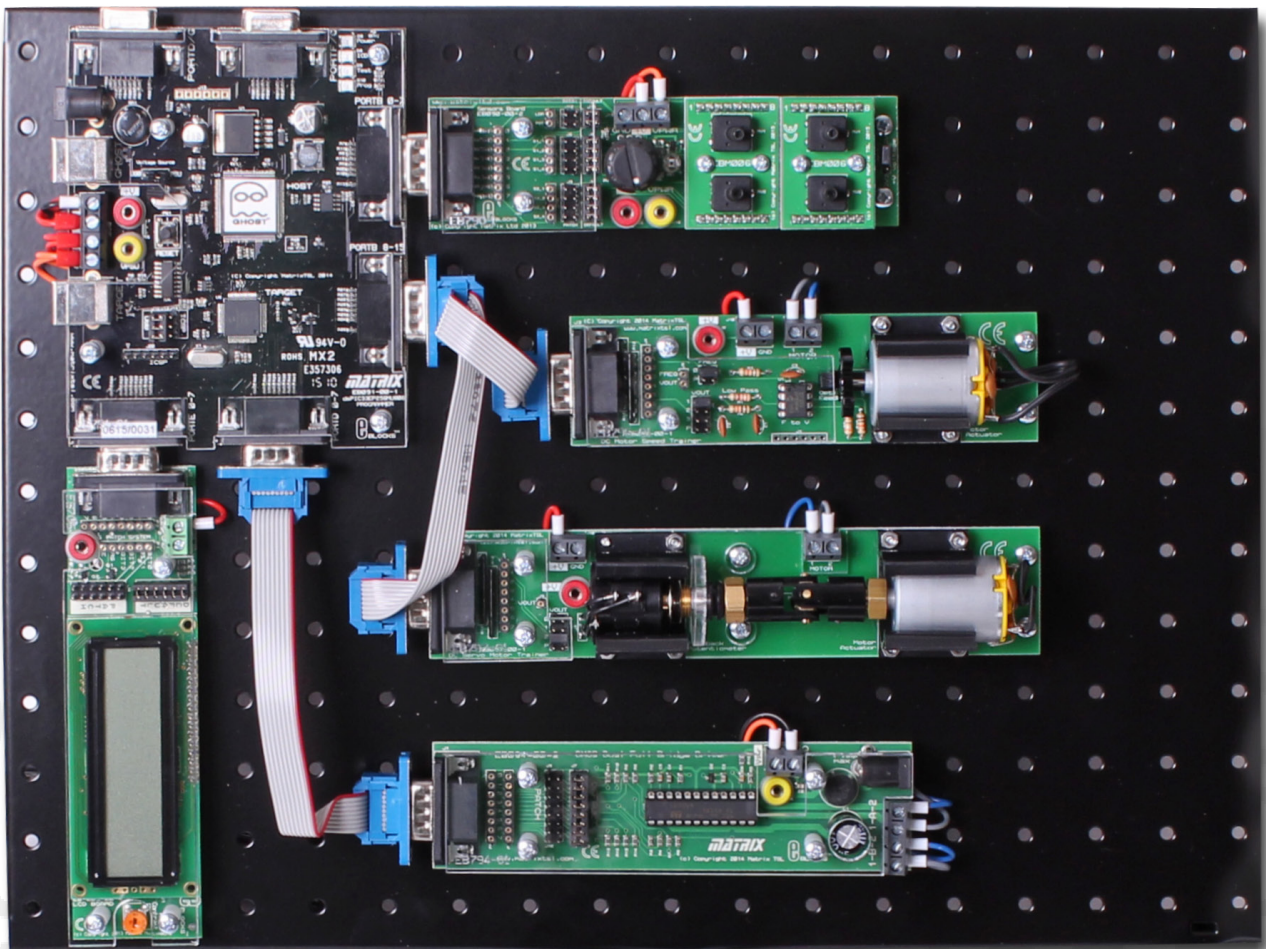


EBLOCKS[®]

Motor Control Training Solution



General information

This solution provides a motivating solution to allow students to understand the techniques of controlling DC motors.

1. Features

- Based on 16-bit dsPIC technology
- Includes Flowcode professional software
- Full curriculum support
- A great introduction to the techniques of controlling DC motors.

2. Benefits

- Provides understanding of DC motors from simple speed and direction control through to complex control using PID techniques with velocity and position as key parameters.

Solution description

This solution can be used to provide a complete 20 hours course in developing systems based on DC motor control technology. Students and engineers who complete this course will have the confidence to develop their own microcontroller based systems based on DC motor technology.

The solution is based on E-blocks™, fitted to our sturdy backplane. All E-blocks boards are fitted with clear acrylic covers where possible which prevent links and chips from being removed. The solution is assembled and tested in the Factory and is shipped in rugged plastic trays for storage and transport.

A professional Academic DSP single user license of Flowcode V6 graphical programming software is provided. Flowcode allows students to understand communications program and strategies without getting bogged down in the complexity of C or Assembly code. The system can also be used with C and Assembly code (software not provided).

A 60+ page printed and bound manual with student exercises is included. This is also available in electronic form (word and PDF) along with fully worked examples on CD ROM.

This solution is made available at a discount to the sum of the individual parts.

Learning objectives

The course examines PID techniques used to control the speed and position of an electric motor. It does so through a series of exercises involving programs for the dsPIC microcontroller, using Flowcode 6.

On completing this course the student will understand

- Simple motor control – direction, speed
- Sensors in motor control systems: IR, F to V conversion, resistive
- PID control of velocity
- Servo systems
- PID Control of position
- First and second order functions
- Flowchart programming using Flowcode

Further information

1. Learning time

This is dependent on course structure and options chosen from the teachers' manual but approximate figures are around 20 hours.

2. Prerequisites

- Some understanding of electronics
- Windows skills
- Some microcontroller programming in C, Assembly or Flowcharts

3. System requirements

PC with CD ROM drive and Windows XP or greater.

4. Further information

A separate datasheet is available for each of the E-blocks boards included in the pack. Please see our website for details: www.matrixtsl.com

5. Order code

The order code for this product is EB8493.

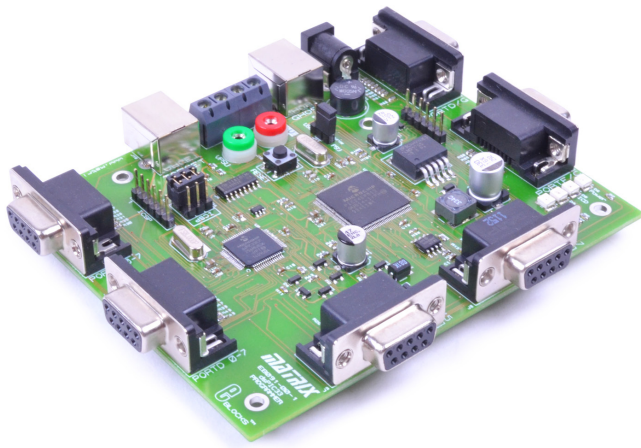
6. Also consider

Mobile phone training solution
CAN bus training solution
Zigbee training solution
USB training solution
Embedded internet training solution
RFID training solution
FPGA Solution
Bluetooth training solution
FPGA Solution

Solution Contents

The table gives a list of the major items of the pack contents.

Datasheets on any individual item are available from the resource section of the Matrix TSL website www.matrixtsl.com



Qty	Description
1	Motor control CD ROM
1	Motor control teacher's notes
1	Flowcode V6 Professional Academic PIC single user licence
1	Adjustable power supply
1	USB lead
1	E-blocks sensor interface motherboard
1	E-blocks LCD board
1	dsPIC Ghost Board
1	E-blocks FET motor drive board
1	E-blocks DC motor speed trainer
1	E-blocks Motor Angle Position Trainer



Matrix Technology Solutions Ltd
The Factory
33 Gibbet Street
Halifax, HX1 5BA, UK

t: +44 (0)1422 252380
e: sales@matrixtsl.com

www.matrixtsl.com

EB8493