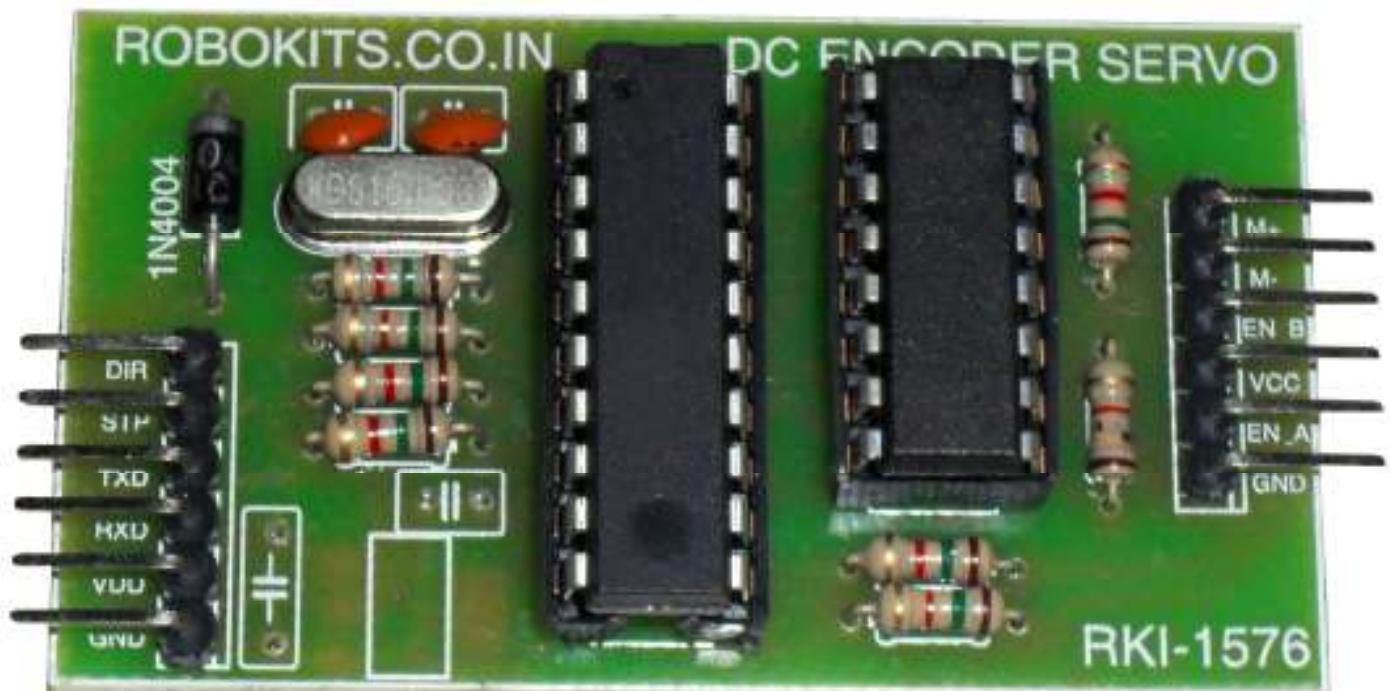


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EASY TO USE, VERSATILE ROBOTICS KITS

SERIAL DC ENCODER SERVO DRIVER [RKI-1576]



Users Manual

Robokits India

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Introduction

This board can drive all quad encoder dc motors. It is provided pre-programmed including PID operations for specifically RKI-1401 and RKI-1404 motors.

Features

1. Uses PID method for position control
2. PID parameters already programmed
3. Accepts serial commands on 38400BPS, 8, N, 1
4. Can be easily interfaced to computer USB or Serial port via TTL/level converter
5. Directly interfaces to microcontroller UART
6. Simple command structure
7. Can be used with HyperTerminal or other compatible terminal software's
8. Absolute position mode
9. Speed setting mode
10. Virtually infinite absolute positions
11. Shows only 24bit position (-8388608 to 8388607) on serial terminal
12. Accuracy of + or - 1 count
13. Torque control mode under loading
14. Can drive motor up to 500mA
15. Can be used with other motors of this kind. PID may not work properly in this case

Serial Commands

1. N0<Position><CR> - Go to command with feedback full speed. Will return prompt when motor reaches end position
2. N1<Position> <Speed><CR> - Go to command with speed setting & feedback. Will return prompt when motor reaches end position
3. P<Position><CR> - Go to position no feedback. Will return prompt as soon as the command is accepted
4. S<CR> - Shows current position of the motor.

Note:

Shows only 24bit (-8388608 to 8388607) position. If the current position is not within this range the driver will give 2's complement value deducted from max position.

Responses from driver

1. Err - Command not accepted
2. : - Prompt. Shows the driver is ready to accept commands

Setting up the Board

Pin Configuration

- Connector 1: GND(Ground), VDD(DC Input), RXD(Receive data), TXD(Transmit Data)
- Connector 2: GND(Ground), ENC_A(A channel), VCC(+5V), ENC_B(B Channel), M-(Motor), M+(Motor)

Note:

1. M+ shows when provided positive voltage compared to M- terminal the motor should rotate clockwise.
2. ENC_A shows that when motor is rotating clockwise this channel must be leading.

Providing Power Supply

- You can provide the power supply to the board from any DC source from 7V to 12V.
- Connect GND pin to Ground and VDD pin to 7-12VDC
- Connect TX and RX pins to microcontroller or to serial converter
- Connect Motor and encoder pins on the other side of connector



Service and Support

Service and support for this product are available from Robokits India. The Robokits Web site (<http://www.robokits.co.in>) maintains current contact information for all Robokits products.

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