Spindle Speed Controller

Document: Operation Manual
Document #: T18
Document Rev: 2.0

Product: Spindle Speed Controller
Product Rev: 1.0
Created: Jan-2013
Updated: Dec-2014

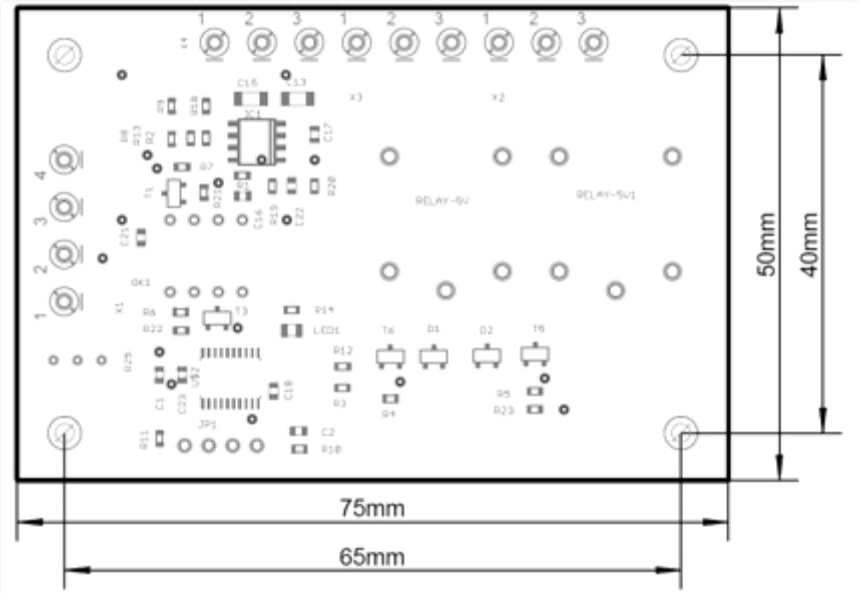
THIS MANUAL CONTAINS INFORMATION FOR INSTALLING AND OPERATING THE FOLLOWING PRODUCT:

- **SPINDLE SPEED CONTROLLER**

TINY CONTROLS PRIVATE LIMITED
C-55, NISHAT PARK, KAKROLA MOR, NEW DELHI, INDIA – 110078
WEB: http://www.tinycontrols.com
PHONE: +91-991-119-3210

CONTENTS

MECHANICAL INSTALLATION



GENERAL DESCRIPTION

The VFD/ Spindle speed controller card is designed for controlling the spindle speed by giving analog output voltage in range of 0-10 V to VFD. The output voltage can be adjusted using preset/ potentiometer.

The Spindle speed controller card works on 5V. The inputs are compatible to 5V signals. All the inputs and outputs are isolated from each other.

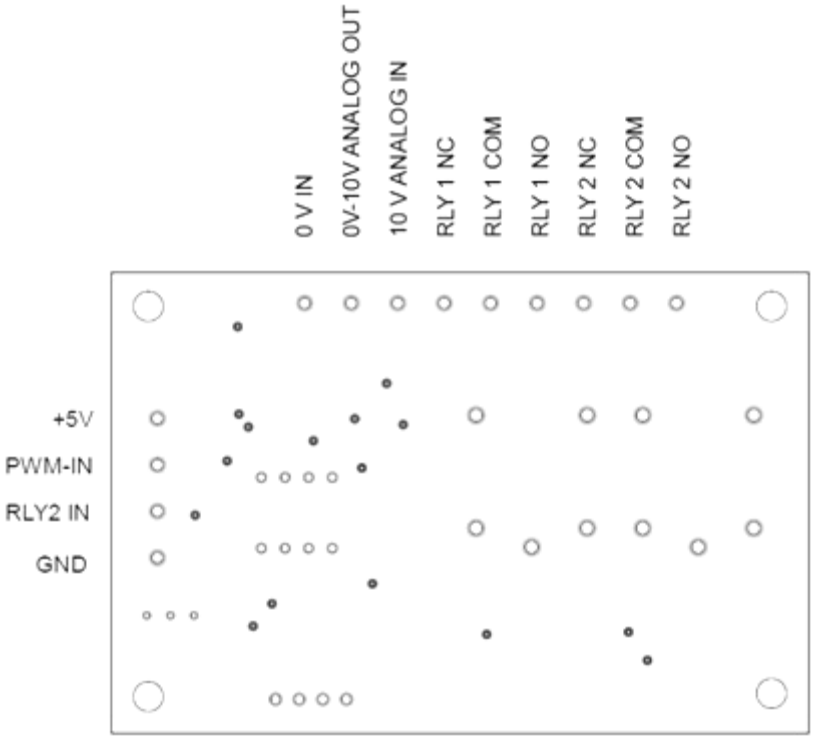
An LED indicator is provided on the VFD card to show current status. This is discussed further in manual.

There are 2 on-board relays provided on the board. One relay is general purpose relay whereas other is related for spindle speed controlling function and can't be used for other purposes.

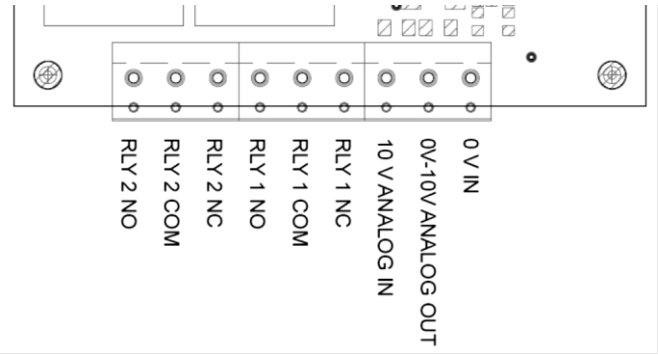
SPECIFICATIONS

- **Inputs:** 2
- **Analog 0-10V isolated output:** 1
- **Relay Outputs:** 2
- **Supply Voltage:** 5V DC
- **Max Power Consumption:** 5V/ 0.2A
- **Ambient Temperature Range:** 0˚-55˚ C
- **Relative Humidity:** 0-90% Non-Condensing
- **Dimensions:** 75x50
- **Weight:** 10g

VFD CARD TERMINALS



CONNECTING OUTPUTS



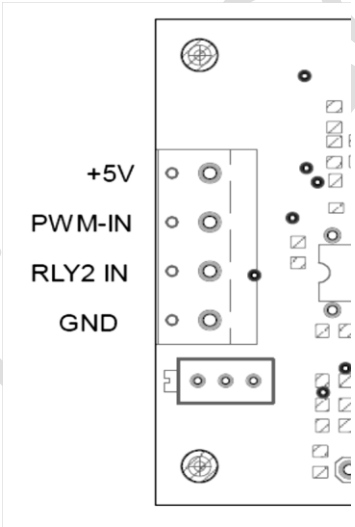
Relay:

Relay Contact terminals are directly attached to 3 pin connector. Pins are marked as N/O, COM and N/C. Relay 1 is general purpose relay and relay 2 is dedicated for the spindle speed controlling function.

Analog output 0-10V:

A 0-10V analog output signal goes directly to the VFD to control the spindle. If **10V input** is fed from VFD to terminal **10V Analog IN**; an analog output in range of **0-10V** can be drawn from terminal **0-10V Analog OUT**. If **5V input** is fed from VFD to **10V Analog IN**, an analog output in range of **0-5V** can be drawn from terminal **0-10V Analog OUT** terminal. The output voltage can be set through the Pot connected.

CONNECTING INPUTS



Power Supply:

Connect a +5V regulated power supply at 5V and GND terminal.

PWM IN:

Connect PWM signal from break out board to this terminal.

RLY 2 IN:

To drive relay 2, connect the 5V signal to RLY 2 IN.

LED INDICATOR

STATUS LED: It has three states:

FAST BLINK: It shows that power is connected to the VFD card.

LAZY BLINK: It shows that valid PWM signal is available.

CONTINUOUS ON: When valid PWM is more than 10%, status LED glows continuously.

CONNECTION DIAGRAM