



# Stepper Motor Control Set

## Nvis 2458R



\* Image is for illustrative purpose and subject to change

### Technical Specifications:

#### Consists of the following items:

2 phase stepper motor with stand and disk

The motor has these specifications: -

- Number of phases = 2
- Step angle = 1.8 deg
- Holding torque = 0.1Nm

Stepper control circuit board

Consists of the following minimum components/accessories

- Pulse speed range = 20Hz to 1040Hz (approx.)
- Non-volatile memory to store settings and rotor position
- 4x toggle switches to activate A+, A-, B+, B- of the stepper motor
- 1x Selector switch (0-8) to select the step sequence number of coil activation
- 1x Potentiometer to change the rotational speed of the stepper motor
- 1x Selector (0-9) switch to select the mode of the controller
- 1x Toggle switch to change direction rotation of stepper from clockwise (CW) to counter clockwise (CCW)
- 1x Momentary push button to start a demo mode of the control kit
- LED lights for A+, A-, B+, B- respectively. LED lights up when the respective phase is activated when the motor rotates.
- 1x Eight segment numeric display / 16X2 LCD Display / or better for STEP No display 1x LED to indicate input DC power supply
- 1x LED (TIM) to indicate beginning stepper phase i.e. when A+ and B+ is turned ON
- 1x LED (Busy) to indicate motor rotation in progress
- The control unit has these selectable mode (unless stated, the stepper is at full step mode, 1.8 step angle)



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- **Mode 1**  
When START/SET button is depressed, the motor will turn CW 50 pulses@200Hz, 8 times with 0.2secs interval. After that, it will pause 1sec then, it will turn CCW 400pulses@300Hz, 720deg.
- **Mode 2**  
Each time START/SET button is depressed; the motor will advance CW 10 pulses@1Hz. After 8 times CW, advancement, each time START/SET button is depressed, the motor will advance CCW 10 pulses@1Hz.
- **Mode 3**  
When the START/SET button is depressed, the motor will rotate CW 300pulses@100Hz and then stop for 1 second. Then motor will rotate CCW 500pulses@200Hz.
- **Mode 4 (Half step)**  
When the START/SET button is depressed, the motor will rotate CW 600pulses@200Hz and then stop for 1 second. Then motor will rotate CCW 1000pulses@400Hz.
- **Mode 5 – Jog drive**  
When the START/SET button is depressed, the motor will rotate 1pulse@100Hz. Direction of turn is determined by CW/CCW toggle switch. The number of pulses is saved into the controller memory for motor to return to starting position in mode 7.
- **Mode 6 – Continuous drive**
- When the START/SET button is depressed, the motor will rotate continuously. The speed of rotation is determined by the potentiometer. The pulse frequency of the controller is from 20Hz to about 1040Hz. When the START/STEP button is depressed again, the motor will stop rotating. The number of pulses is saved into the controller memory for motor to return to starting position in mode 7.
- **Mode 7 – Return drive**  
When the START/SET button is depressed, the controller will move to the internal initial position, that was saved into memory under Mode 5 or Mode 6.
- **Mode 8 – Excitation sequence**  
This mode saves the phase activation sequence of A+, A-, B+, B- and will be used for Mode 5. An incorrect sequence will prevent the motor from rotating properly.
- When START/SET button is depressed, the controller will save the current STEP NO and the toggle switch state of A+, A-, B+, B-.
- STEP NO 0 to 7 is the specifies the sequence of phase activation. The sequence will start from 0 to 7 and then repeats when Mode 5 is running.
- For example,
- STEP NO is 1 and A+, B+ are ON and A-, B- are OFF and
- STEP NO is 0 and A-, B- are ON and A+, B+ are OFF
- In mode 5, the phase activation will begin with step 0 then step 1 as in the following: -
- Step 0 – A-, B- ON, A+, B+ OFF
- Step 1 – A+, B+ ON, A-, B- OFF
- **Mode 9 – Roulette**
- When the START/SET is depressed, the motor will start to rotate. When START/SET is depressed again, the motor will stop after a delay that is random.
- **Mode 0 – Stepper driver**
- In the mode, the control circuit board acts as a pure 2 phase stepper motor driver.

Battery holder

1.5V x 4 battery holder with suitable DC connector / external regulated power supply

### Accessories:

All accessories required for the functioning of the Unit.

Designed & Manufactured in India by

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