



## STR2 PS50A24 Step Motor Drive User Guide

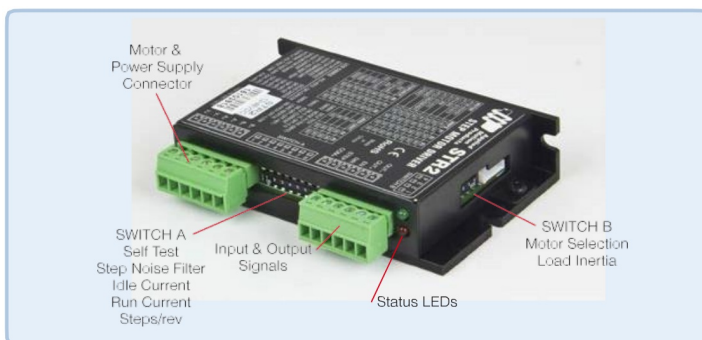
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### STR2 PS50A24 Step Motor Drive User Guide



To begin, make sure you have the following equipment:

- A compatible stepper motor.
- A small flat blade screwdriver for tightening the connectors (included).
- A suitable DC power supply. AMP recommends the PS50A24, PS150A24 or PS320A48 available from Applied Motion.



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## Wiring the Drive

### Step 1 – Wiring the DC supply



1. Wire the drive to the DC power source.  
(do not apply power until all connections to the drive have been made)  
Note, the STR2 accepts DC voltages from 12-48V.
2. Ensure a proper earth ground connection by using the screw on the left side of the chassis.

\*See the STR2 Hardware Manual for more information about power supply and fuse selection.

### Step 2 – Wiring the motor

Connect the drive to the motor. Four lead motors can be connected in only one way, as shown in Figure 1. Eight lead motors can be connected in Series or Parallel, as shown in Figures 2 and 3. If using a non-Applied Motion Products motor, please refer to your motor specs for wiring information.

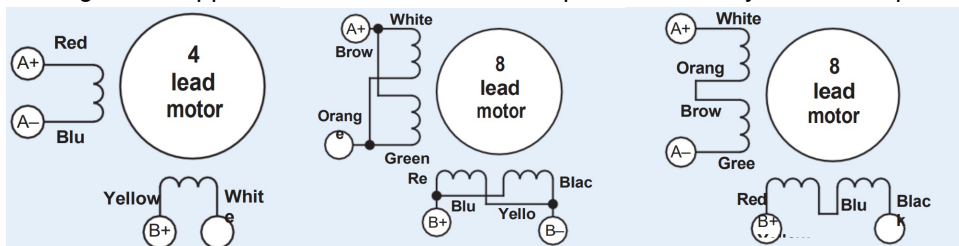


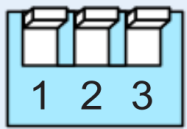
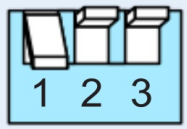
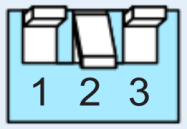
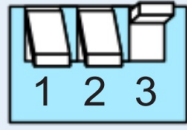
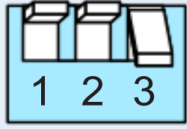
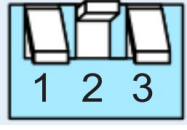
Figure 1 - 4-lead Connection   Figure 2 - 8-lead Parallel Connection   Figure 3 - 8-lead Series Connection

## Setting up the Drive

**NOTE:** DIP switch setting changes will only take effect at power up. If changes to the DIP switches are made while power is applied, cycle power off then on for the new settings to take effect.

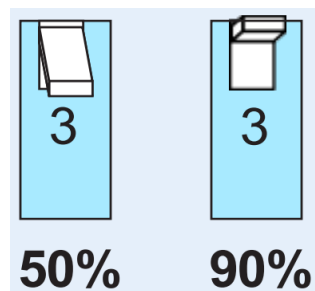
### Step 3 – Selecting the motor

Motor selection is done with the DIP switch block on the narrow face of the drive. These switches are referred to as B1 – B3 in the STR2 Hardware Manual.

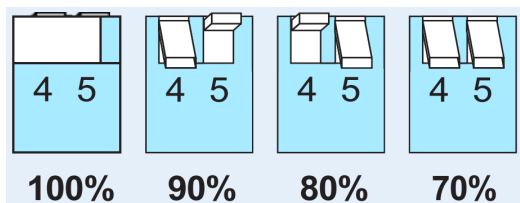
| MOTOR                            |   |
|----------------------------------|---|
| HT08-020/021                     |    |
| HT11-012/013                     |    |
| 5014-842                         |   |
| HT17-068                         |  |
| HT17-271<br>HT17-275             |  |
| HT23-595<br>HT23-598<br>HT23-601 |  |

### Step 4 – Selecting current

Switch A3 sets the idle current to either 50% or 90% of the selected running current.



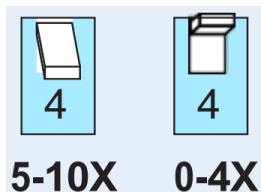
Switches A4 and A5 set the running current to 70%, 80%, 90% or 100% of the motor's rated maximum current.



### Step 5 – Load inertia

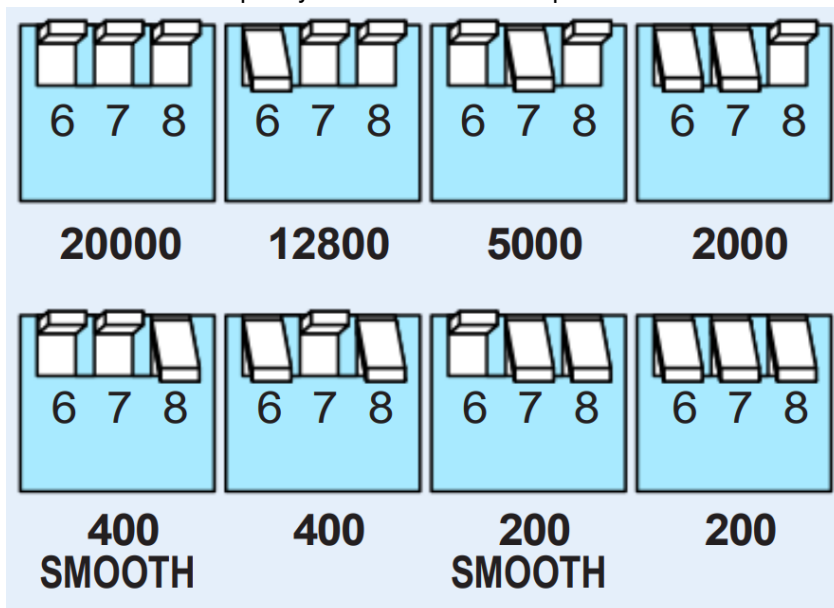
Switch B4 chooses between two load inertia ratio ranges.

This information is used in the anti-resonance configuration.



### Step 6 – Step resolution

Switches A6 – A8 specify the drive's microstep resolution

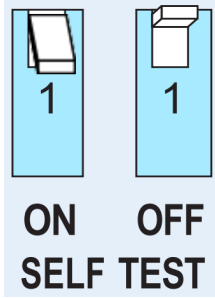


- 200
- 200 with microstep emulation (smooth)
- 400
- 400 with microstep emulation (smooth)
- 2000
- 5000
- 12800
- 20000

### Step 7 – Self test

The STR has a built in Self Test function. If switch A1 is moved to the ON position the drive will automatically

rotate the motor back and forth, two turns in each direction. This feature can be used to confirm that the motor is correctly wired, selected and otherwise operational.



## Step 8 – User manual

A full user manual for the STR is available for download from our web site. This contains full details on setup, wiring and installation.

[www.applied-motion.com/support](http://www.applied-motion.com/support)



If you have any questions or comments, please call  
Applied Motion Products Customer Support:  
(800) 525-1609, or visit us online:

[www.applied-motion.com](http://www.applied-motion.com).

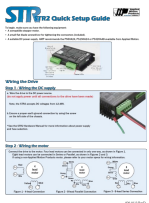
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## Documents / Resources

|   |   |
|---|---|
|  | <p><a href="#">STR2 PS50A24 Step Motor Drive</a> [pdf] User Guide<br/>PS50A24 Step Motor Drive, PS50A24, Step Motor Drive, Motor Drive, Drive</p> |
|---|---|

## References

- [Applied Motion](#)
- [Support | Applied Motion](#)