



Applied Motion Products ST5-10-Plus Stepper Motor Controller User Guide

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Requirements

To begin, make sure you have the following equipment:

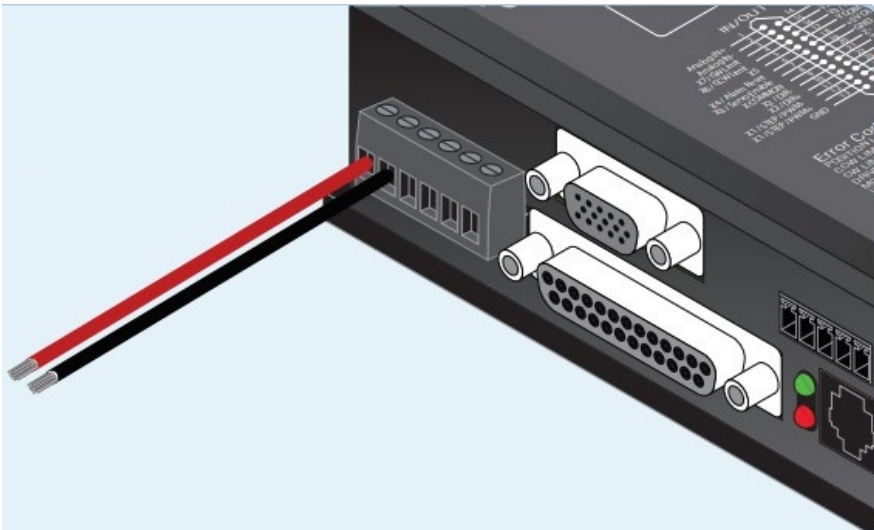
- A compatible stepper motor.
- A small flat blade screwdriver for tightening the connectors (included).
- A personal computer running Microsoft Windows 95, 98, NT, Me, 2000 or XP, Vista or 7/8/10/11.
- ST Configurator™ software (available at www.applied-motion.com).
- An Applied Motion programming cable (included).
- For more detailed information, please download and read the ST5/10-S Hardware Manual, available at

Step 1

- Download and install the ST Configurator™ software.
- Launch the software by clicking: Start / Programs / Applied Motion Products / ST Configurator
- Connect the drive to your PC using the appropriate programming cable.

Step 2

- Wire the drive to the DC power source. (do not apply power until all connections to the drive have been made)
Note, the ST5-Plus accepts DC voltages from 24-48V, while the ST10-Plus accepts DC voltages from 24-80V.



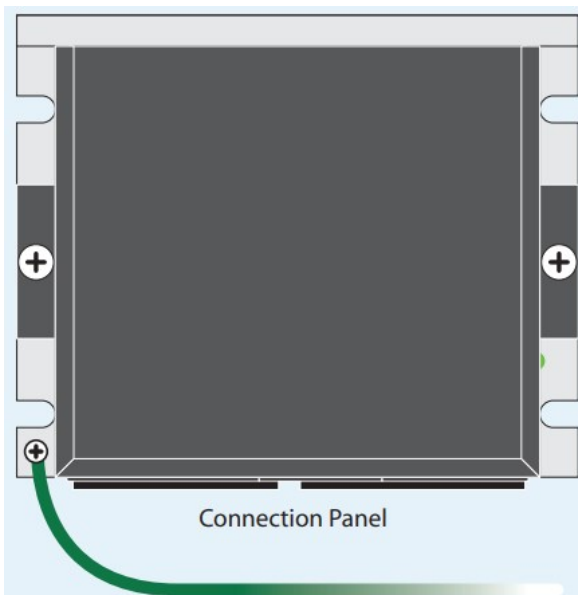
- Ensure a proper earth ground connection by using the screw on the left side of the chassis.

If using an external fuse, we recommend the following:

ST5: 3AG, 4 amp (Littlefuse 313004P)

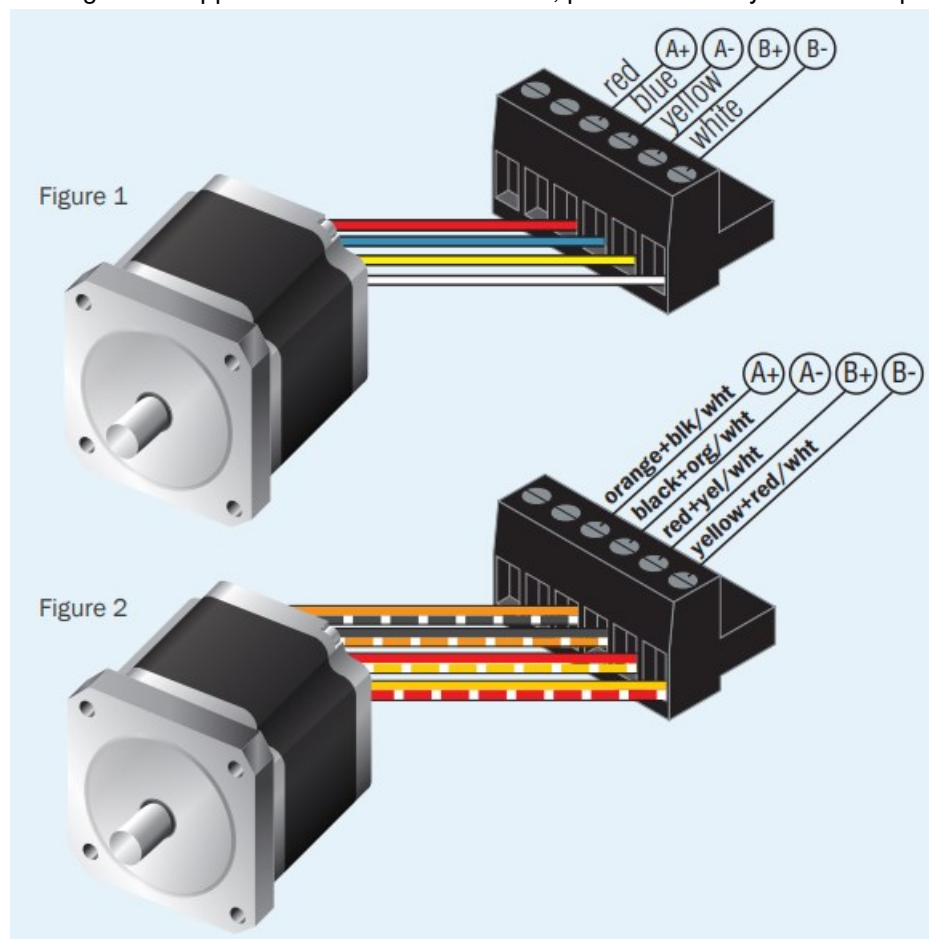
ST10: 3AG, 6.25 amp (Littlefuse 3136.25P)

See the ST5/10-S Hardware Manual for more information about power supply and fuse selection.

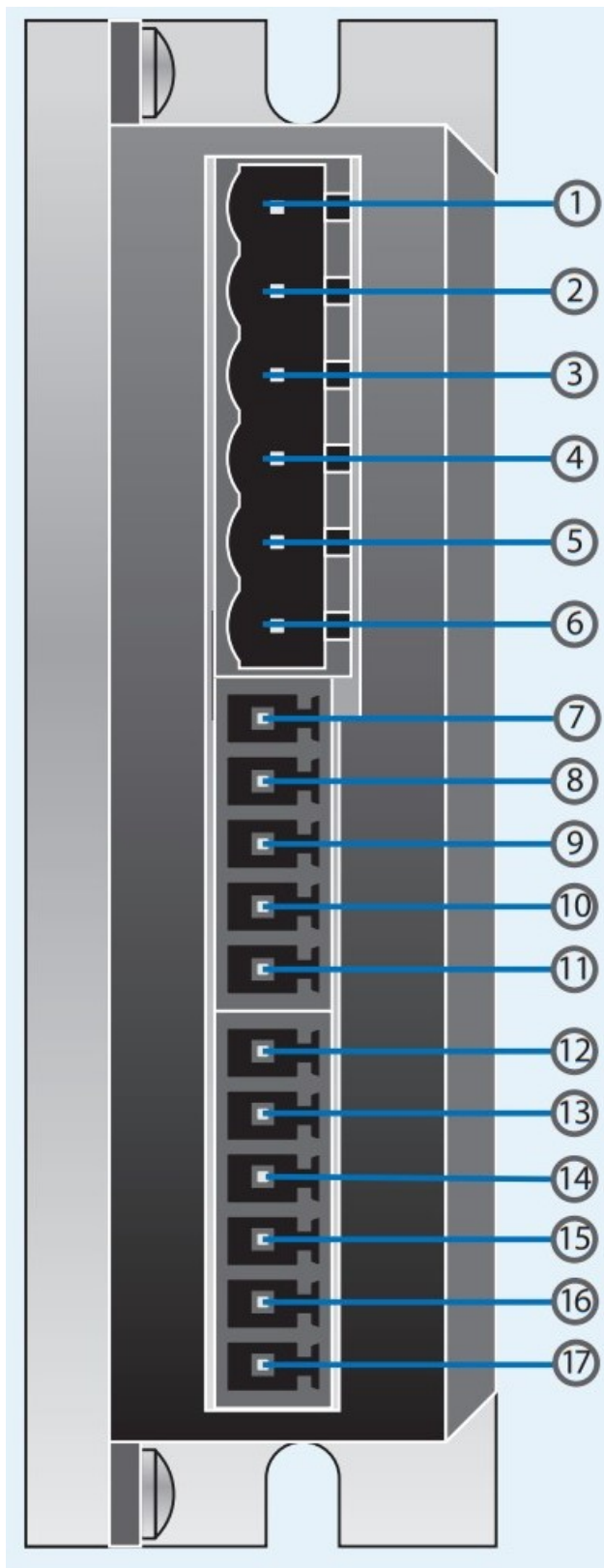


Step 3

Connect the drive to the motor. Four lead motors can be connected in only one way, as shown in **Figure 1**. We recommend that eight lead motors be connected in parallel, as shown in **Figure 2**. If using a non-Applied Motion Products motor, please refer to your motor specs for wiring information.



I/O Pinout – ST5/10-S/Plus

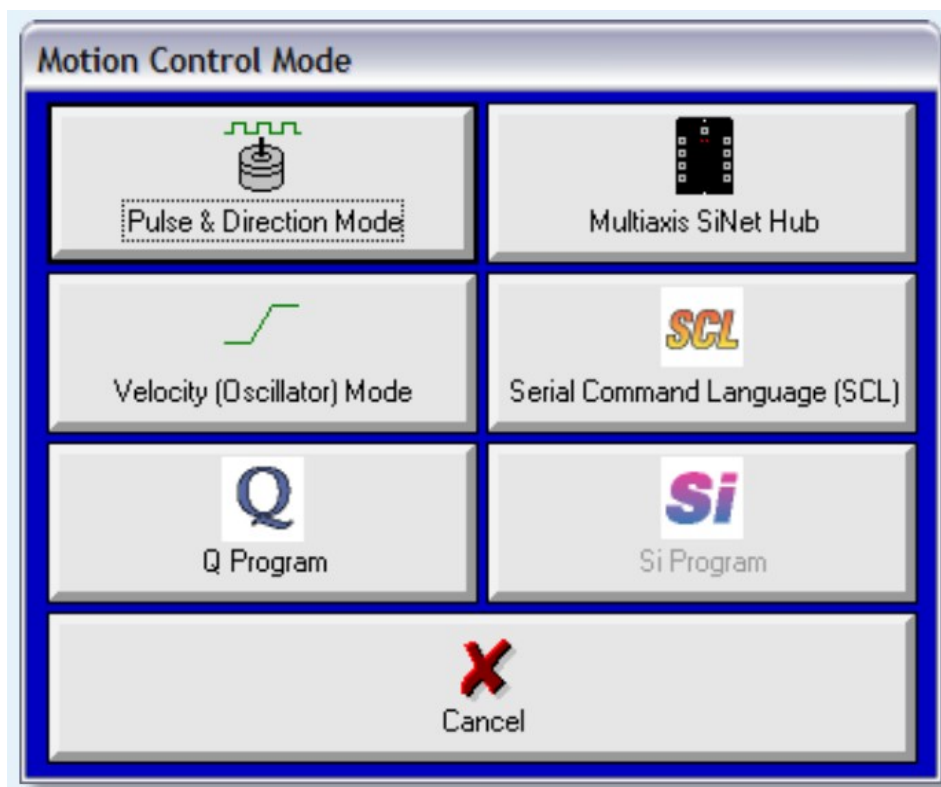


1. Power
2. GND
3. Motor A+
4. Motor A-
5. Motor B+
6. Motor B-
7. GND
8. AIN

9. +5V
10. OUT
11. OUT+
12. EN-
13. EN+
14. DIR
15. DIR+
16. STEP-
17. STEP+

Step 4

- Apply power to the drive.
- Follow the configuration instructions in the ST Configurator™ help screens. The ST Configurator™ software can be used to set up your drive to operate in several different modes including: Pulse & Direction, Analog Velocity, and SCL.



Motor

☒ Standard motor **HT17-068** Cancel OK

☐ Custom motor Define Custom Motor... Help Wiring

Running Current
 amps

Idle Current
 % (0.70 A)

Idle Current Delay
 secs

Motor Specs

Holding Torque	<input type="text" value="31.4"/>	oz in
Rated Current	<input type="text" value="1.6"/>	A
Rotor Inertia	<input type="text" value="35"/>	g cm ²
Smoothing Gain	<input type="text" value="500"/>	
Phase	<input type="text" value="-100"/>	

More

Load Inertia

☐ g cm²

☒ X rotor inertia

I/O Configuration

If a fault occurs
☐ close alarm output (Y3) ☐ open alarm output (Y3) ☒ neither

☐ Allow AlarmReset input (X4) to clear it (by closing) Show history...

Limit sensors
At end of travel, limit inputs will be

Motion Output (Y2)
☐ Closed when motor is moving
☐ Open when motor is moving
Tach: pulses/rev ☒ Not used

Enable motor
☒ Automatically
☐ When Enable input (X3) is closed
☐ When Enable input (X3) is open

Brake (Y1)
☐ Release brake when motor enabled by ☒ closing the Brake output
☐ opening the Brake output

Maximum Deceleration
 rev/s/s

Wait msec before moving for brake to release

Wait msec for brake to engage before disabling servo

Used at limits and faults

Help OK Wiring... Cancel



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Documents / Resources

	<p>Applied Motion Products ST5-10-Plus Stepper Motor Controller [pdf] User Guide ST5-10-Plus Stepper Motor Controller, ST5-10-Plus, Stepper Motor Controller, Motor Controller , Controller</p>
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References

- [Applied Motion](#)
- [Product Manuals by Type | Applied Motion](#)

[Manuals+](#).