Manuals+ — User Manuals Simplified.

Applied Motion Products SV7-C Servo Motor Driver User Guide

Contents

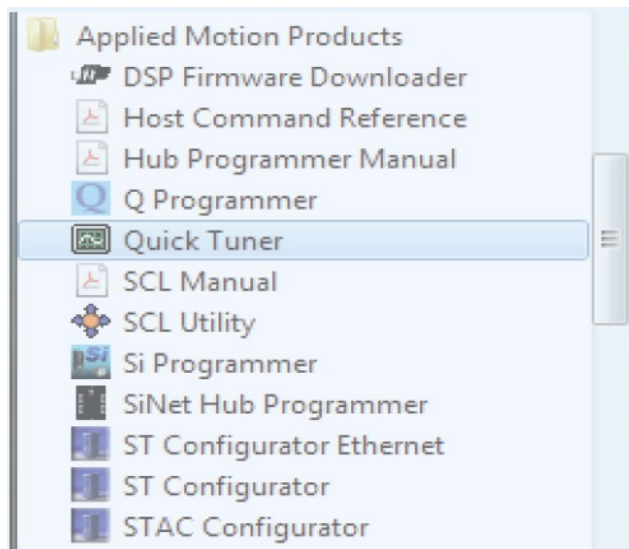**Applied Motion Products SV7-C Servo Motor Driver**

Requirements

To begin, make sure you have the following equipment:

- A compatible servo motor
- A small flat blade screwdriver for tightening the connectors (included).
- A personal computer running Microsoft Windows 98, 2000, ME, NT, XP, Vista or 7/8/10/11.
- Quick Tuner™ software (version 2.2.18 or later) available at www.applied-motion.com/products/software.
- An RS-232 Applied Motion programming cable (included)
- 4 pin spring connector (included) for connecting to the CAN network.
- For more detailed information, please download and read the SV7 Hardware Manual, available at **www.applied-motion.com/support/manuals**.
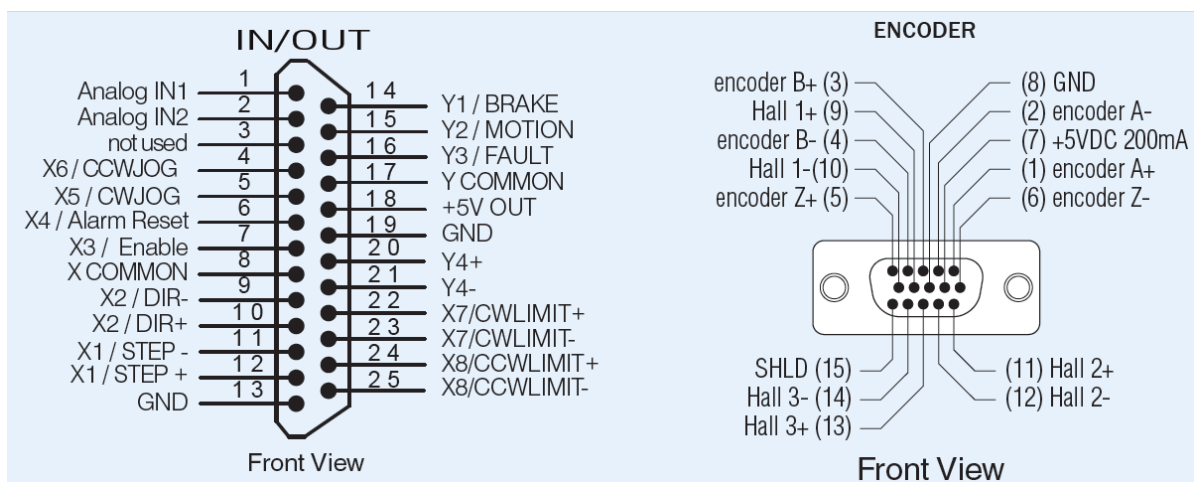
Step 1

- **a)** Download and install the QuickTuner™ software.
- **b)** Launch the software by clicking: Start / Programs / Applied Motion Products / Quick Tuner
- **c)** Connect the drive to your PC using the supplied programming cable. If your PC does not have a serial port you will need a USB to serial port (RS-232) adapter.

Applied Motion Products
  DSP Firmware Downloader
  Host Command Reference
  Hub Programmer Manual
  Q Programmer
  Quick Tuner
  SCL Manual
  SCL Utility
  Si Programmer
  SiNet Hub Programmer
  ST Configurator Ethernet
  ST Configurator
  STAC Configurator

Step 2

- **a)** Connect the I/O
- **b)** Connect the Encoder
  - Applied Motion motor cables are available with connectors that mate directly to the encoder connector on the drive.

IN/OUT

1	Analog IN1	14	Y1 / BRAKE
2	Analog IN2	15	Y2 / MOTION
3	not used	16	Y3 / FAULT
4	X6 / CCWJOG	17	Y COMMON
5	X5 / CWJOG	18	+5V OUT
6	X4 / Alarm Reset	19	GND
7	X3 / Enable	20	Y4+
8	X COMMON	21	Y4-
9	X2 / DIR-	22	X7/CWLIMIT+
10	X2 / DIR+	23	X7/CWLIMIT-
11	X1 / STEP -	24	X8/CCWLIMIT+
12	X1 / STEP +	25	X8/CCWLIMIT-
13	GND		

Front View

ENCODER

encoder B+ (3)   (8) GND
Hall 1+ (9)   (2) encoder A-
encoder B- (4)   (7) +5VDC 200mA
Hall 1-(10)   (1) encoder A+
encoder Z+ (5)   (6) encoder Z-

SHLD (15)   (11) Hall 2+
Hall 3- (14)   (12) Hall 2-
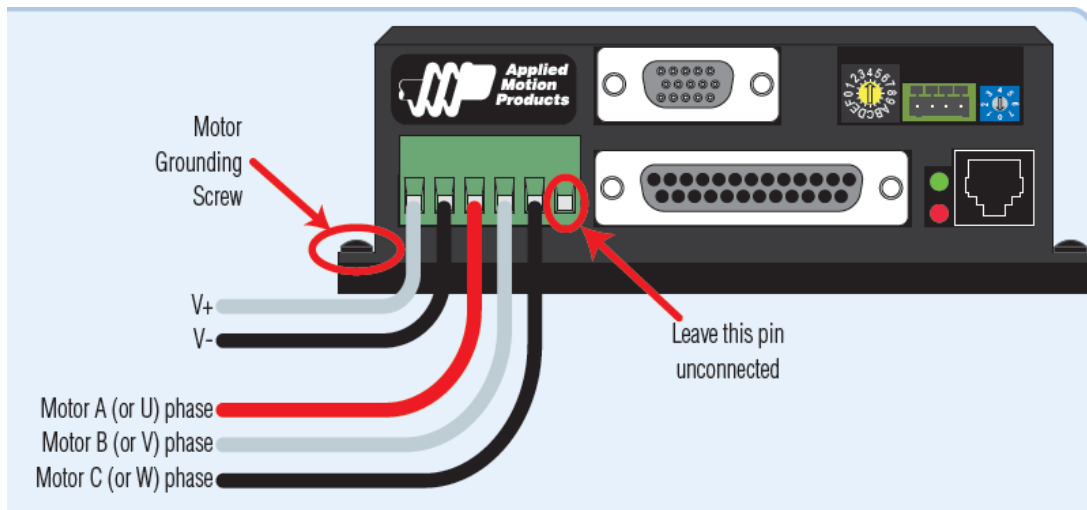Hall 3+ (13)

Front View

Step 3

- **a)** Wire the drive to the DC power source. (Do not apply power until all connections to the drive have been made.)

  Note, the SV7 drives accept DC power from 24-80 VDC.
- **b)** Wire the servo motor to the drive.

  For a non-Applied Motion Products motor, please refer to your motor specs for wiring information.

  Be sure to connect the motor case ground to the grounding screw as indicated, leaving the last pin on the motor/power connector unconnected.

Motor Grounding Screw

V+
V-

Motor A (or U) phase
Motor B (or V) phase
Motor C (or W) phase

Leave this pin unconnected

Step 4 – Configuration

- **a)** Within the Quick Tuner™ software, select the correct COM port and apply power to the drive.
- **b)** If using an Applied Motion servomotor, press the "Open" button and select a factory tuning file, paying close attention to the voltage and inertia ratio.
- **c)** Apply power to the drive.
- **d)** Select the "Motor – Encoder" tab and confirm settings for motor current, pole count, and encoder resolution. For non-AMP motors, these data must be obtained from your motor's datasheet. Execute the Timing Wizard, following the on-screen prompts. This will ensure the drive can properly commutate the motor.
- **e)** Use the "Tuning – Sampling" tab to tune the motor. Consult the Quick Tuner™ Software Manual for step-by-step tuning instructions.
- **f)** Go to the "Inputs – Outputs" tab to specify any dedicated I/O functions required by the application.
- **g)** Press the "Download" button to save all setings to the drive's nonvolatile memory. Your drive is now configured for use.

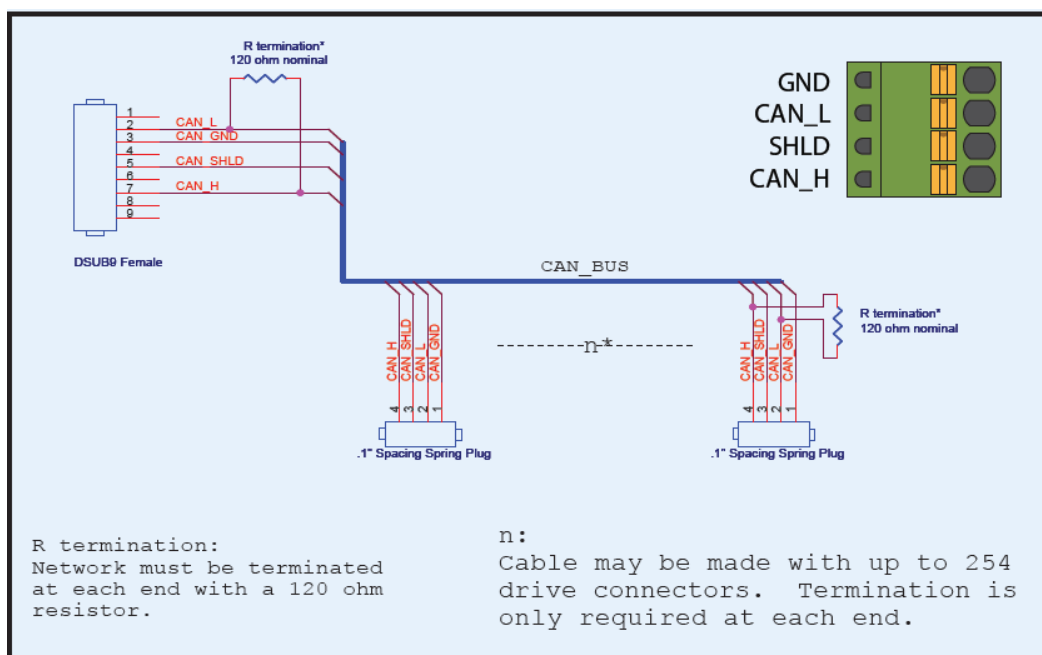The Quick Tuner™ manual should be considered required reading for anyone tuning a servo system.
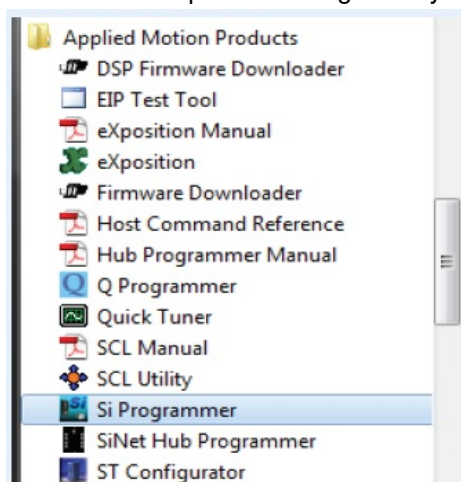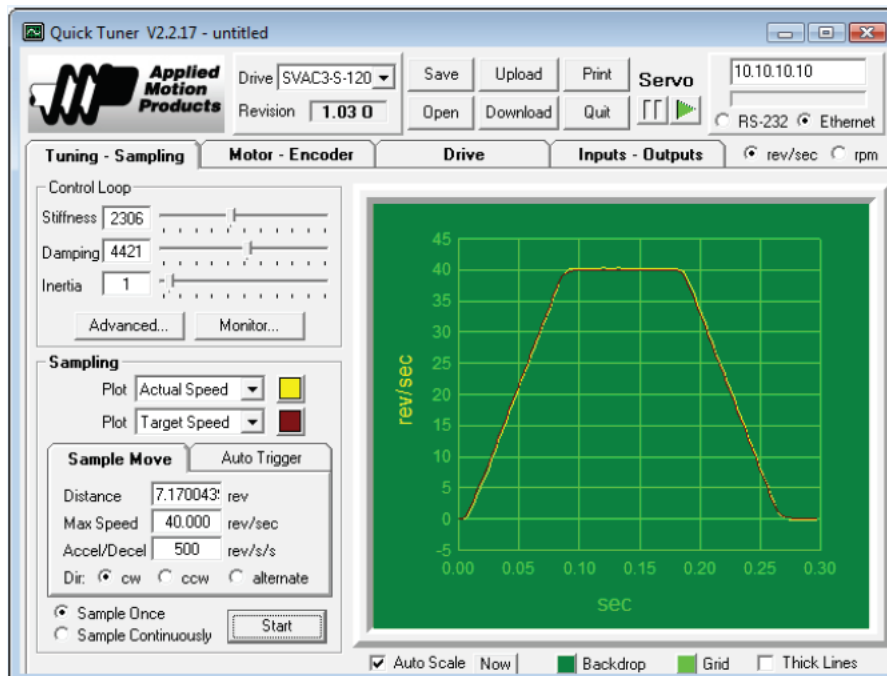
Step 5 – CANOpen Setup

- **a)** Connect to CAN network.

  Applied Motion Products SV7-C drives use a four-pin spring con-nector, that conforms to the DR303 specification. The connector should be wired in a daisy-chain configuration with a 120 Ohm resistor used to terminate each end.

- **b)** Set BitRate, Node ID

  The SV7-C has three CAN network-related settings, one for Bit Rate and two for Node ID. The Bit Rate is configured using an eight-position switch. See Bit Rate table for the Bit Rate settings. The Node ID is configured using a sixteen position switch to set up the lower four bits of the Node ID. The upper three bits of the Node ID are set using an additional 8 position switchlocated under the cover on the CANOpen motherboard. Valid ranges for the Node ID are 0x01 through 0x7F. Node ID 0x00 is reserved in accordance with the DS301 specification.

  Note: The Node ID and Bit Rate are captured only after a power cycle, or after a network reset command has been sent. Changing the switches while the drive is powered on will NOT change the Node ID or Bit Rate until

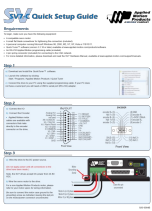one of these conditions has been met.

Switch Setting	Resultant Bit Rate
0	1 Mbps
1	800kbps
2	500 kbps
3	250 kbps
4	125 kbps
5	50 kbps
6	20 kbps
7	12.5 kbps
8	n/a
9	n/a

Bit Rate Table

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

18645 Madrone Pkwy Morgan Hill, CA 95037 Tel: 800-525-1609 **applied-motion.com**

Documents / Resources

Applied Motion Products SV7-C Servo Motor Driver [pdf] User Guide
SV7-C Servo Motor Driver, SV7-C, SV7-C Driver, SV7-C Motor Driver, Servo Motor Driver, Motor Driver, Servo Driver, Driver

References

- **Applied Motion**
- **Software Downloads | Applied Motion**
- **Product Manuals by Type | Applied Motion**