

# SVAC3-Q-E120

Q Programmable Servo Drive w/ Ethernet



## Product Features

- Programmable digital servo drive in a compact package
- DSP-based current control
- Operates from 120 VAC
- Provides motor current up to 3.5 A rms continuous, 7.5 A rms peak
- Fast 10/100 Ethernet for programming and communications
- 744 lines of stored Q program capability
- Math calculations using analog and digital parameters
- Supports all SVAC3-S control modes as well
- UDP & TCP support
- 12 digital inputs, 6 digital outputs, all optically isolated
- 1 analog input, +/-10 volt range
- Jerk filter for S-curve acceleration ramps



## Description

The SVAC3-Q-E120 is a compact and cost-effective servo drive that is compatible with a variety of servo motors and a great choice for many OEM applications. Its all-digital design and DSP-based current control allow for smooth motion and a quick response from the specially matched set of Applied Motion motors available with it. Power to the drive comes from single-phase 120 VAC and the drive can output up to 3.5 A rms continuous, 7.5 A rms peak to the servo motor. The drive also has built-in protection features like over-voltage, over-temperature, and over-current, which prevent damage to the drive while running in adverse conditions.

The SVAC3-Q-E120 can operate in all of the same control modes as a SVAC3-S drive (analog torque/velocity, pulse & direction, streaming commands), plus it has the ability to run stand-alone Q programs stored in non-volatile memory. Q programs are created using the [Q Programmer™](#) software, and provide multi-tasking, math functions, conditional processing, data register manipulation, and more features in a robust yet simple text-based programming language. Initial setup of the drive, including selecting the control mode, tuning the servo motor and configuring the drive is done with the [Quick Tuner™](#) software.

For connecting to external devices such as limit switches, proximity or photoelectric sensors, PLC I/O, lamps, and other devices, the drive comes with 12 digital inputs, 6 digital outputs, and 1 analog input. The drive also features an Ethernet port for configuration and communications. The Ethernet port is fast 10/100 Mbit, and the drive supports both TCP and UDP communication protocols.

This servo motor drive is UL Recognized (File No. E332730), CE approved, and RoHS compliant.

## Specifications

<b>Model Number</b>	SVAC3-Q-E120
<b>Part Number</b>	5000-224
<b>Supply Voltage</b>	108-132 VAC
<b>Supply Voltage Type</b>	AC
<b>Control Modes</b>	<ul style="list-style-type: none"><li>• Streaming Commands</li><li>• Analog Positioning</li><li>• Encoder Following</li><li>• Q Programming</li></ul>
<b>Output Current, Continuous</b>	3.5 A rms
<b>Output Current, Peak</b>	7.5 A rms
<b>Communication Ports</b>	<ul style="list-style-type: none"><li>• Ethernet</li></ul>
<b>Feedback</b>	Halls + Incremental encoder
<b>Setup Method</b>	Software setup
<b>Digital Inputs</b>	12
<b>Digital Outputs</b>	6
<b>Analog Inputs</b>	1 single-ended
<b>Dimensions</b>	5.5 x 4.5 x 2.0 inches
<b>Weight</b>	22.4 oz
<b>Operating Temperature Range</b>	0 to 70 °C
<b>Ambient Temperature Range</b>	0 to 55 °C
<b>Ambient Humidity</b>	90% max, non-condensing
<b>Status LEDs</b>	1 red, 1 green
<b>Circuit Protection</b>	<ul style="list-style-type: none"><li>• Short circuit</li><li>• Over-voltage</li><li>• Under-voltage</li><li>• Over-temp</li></ul>

## Software

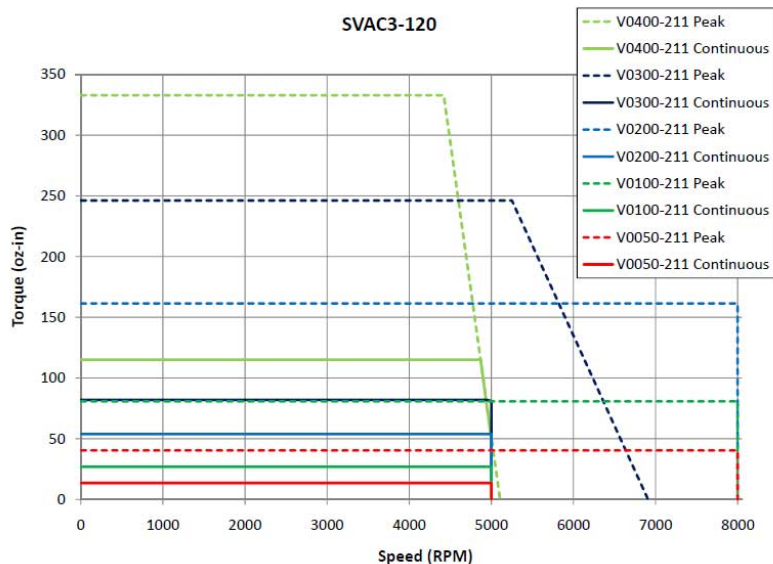
<b>Software Downloads</b>	<ul style="list-style-type: none"><li>• <a href="#">ARM Firmware Downloader</a></li><li>• <a href="#">DSP Firmware Downloader</a></li><li>• <a href="#">Q Programmer™</a></li><li>• <a href="#">Quick Tuner™</a></li><li>• <a href="#">SCL Utility</a></li></ul>
<b>Sample Code</b>	<ul style="list-style-type: none"><li>• <a href="#">C_sharp_UDP_example.zip</a></li><li>• <a href="#">VB6_UDP_example.zip</a></li><li>• <a href="#">VB6_TCP_example.zip</a></li></ul>

# Downloads

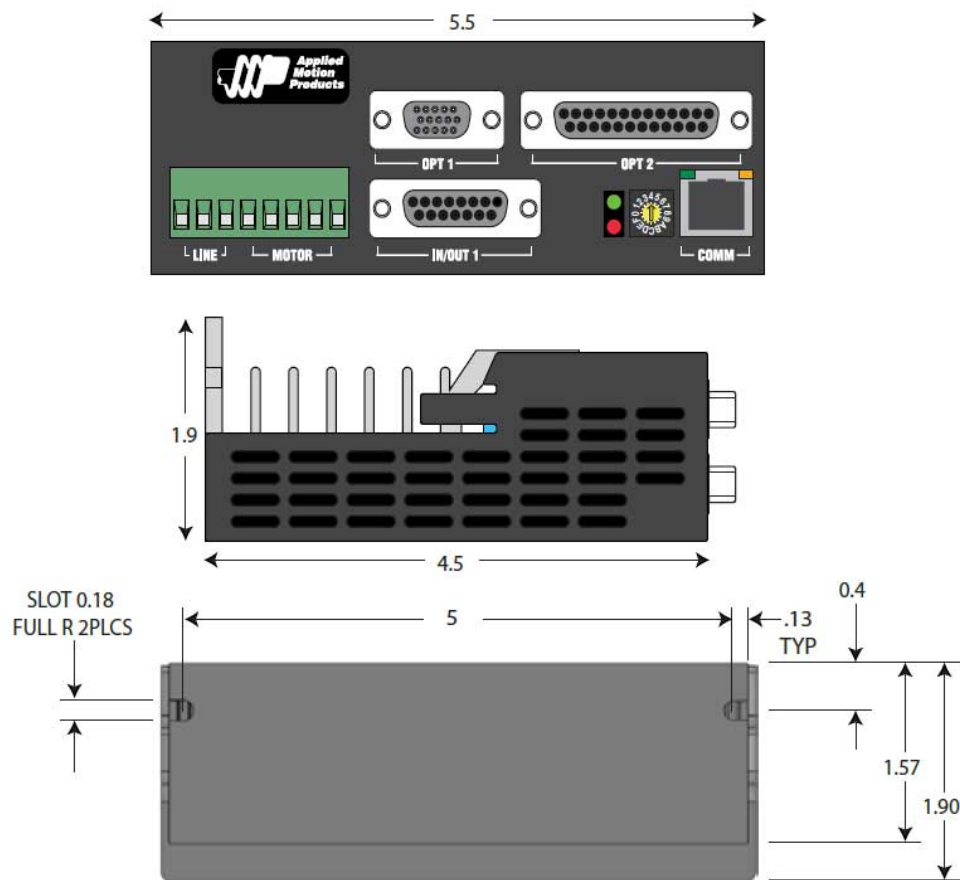
<b>Manuals</b>	<a href="#">SVAC3_Hardware_Manual_920-0028.pdf</a> <a href="#">SVAC3_QuickSetupGuide_920-0052.pdf</a> <a href="#">Host_Command_Reference_Rev_I.pdf</a> <a href="#">eSCL_Comm_Reference.pdf</a>
<b>Datasheet</b>	<a href="#">Servo-Products-Datasheet-925-0008.pdf</a>
<b>2D Drawing</b>	<a href="#">SVAC3.pdf</a>
<b>3D Drawing</b>	<a href="#">SVAC3.igs</a>
<b>Speed-Torque Curves</b>	<a href="#">SVAC3_speed-torque.pdf</a>
<b>Agency Approvals</b>	<a href="#">STAC5_SVAC3_CE_DOC.PDF</a>
<b>Application Notes</b>	<a href="#">APPN0020-Maple-Systems-with-Ethernet-Drive.zip</a> <a href="#">APPN0019_Analog-positioning-using-Q-program.zip</a> <a href="#">APPN0016_Simple-25-pin-mating-connections.pdf</a>



# Torque Curves



**Mechanical Outline**



**Products in the Series SVAC3 Servo Drives**

Model Number	Supply Voltage	Control Modes	Output Current, Continuous (A rms)	Output Current, Peak (A rms)	Communication Ports
<a href="#">SVAC3-IP-E120</a>	108-132 VAC	Streaming Commands Q Programming EtherNet/IP	3.5	7.5	Ethernet EtherNet/IP
<a href="#">SVAC3-IP-E220</a>	108-242 VAC	Streaming Commands Q Programming EtherNet/IP	1.8	3.75	Ethernet EtherNet/IP
<a href="#">SVAC3-Q-E120</a>	108-132 VAC	Streaming Commands Analog Positioning Encoder Following Q Programming	3.5	7.5	Ethernet
<a href="#">SVAC3-Q-E220</a>	108-242 VAC	Streaming Commands Analog Positioning Encoder Following Q Programming	1.8	3.75	Ethernet
<a href="#">SVAC3-S-E120</a>	108-132 VAC	Step & Direction Analog Torque / Velocity Streaming Commands	3.5	7.5	Ethernet
<a href="#">SVAC3-S-E220</a>	108-242 VAC	Step & Direction Analog Torque / Velocity Streaming Commands	1.8	3.75	Ethernet