

## STAC5-Q-N220

AC Advanced Microstep Drive w/ Q Programming

1pc. - 660.00  
50pc. - 495.00



### Product Features

- Programmable, microstepping digital step motor driver in compact package
- Advanced anti-resonance algorithm
- Torque ripple smoothing
- Microstepping to 51,200 steps/rev
- Operates from 220 VAC
- Provides motor current up to 2.55 A/phase (peak of sine) with idle current reduction
- Fast 10/100 Ethernet for programming and communications
- 744 lines of stored Q program capability
- Math calculations using analog and digital parameters
- Supports all STAC5-S control modes as well
- UDP & TCP support
- 12 digital inputs, 6 digital outputs, all optically isolated
- 1 analog input, +/- 10 volt range



## Description

The STAC5-Q-N220 stepper drive employs sophisticated current control designed for optimal smoothness over a wide speed range. Anti-resonance, torque ripple smoothing, and microstepping work together to bring step motor performance to a new high. To complement the drive Applied Motion offers a specially matched set of low-loss NEMA 23 and 34 frame motors (see Related and Recommended Products below), all specifically designed with high voltage operation in mind. Power to the drive comes from single-phase 220 VAC, and the drive can output up to 2.55 A/phase (peak-of-sine) to the step motor. Protection features like over-voltage, over-temperature, and over-current prevent damage while running in adverse conditions.

The STAC5-Q-N220 can operate in all of the same control modes as a STAC5-S drive (pulse & direction, velocity, 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, which provides 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, setting up the motor, and configuring other drive parameters is done using the [ST Configurator™](#) software.

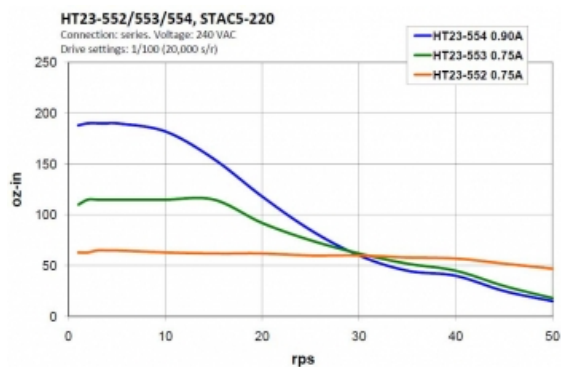
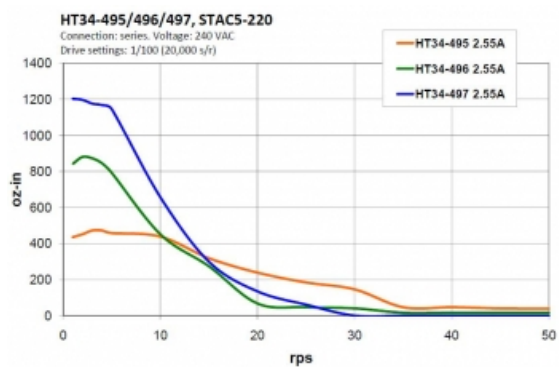
For connecting to external devices such as limit switches, proximity or photoelectric sensors, PLC I/O, lamps, and other devices, the drive comes with 12 digital inputs, 6 digital outputs, and 1 analog input. The drive also features an Ethernet port for configuration and communications. The Ethernet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

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

## Specifications

<b>Model Number:</b>	STAC5-Q-N220
<b>Part Number:</b>	5000-201
<b>Supply Voltage:</b>	94-265 VAC
<b>Supply Voltage Type:</b>	AC
<b>Control Modes:</b>	Streaming Commands Analog Positioning Encoder Following Q Programming
<b>Output Current:</b>	0.5-2.55 A/phase
<b>Communication Ports:</b>	Ethernet
<b>Encoder Feedback:</b>	No
<b>Step Resolution:</b>	Full Half Microstepping Microstep Emulation
<b>Idle Current Reduction:</b>	0-90%
<b>Setup Method:</b>	Software setup
<b>Digital Inputs:</b>	12
<b>Digital Outputs:</b>	6
<b>Analog Inputs:</b>	1
<b>Dimensions:</b>	5.5 x 4.5 x 2.0 inches
<b>Weight:</b>	22.4 oz
<b>Operating Temperature Range:</b>	0-70 °C
<b>Ambient Temperature Range:</b>	0-40 °C
<b>Ambient Humidity:</b>	90% max, non-condensing
<b>Status LEDs:</b>	1 red, 1 green
<b>Circuit Protection:</b>	Short circuit Over-voltage Under-voltage Over-temp

## Torque Curves

















## Software

**Software:** [SCL Utility](#)  
[ST Configurator™](#)

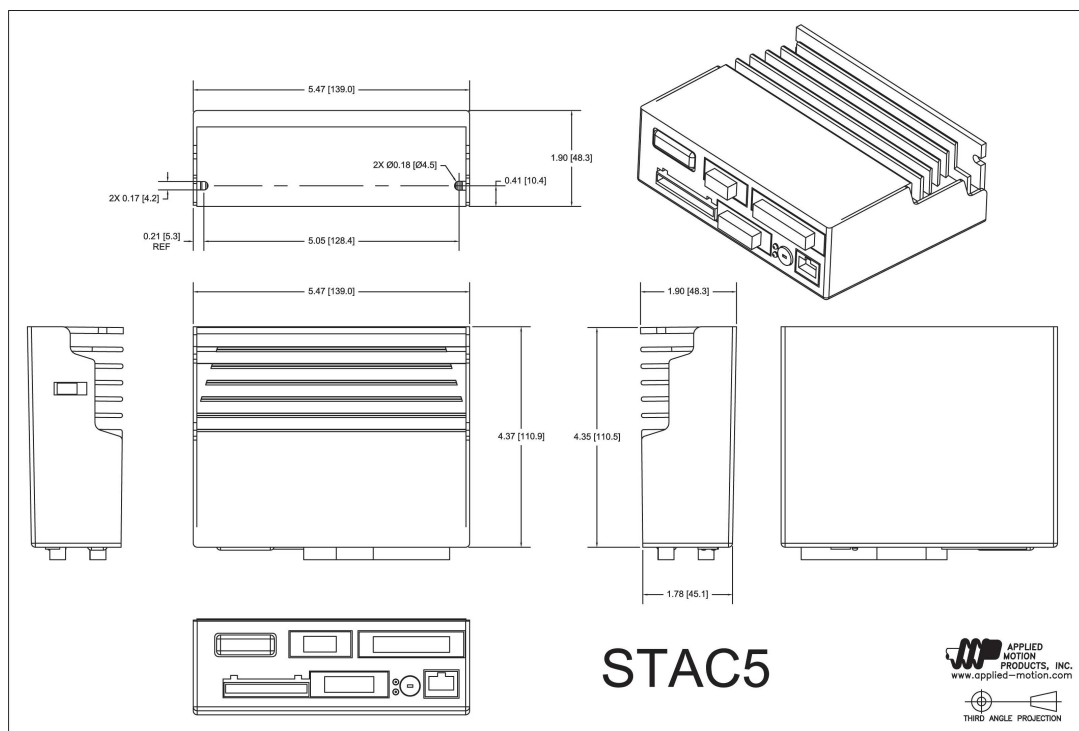
**Sample Code:** [C\\_sharp\\_UDP\\_example.zip](#)  
[VB6\\_UDP\\_example.zip](#)  
[VB6\\_TCP\\_example.zip](#)

## Downloads

<b>Manuals:</b>	<a href="#"> STAC5_Hardware_Manual_920-0026C.pdf</a> <a href="#"> STAC5_QuickSetupGuide_920-0040_.pdf</a> <a href="#"> Host Command Reference Rev I.pdf</a> <a href="#"> eSCL_Comm_Reference.pdf</a>
<b>Datasheet:</b>	<a href="http://s3.amazonaws.com/applied-motion-pdf/STAC5-Q-N220.pdf">http://s3.amazonaws.com/applied-motion-pdf/STAC5-Q-N220.pdf</a>
<b>Family Datasheet:</b>	<a href="#"> STAC5_Datasheet_925-0003.pdf</a>
<b>2D Drawing:</b>	<a href="#"> STAC5.dxf</a> <a href="#"> STAC5-1.pdf</a> <a href="#"> STAC5_simple_3D.pdf</a>
<b>3D Drawing:</b>	<a href="#"> STAC5.igs</a>
<b>Speed-Torque Curves:</b>	<a href="#"> STAC5_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>

## Pricing

STAC5-Q-N220 Part No. 5000-201	
1pc.	\$660.00
25pc.	\$567.60
50pc.	\$495.00
100pc.	<a href="#">Contact us</a> for 100+ piece pricing.



## Products in the Series *STAC5 Stepper Drives*

Model Number	Supply Voltage	Control Modes	Output Current	Communication Ports	Encoder Feedback	1pc./50pc.
<a href="#">STAC5-IP-E120</a>	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.5-5.0 A/Phase	Ethernet, EtherNet/IP	Yes	\$710.00 / \$532.50
<a href="#">STAC5-IP-E220</a>	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.5-2.55 A/Phase	Ethernet, EtherNet/IP	Yes	\$710.00 / \$532.50
<a href="#">STAC5-IP-N120</a>	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.5-5.0 A/Phase	Ethernet, EtherNet/IP	No	\$659.00 / \$494.25
<a href="#">STAC5-IP-N220</a>	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.5-2.55 A/Phase	Ethernet, EtherNet/IP	No	\$659.00 / \$494.25
<a href="#">STAC5-Q-E120</a>	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-5.0 A/Phase	Ethernet	Yes	\$726.00 / \$544.50
<a href="#">STAC5-Q-E220</a>	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-2.55 A/Phase	Ethernet	Yes	\$726.00 / \$544.50
<a href="#">STAC5-Q-N120</a>	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-5.0 A/Phase	Ethernet	No	\$660.00 / \$495.00
<a href="#">STAC5-Q-N220</a>	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-2.55 A/Phase	Ethernet	No	\$660.00 / \$495.00
<a href="#">STAC5-S-E120</a>	94-135 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands	0.5-5.0 A/Phase	Ethernet	Yes	\$471.00 / \$353.25
<a href="#">STAC5-S-E220</a>	94-265 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands	0.5-2.55 A/Phase	Ethernet	Yes	\$471.00 / \$353.25
<a href="#">STAC5-S-N120</a>	94-135 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands	0.5-5.0 A/Phase	Ethernet	No	\$405.00 / \$303.75
<a href="#">STAC5-S-N220</a>	94-265 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands	0.5-2.55 A/Phase	Ethernet	No	\$405.00 / \$303.75