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Product Datasheet

www.Applied-Motion.com

STAC5-Q-N120

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 120 VAC*
- *Provides motor current up to 5 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-N120 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 120 VAC, and the drive can output up to 5.0 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-N120 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.

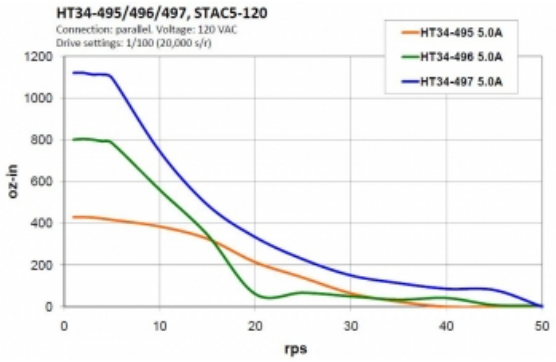
For connecting to external devices such as limit switches, proximity or photoelectric sensors, PLC I/O, lamps, and other devices, the drive comes with 12 digital inputs, 6 digital outputs, and 1 analog input. The drive also features an Ethernet port for configuration and communications. The Ethernet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

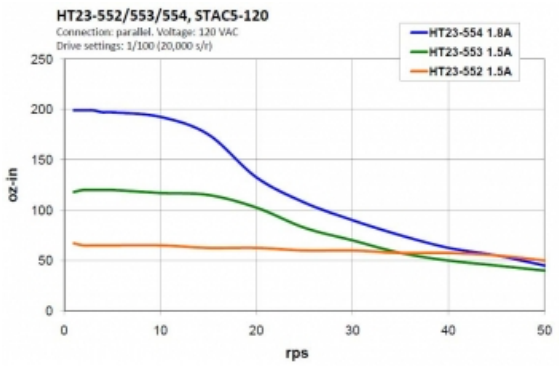
This step motor drive is UL Recognized (File No. E332730), CE approved, and RoHS compliant.

Specifications

Model Number:	STAC5-Q-N120
Part Number:	5000-200
Supply Voltage:	94-135 VAC
Supply Voltage Type:	AC
Control Modes:	Streaming Commands Analog Positioning Encoder Following Q Programming
Output Current:	0.5-5.0 A/phase
Communication Ports:	Ethernet
Encoder Feedback:	No
Step Resolution:	Full Half Microstepping Microstep Emulation
Idle Current Reduction:	0-90%
Setup Method:	Software setup
Digital Inputs:	12
Digital Outputs:	6
Analog Inputs:	1
Dimensions:	5.5 x 4.5 x 2.0 inches
Weight:	22.4 oz
Operating Temperature Range:	0-70 °C
Ambient Temperature Range:	0-40 °C
Ambient Humidity:	90% max, non-condensing
Status LEDs:	1 red, 1 green
Circuit Protection:	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

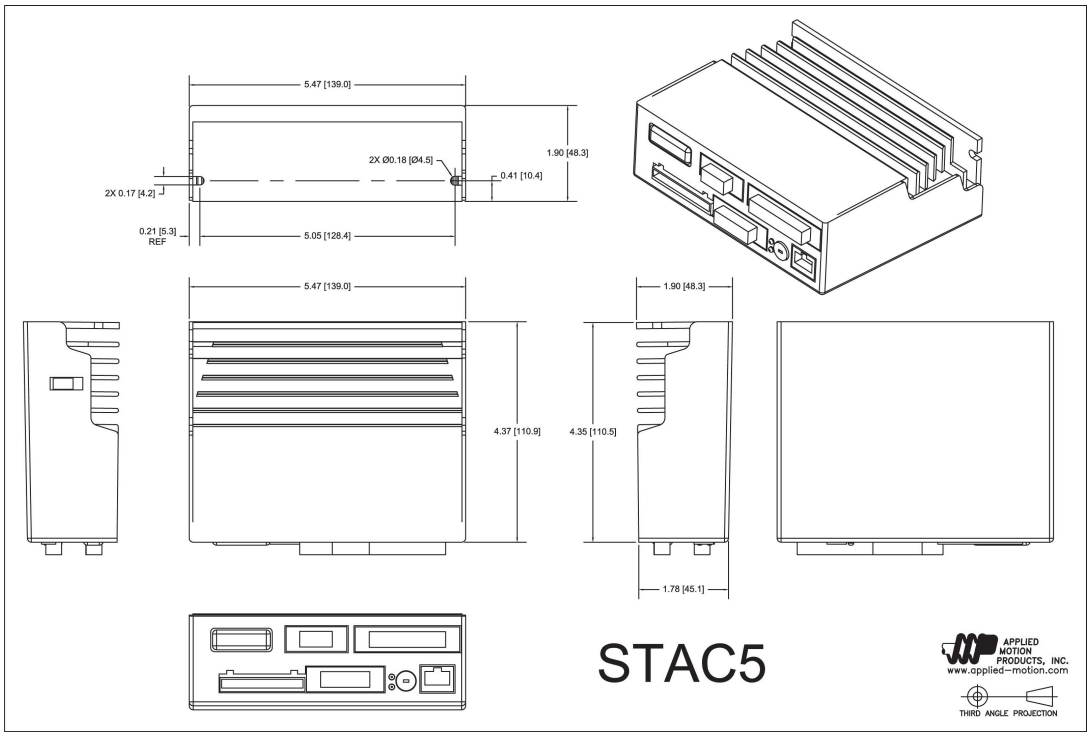
Downloads

Manuals:	STAC5_Hardware_Manual_920-0026C.pdf STAC5_QuickSetupGuide_920-0040_.pdf Host Command Reference Rev I.pdf eSCL_Comm_Reference.pdf
Datasheet:	http://s3.amazonaws.com/applied-motion-pdf/STAC5-Q-N120.pdf
Family Datasheet:	STAC5_Datasheet_925-0003.pdf
2D Drawing:	STAC5.dxf STAC5-1.pdf STAC5_simple_3D.pdf
3D Drawing:	STAC5.igs
Speed-Torque Curves:	STAC5_speed-torque.pdf
Agency Approvals:	STAC5_SVAC3_CE_DOC.PDF
Application Notes:	APPN0020-Maple-Systems-with-Ethernet-Drive.zip APPN0019_Analog-positioning-using-Q-program.zip APPN0016_Simple-25-pin-mating-connections.pdf

Pricing

	STAC5-Q-N120 Part No. 5000-200
1pc.	$660.00
25pc.	$567.60
50pc.	$495.00
100pc.	Contact us for 100+ piece pricing.

2D Drawings



Products in the Series *STAC5 Stepper Drives*

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