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Product Datasheet

www.Applied-Motion.com

STAC6-Q

AC Advanced Microstep Drive w/ Q Programming & Encoder Input

1pc. - 1,005.00
50pc. - 753.75

Product Features

- *744 lines of stored program capability*
- *Math calculations using analog and digital parameters*
- *7 digital inputs, 3 digital outputs, all optically isolated*
- *2 analog inputs, +/-10 volt range*
- *Stall prevention/detection with encoder feedback*
- *Advanced anti-resonance algorithm*
- *Torque ripple smoothing*
- *Microstepping to 51,200 steps/rev*
- *Idle current reduction*
- *32 axis multi-drop capability*
- *RS-232 cable and all mating connectors are included*
- *Compatible with many 3rd party HMIs*
- *Capable of all “S” drive control modes*

Description

The STAC6-Q stepper drive is a powerful, two-phase, bipolar step motor drive for high-speed, high-torque applications. It 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.

The STAC6-Q operates on single-phase 120 VAC and outputs up to 6.0 A/phase (peak-of-sine) to the step motor. It features over-voltage, over-temperature, and over-current protection and is complemented by a specially matched set of low-loss NEMA 23 and NEMA 34 frame step motors.

The STAC6-Q can operate in all of the same control modes as an S drive, 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

For connecting to external devices such as limit switches, proximity or photoelectric sensors, PLC I/O, lamps, and other devices, the STAC6-Q stepper drive comes with 7 digital inputs, 3 digital outputs, and 2 single-ended analog inputs (analog inputs can be wired together as 1 differential analog input). Additional I/O is available for Q drives by ordering the STAC6-QE model, which adds 8 digital inputs and 4 digital outputs to the base I/O.

The STAC6-Q stepper drive comes with an RS-232 port for configuration and programming. It also provides an RS-485 port for streaming serial (SCL) and Q commands over serial networks with up to 32 axes.

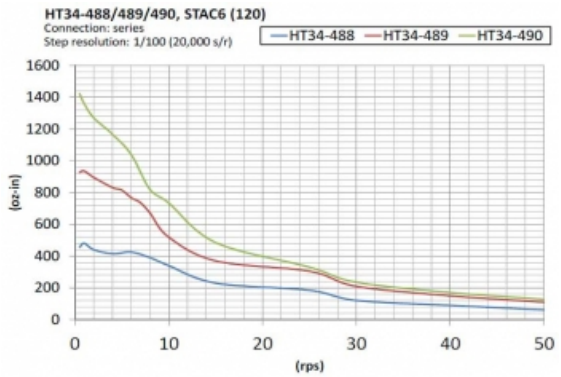
Each STAC6 drive comes with an encoder feedback connector for applications that demand a higher level of position control than ordinary open-loop step motor systems can provide. Use our double-shaft step motors with incremental encoders and activate either Stall Detection or Stall Prevention in the drive. Stall Detection notifies the system as soon as the required torque is too great for the motor, which results in a loss of synchronization between the rotor and stator, also known as stalling. Stall Prevention automatically adjusts motor speed to maintain synchronization of the rotor to the stator under all conditions. This unique feature allows step motors to operate in a much broader range of applications than previously possible, such as torque-control. The Stall Prevention feature also performs static position maintenance, which maintains the position of the motor shaft when at rest. Additionally, the inclusion of the optional encoder allows the motor to be precisely homed to the index (marker) pulse.

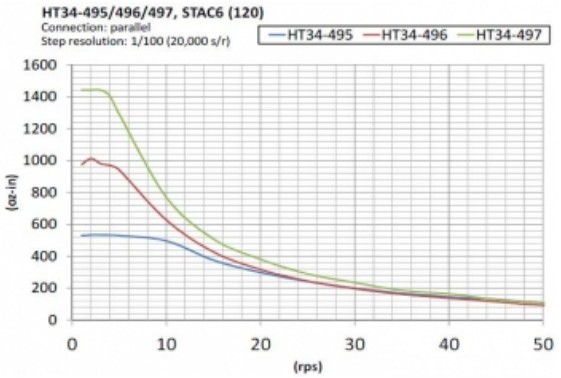
The STAC6-Q is UL Recognized (File No. E310506), CE approved, and RoHS compliant.

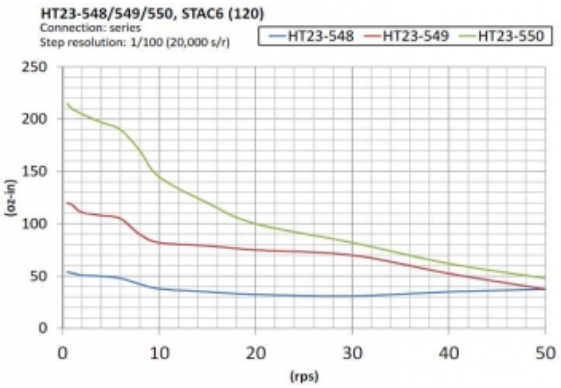
Specifications

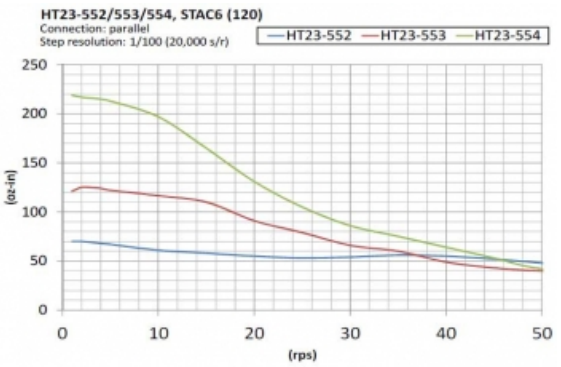
Model Number:	STAC6-Q
Part Number:	5000-112
Supply Voltage:	94-135 VAC
Supply Voltage Type:	AC
Control Modes:	Streaming Commands Analog Positioning Encoder Following Q Programming
Output Current:	0.5-6.0 A/phase
Communication Ports:	RS-232 RS-485
Encoder Feedback:	Yes
Step Resolution:	Full Half Microstepping Microstep Emulation
Idle Current Reduction:	0-100%
Setup Method:	Software setup
Digital Inputs:	7
Digital Outputs:	3
Analog Inputs:	1 differential or 2 single-ended
Dimensions:	6.35 x 4.66 x 2.31 inches
Weight:	32 oz
Operating Temperature Range:	0-55 °C
Ambient Temperature Range:	0-55 °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:	scldemo.zip

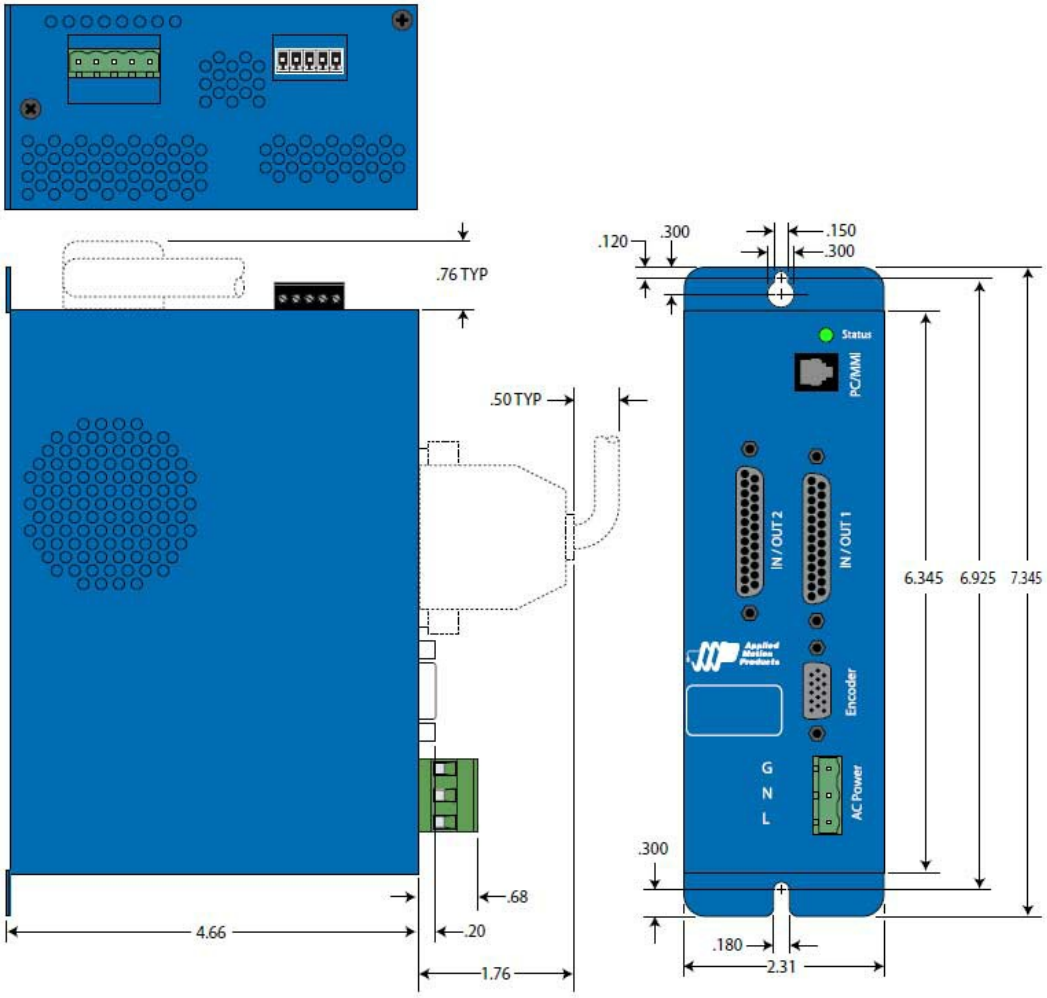
Downloads

Manuals:	STAC6_Hardware_Manual_920-0029.pdf STAC6_QuickSetup_920-0060.pdf Host Command Reference Rev I.pdf
Datasheet:	http://s3.amazonaws.com/applied-motion-pdf/STAC6-Q.pdf
Family Datasheet:	STAC6_Datasheet_925-0012.pdf
2D Drawing:	STAC6_Three_Views.pdf STAC6_simple3D.pdf
3D Drawing:	STAC6_Simple.igs
Speed-Torque Curves:	STAC6_speed-torque.pdf
Agency Approvals:	STAC6_EMC_CE_DOC.pdf STAC6_LVD_CE_DOC.pdf
Application Notes:	APPN0021_5V-Keepalive-Circuit.pdf APPN0019_Analog-positioning-using-Q-program.zip APPN0018_EZ-Series-Touchpanel-HMI.zip APPN0016_Simple-25-pin-mating-connections.pdf APPN0015_Make-a-serial-programming-cable.pdf

Pricing

	STAC6-Q Part No. 5000-112
1pc.	$1,005.00
25pc.	$864.30
50pc.	$753.75
100pc.	Contact us for 100+ piece pricing.

2D Drawings



Products in the Series *STAC6 Stepper Drives*

Model Number	Supply Voltage	Control Modes	Output Current	Communication Ports	Encoder Feedback	1pc./50pc.
STAC6-C	94-135 VAC	CANopen	0.5-6.0 A/Phase	RS-232, CANopen	Yes	$1107.00 / $830.25
STAC6-C-220	94-265 VAC	CANopen	0.5-3.2 A/Phase	RS-232, CANopen	Yes	$1212.00 / $909.00
STAC6-Q	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-6.0 A/Phase	RS-232, RS-485	Yes	$1005.00 / $753.75
STAC6-Q-220	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-3.2 A/Phase	RS-232, RS-485	Yes	$1140.00 / $855.00
STAC6-QE	94-135 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-6.0 A/Phase	RS-232, RS-485	Yes	$1160.00 / $870.00
STAC6-QE-220	94-265 VAC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming	0.5-3.2 A/Phase	RS-232, RS-485	Yes	$1305.00 / $978.75
STAC6-S	94-135 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands, SiNet Hub Compatible	0.5-6.0 A/Phase	RS-232, RS-485	Yes	$820.00 / $615.00
STAC6-S-220	94-265 VAC	Step & Direction, Velocity (Oscillator), Streaming Commands, SiNet Hub Compatible	0.5-3.2 A/Phase	RS-232, RS-485	Yes	$973.00 / $729.75
STAC6-Si	94-135 VAC	Si Programming	0.5-6.0 A/Phase	RS-232, RS-485	Yes	$1077.00 / $807.75
STAC6-Si-220	94-264 VAC	Si Programming	0.5-3.2 A/Phase	RS-232, RS-485	Yes	$1205.00 / $903.75