

STAC5-IP-E220

AC EtherNet/IP Advanced Microstep Drive w/ Encoder Input

1pc. - 710.00
 50pc. - 532.50



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
- EtherNet/IP communication protocol for network communications with PLCs and other devices
- Supports all STAC5-S and STAC5-Q control modes
- UDP & TCP support
- 12 digital inputs, 6 digital outputs, all optically isolated
- 1 analog input, +/-10 volt range
- Encoder feedback provides Stall Detection and Stall Prevention when used with a motor-mounted incremental encoder



Description

The STAC5-IP-E220 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-IP-E220 incorporates EtherNet/IP network communications, the widely used industrial protocol for manufacturing automation applications. With EtherNet/IP users can control, configure and query the drive using an open, standards-based, industrial Ethernet connection at speeds up to 100 Mbits/sec. The STAC5-IP drives run all of the same control modes as STAC5-Q drives, with the addition that all drive features can be accessed over EtherNet/IP, including more than 100 commands and 130 registers for controlling motion, I/O, configuration, polling, math, register manipulation, and Q programming.

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. In addition to EtherNet/IP the drive supports Ethernet TCP and UDP protocols for sending commands from Applied Motion's proprietary Serial Command Language (SCL). The same 10/100 Mbit Ethernet port on the drive is also used for configuring and programming the drive using the [ST Configurator™](#) and [Q Programmer™](#) software applications, respectively.

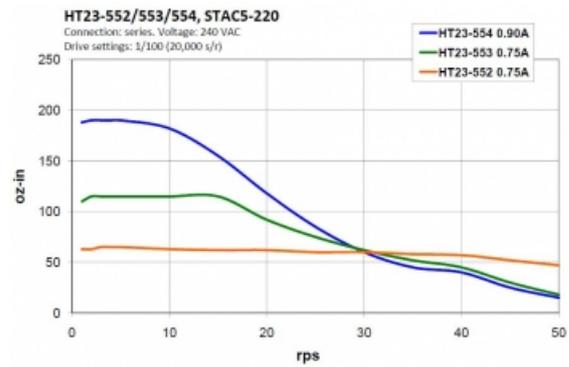
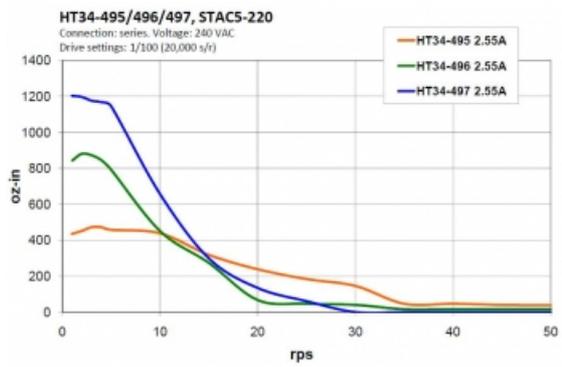
The STAC5-IP-E220 comes with an encoder feedback connector for applications that demand a higher level of position control than ordinary open-loop step motor systems can provide. Use our double-shaft step motors with incremental encoders and activate either Stall Detection or Stall Prevention in the 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.

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

Specifications

Model Number:	STAC5-IP-E220
Part Number:	5000-195
Supply Voltage:	94-265 VAC
Supply Voltage Type:	AC
Control Modes:	Streaming Commands Analog Positioning Encoder Following Q Programming EtherNet/IP
Output Current:	0.5-2.55 A/phase
Communication Ports:	Ethernet EtherNet/IP
Encoder Feedback:	Yes
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

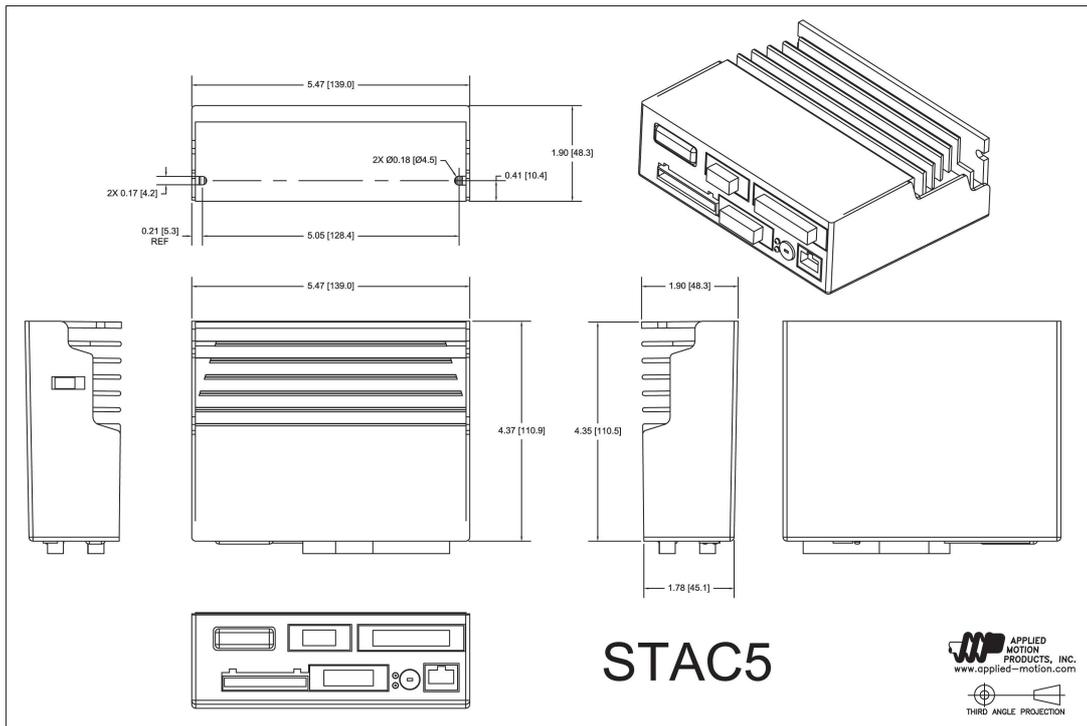
Software: [SCL Utility](#)
[ST Configurator™](#)

Downloads

Manuals:	STAC5_Hardware_Manual_920-0026C.pdf STAC5_QuickSetupGuide_920-0040_.pdf Host Command Reference Rev I.pdf
Datasheet:	http://s3.amazonaws.com/applied-motion-pdf/STAC5-IP-E220.pdf
Family Datasheet:	STAC5_Datasheet_925-0003.pdf EtherNet-IP-White-Paper_920-0050.pdf EIP_EDS_FILES.zip
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:	APPN0024_AOIs-for-RSLogix5000.zip APPN0023_MicroLogix-to-EtherNet-IP-drive.zip APPN0022_CompactLogix-to-EtherNet-IP-drive.zip APPN0016_Simple-25-pin-mating-connections.pdf

Pricing

STAC5-IP-E220 Part No. 5000-195	
1pc.	\$710.00
25pc.	\$610.60
50pc.	\$532.50
100pc.	Contact us for 100+ piece pricing.



Products in the Series *EtherNet/IP Products*

Model Number	Supply Voltage	Control Modes	Output Current	Communication Ports	Encoder Feedback	1pc./50pc.
	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	NA	Ethernet, EtherNet/IP	Yes	\$575.00 / \$431.25
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	No	\$551.00 / \$413.25
	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	NA	Ethernet, EtherNet/IP	Yes	\$585.00 / \$438.75
	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	NA	Ethernet, EtherNet/IP	Yes	\$595.00 / \$446.25
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	Yes	\$605.00 / \$453.75
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	No	\$495.00 / \$371.25
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	Yes	\$650.00 / \$487.50
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	No	\$540.00 / \$405.00
	12-70 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	Yes	\$706.00 / \$529.50
ST10-IP-EE	24-80 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.1-10.0 A/Phase	Ethernet, EtherNet/IP	Yes	\$710.00 / \$532.50
ST10-IP-EN	24-80 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.1-10.0 A/Phase	Ethernet, EtherNet/IP	No	\$659.00 / \$494.25
ST5-IP-EE	24-48 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.1-5.0 A/Phase	Ethernet, EtherNet/IP	Yes	\$655.00 / \$491.25
ST5-IP-EN	24-48 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	0.1-5.0 A/Phase	Ethernet, EtherNet/IP	No	\$607.00 / \$455.25
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
SV7-IP-EE	24-80 VDC	Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	NA	\$597.00 / \$447.75
SVAC3-IP-E120	108-132 VAC	Streaming Commands, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	NA	\$710.00 / \$532.50
SVAC3-IP-E220	108-242 VAC	Streaming Commands, Q Programming, EtherNet/IP	NA	Ethernet, EtherNet/IP	NA	\$710.00 / \$532.50

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