

## TXM24C-3CG

IP65 Rated NEMA 24 Integrated CANopen StepSERVO™ Motor

1pc. - 868.00  
50pc. - 651.00



### Product Features

- StepSERVO™ technology featuring space vector current control
- Rated IP65 for wet and dusty environments
- M12 connectors
- NEMA 24 frame size
- CANopen communication support – CiA 301 & 402
- Profile position and velocity modes
- Several homing modes supported
- Custom objects for register access and configuration
- Q programming control mode for distributed control
- “Boost” torque of 25-50% higher than holding torque
- RS-232 port for Q programming and configuration
- Built-in 20,000 count/rev encoder for closed-loop control



## Description

The TXM24C-3CG integrated StepSERVO™ is a drive+motor unit, fusing a NEMA 24 step motor and a servo drive into a single device. Power to the drive, located at the rear of the motor, must be supplied by an external DC supply. See Related and Recommended Products below for compatible 24 and 48 volt DC [power supplies](#) .

StepSERVO technology combines the high torque capabilities of a step motor with the closed loop dynamic control of a servo system. The result is a highly customizable all-in-one motion control solution that operates quietly and efficiently, requiring only the minimum amount of current to maintain commanded position and velocity. Boost torque of 25-50% higher than the rated holding torque that is available from this integrated StepSERVO motor increases the limits of acceleration, leading to faster cycle times. With software selectable servo loops that have been pre-tuned for various inertial loads, the TXM StepSERVO can be applied in systems where a traditional stepper would not be capable of achieving the high accuracy required.

The TXM24C-3CG integrated StepSERVO motor features support for the CANopen protocol, along with Q programmability for distributed control within the network. Supported CiA specifications 301 and 402 provide major functionality for operation within a CAN network. Supported modes include Profile Position, Profile Velocity, and Homing modes, as well as the ability to run stored Q programs via Applied Motion-specific CANopen objects. Q programs are created using Applied Motion's Q Programmer™ software, which provides powerful commands for motion, I/O, conditional processing, multi-tasking, math functions, and more. All TXM24 units are setup, configured and tuned using Applied Motion's [Step-Servo Quick Tuner](#) software with built in Q Programmer.

Each TXM24 CANopen integrated StepSERVO comes with 5 digital inputs and 3 digital output. The digital inputs accept signals of 5-24 VDC and can be used for connecting end-of-travel limit switches, jog switches, quadrature encoder signals, PLC outputs, sensors, or many other signal types. The digital output can be connected to PLC inputs, counters, lights, relays, or other devices.

The TXM24C-3CG comes with a combined RS-232/CAN port for programming and communications. An additional CAN port allows for easy daisy chaining of multiple integrated motors.

All TXM24 models are RoHS compliant. The TXM motors also meet IP65 standards to ensure reliable operation in wet and dusty installation environments.

### What's in the Box?

- TXM24C-3CG integrated motor
- Quick Setup Guide (also available in Downloads)

### NOT included:

- DC power supply (required), see Power Supplies below
- Mating cables (required), see Accessories below
- Regen clamp (optional), see Accessories below
- Additional accessories available below

## Specifications

<b>Part Number:</b>	TXM24C-3CG
<b>Supply Voltage:</b>	12-70 VDC
<b>Supply Voltage Type:</b>	DC
<b>Control Modes:</b>	Q Programming CANopen
<b>Communication Ports:</b>	RS-232 CANopen
<b>Encoder Feedback:</b>	Yes
<b>Setup Method:</b>	Software setup
<b>Digital Inputs:</b>	5
<b>Digital Outputs:</b>	3
<b>Analog Inputs:</b>	None
<b>Circuit Protection:</b>	Short circuit Over-voltage Under-voltage Over-temp
<b>Status LEDs:</b>	1 red, 1 green
<b>Frame Size:</b>	NEMA 24
<b>Holding Torque:</b>	340 oz-in
<b>Step Angle:</b>	1.8 deg
<b>Rotor Inertia:</b>	1.27E-02 oz-in-sec <sup>2</sup>
<b>Length:</b>	5.15 inches
<b>Weight:</b>	70.55 oz
<b>Operating Temperature Range:</b>	0 to 85 °C
<b>Ambient Temperature Range:</b>	0 to 40 °C
<b>Ambient Humidity:</b>	90% max, non-condensing
<b>Insulation Class:</b>	Class B (130 °C)

## Downloads

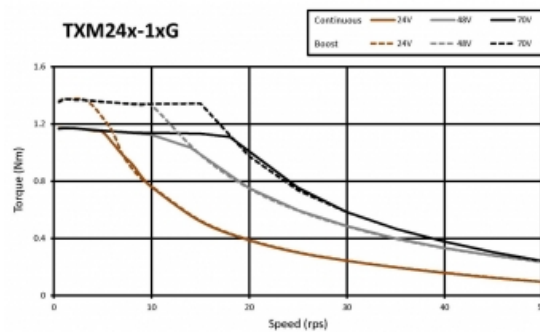
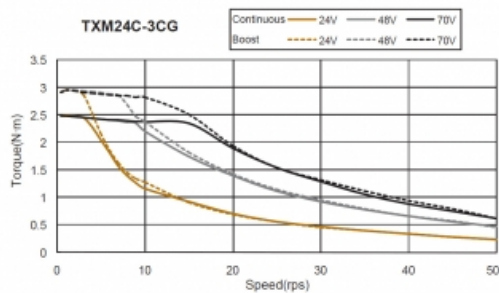
<b>Speed-Torque Curves:</b>	<a href="#">TXM24-3_C_TorqueCurve.pdf</a>
<b>Manuals:</b>	<a href="#">920-0093A_TXM24C_Quick_Setup_Guide.pdf</a> <a href="#">Host Command Reference Rev I.pdf</a> <a href="#">TXM24-C Hardware Manual_920-0088D.pdf</a>
<b>Datasheet:</b>	<a href="http://s3.amazonaws.com/applied-motion-pdf/TXM24C-3CG.pdf">http://s3.amazonaws.com/applied-motion-pdf/TXM24C-3CG.pdf</a>
<b>2D Drawing:</b>	<a href="#">TXM24C-3CG_RevA.pdf</a>
<b>3D Drawing:</b>	<a href="#">TXM24C-3.igs</a>
<b>Application Notes:</b>	<a href="#">StepSERVO Tuning Guide_962-0002A.pdf</a> <a href="#">APPN0019_Analog-positioning-using-Q-program.zip</a>

## Torque Curves

### 5.1 Torque-Speed Curves

Note: all torque curves were measured at 20,000 steps/rev.

Note: 6 amp rating is continuous, 7.5 amp rating is boost



## Software

Software: [Step-Servo Quick Tuner](#)

## Pricing

TXM24C-3CG	
Part No. TXM24C-3CG	
1pc.	\$868.00
25pc.	\$746.48
50pc.	\$651.00
100pc.	<a href="#">Request a Quote</a> for 100+ piece pricing.

## Products in the Series *TXM StepSERVO™ IP65 Rated Integrated Motors*

Part Number	Frame Size	Supply Voltage	Control Modes	Holding Torque	Communication Ports	Encoder Feedback	1 pc.
<a href="#">C-1CG</a>	NEMA 24	12-70 VDC	Q Programming, CANopen	116	RS-232, CANopen	Yes	\$824.00
<a href="#">C-3CG</a>	NEMA 24	12-70 VDC	Q Programming, CANopen	340	RS-232, CANopen	Yes	\$868.00
<a href="#">IP-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	116	Ethernet, EtherNet/IP	Yes	\$854.00
<a href="#">IP-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	340	Ethernet, EtherNet/IP	Yes	\$898.00
<a href="#">Q-1AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	116	RS-232	Yes	\$763.00
<a href="#">Q-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control	116	Ethernet	Yes	\$785.00
<a href="#">Q-1RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	116	RS-485	Yes	\$774.00
<a href="#">Q-3AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	340	RS-232	Yes	\$807.00
<a href="#">Q-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control	340	Ethernet	Yes	\$829.00
<a href="#">Q-3RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	340	RS-485	Yes	\$818.00
<a href="#">S-1AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-232	Yes	\$636.00
<a href="#">S-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	Ethernet	Yes	\$658.00
<a href="#">S-1RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-485	Yes	\$647.00
<a href="#">S-3AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-232	Yes	\$672.00
<a href="#">S-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	Ethernet	Yes	\$694.00
<a href="#">S-3RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-485	Yes	\$683.00

# Products in the Series *StepSERVO™ Integrated Motors*

Part Number	Frame Size	Supply Voltage	Control Modes	Holding Torque	Communication Ports	Encoder Feedback	1pc.
<a href="#">IP-2EG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	142	Ethernet, EtherNet/IP	Yes	\$575.00
<a href="#">IP-3EG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	212	Ethernet, EtherNet/IP	Yes	\$585.00
<a href="#">IP-4EG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	340	Ethernet, EtherNet/IP	Yes	\$595.00
<a href="#">Q-1RM</a>	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	9.2	RS-485	Yes	\$257.00
<a href="#">Q-2RM</a>	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	11.3	RS-485	Yes	\$264.00
<a href="#">Q-3RM</a>	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	17.7	RS-485	Yes	\$271.00
<a href="#">C-1CG</a>	NEMA 17	12-48 VDC	Q Programming, CANopen	40	CANopen	Yes	\$547.00
<a href="#">C-2CG</a>	NEMA 17	12-48 VDC	Q Programming, CANopen	59	CANopen	Yes	\$551.00
<a href="#">C-3CG</a>	NEMA 17	12-48 VDC	Q Programming, CANopen	73	CANopen	Yes	\$554.00
<a href="#">P-1AG</a>	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	40	RS-232	Yes	\$378.00
<a href="#">P-2AG</a>	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	59	RS-232	Yes	\$380.00
<a href="#">P-3AG</a>	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	73	RS-232	Yes	\$383.00
<a href="#">Q-1AG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	40	RS-232	Yes	\$412.00
<a href="#">Q-1RG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	40	RS-485	Yes	\$418.00
<a href="#">Q-2AG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	59	RS-232	Yes	\$415.00
<a href="#">Q-2RG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	59	RS-485	Yes	\$421.00
<a href="#">Q-3AG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	73	RS-232	Yes	\$418.00
<a href="#">Q-3RG</a>	NEMA 17	12-48 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	73	RS-485	Yes	\$424.00
<a href="#">C-2CG</a>	NEMA 23	12-70 VDC	Q Programming, CANopen	142	CANopen	Yes	\$562.00
<a href="#">C-3CG</a>	NEMA 23	12-70 VDC	Q Programming, CANopen	212	CANopen	Yes	\$576.00
<a href="#">C-4CG</a>	NEMA 23	12-70 VDC	Q Programming, CANopen	340	CANopen	Yes	\$631.00
<a href="#">P-2AG</a>	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	142	RS-232	Yes	\$392.00
<a href="#">P-3AG</a>	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	212	RS-232	Yes	\$403.00
<a href="#">P-4AG</a>	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	340	RS-232	Yes	\$445.00
<a href="#">Q-2AG</a>	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	142	RS-232	Yes	\$507.00
			Analog Torque / Velocity, Streaming				

Part #	Frame Size NEMA 23	Supply Voltage 12-70 VDC	Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	Holding Torque 142	Communication Ports RS-485	Encoder Feedback Yes	Price 1pc4.00
<a href="#">Q-3AG</a>	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	212	RS-232	Yes	\$521.00
<a href="#">Q-3RG</a>	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	212	RS-485	Yes	\$529.00
<a href="#">Q-4AG</a>	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	340	RS-232	Yes	\$576.00
<a href="#">Q-4RG</a>	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	340	RS-485	Yes	\$584.00
<a href="#">S-2AG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	142	RS-232	Yes	\$427.00
<a href="#">S-2RG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	142	RS-485	Yes	\$433.00
<a href="#">S-3AG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	212	RS-232	Yes	\$439.00
<a href="#">S-3RG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	212	RS-485	Yes	\$446.00
<a href="#">S-4AG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-232	Yes	\$485.00
<a href="#">S-4RG</a>	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-485	Yes	\$491.00
<a href="#">C-1CG</a>	NEMA 24	12-70 VDC	Q Programming, CANopen	116	RS-232, CANopen	Yes	\$824.00
<a href="#">C-3CG</a>	NEMA 24	12-70 VDC	Q Programming, CANopen	340	RS-232, CANopen	Yes	\$868.00
<a href="#">IP-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	116	Ethernet, EtherNet/IP	Yes	\$854.00
<a href="#">IP-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, EtherNet/IP, Velocity Control	340	Ethernet, EtherNet/IP	Yes	\$898.00
<a href="#">Q-1AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	116	RS-232	Yes	\$763.00
<a href="#">Q-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control	116	Ethernet	Yes	\$785.00
<a href="#">Q-1RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	116	RS-485	Yes	\$774.00
<a href="#">Q-3AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	340	RS-232	Yes	\$807.00
<a href="#">Q-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control	340	Ethernet	Yes	\$829.00
<a href="#">Q-3RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q	340	RS-485	Yes	\$818.00

Order	Frame Size	Supply Voltage	Programming, Velocity Control, Modbus Control Modes Step & Direction, Analog Torque /	Holding Torque	Communication Ports	Encoder Feedback	1 pc.
<a href="#">S-1AG</a>	NEMA 24	12-70 VDC	Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-232	Yes	\$636.00
<a href="#">S-1EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	Ethernet	Yes	\$658.00
<a href="#">S-1RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-485	Yes	\$647.00
<a href="#">S-3AG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-232	Yes	\$672.00
<a href="#">S-3EG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	Ethernet	Yes	\$694.00
<a href="#">S-3RG</a>	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-485	Yes	\$683.00