

StepSERVO™ Integrated Motors

Closed loop for high performance, energy efficiency and quiet operation



Product Features

- Closed-loop servo control using high torque step motors
- High acceleration for faster machine cycles and greater productivity
- Energy efficient, cool running
- All-in-one compact solution
- IP65 versions for wet and dusty environments
- Stand-alone operation (stored Q programming)
- EtherNet/IP industrial networking option
- CANopen fieldbus option
- Modbus RTU option for easy PLC/HMI connection



Series Details:

Customers who build high throughput production machinery demand cost effective high performance motion control. Applied Motion has responded to this demand by developing a broad range of StepSERVO™ motors.

Ideally suited for applications such as packaging and labeling, automated test and measurement, automated assembly and life sciences, StepSERVO™ motors use closed loop feedback and advanced control technology to create 50% more torque, fast dynamic response and high operating efficiency. This approach combines the best features of step motor and servo system performance in a cost effective motion control solution.

Why choose StepSERVO™?

StepSERVO™ is the next evolution in step motor technology. Starting with a proven integrated motor design, we add a high-resolution incremental encoder and closed-loop servo firmware to create a motor that offers the best step motor performance available today. StepSERVO™ motors offer the same high-torque-at-low-speed and excellent holding torque characteristics of open loop stepping motors with the advantages of true closed-loop control. These advantages include the ability to create peak torques from the motor up to 50% higher than the normal torque range of the same step motor running open loop. Closed-loop also means the motor only draws current when it needs it, so step motors now run cooler than ever before.

- NEMA frame size 17, 23 and 24 StepSERVO motors utilize 5000 line incremental encoders (20,000 counts/rev)
- NEMA frame size 11 StepSERVO motors utilize 1024 line incremental encoders (4,096 counts/rev)

There are three types of StepSERVO™ to choose from:

SSM integrated steppers...

- NEMA 23 frame size motors
- Ethernet (RJ-45) port for programming
- EtherNet/IP industrial networking standard
- Three motor lengths (stack lengths) available to provide the highest amount of torque in the shortest motor possible.

TSM integrated steppers...

- NEMA 11 (New!), NEMA 17 and NEMA 23 frame size motors
- RS-232 or RS-485 port for programming and streaming commands
- Control options including CANopen fieldbus control, digital step & direction control, analog velocity mode, streaming commands and stand-alone operation using stored Q programs.
- Three motor lengths available in each frame size to provide the highest amount of torque for each length.

TXM integrated steppers...

- IP65 rated for wet and dusty environments
- NEMA 24 frame size motors
- RS-232, RS-485 or Ethernet port (M12) for programming, streaming commands and fieldbus/networking
- Control options include CANopen fieldbus control, EtherNet/IP industrial networking, digital step & direction control, analog velocity mode, streaming commands and stand-alone operation using stored Q programs.
- Two motor lengths available to provide both a lower torque and a higher torque option depending on application requirements.

Products in the Series *StepSERVO™ Integrated Motors*

Part Number	Frame Size	Supply Voltage	Control Modes	Holding Torque	Communication Ports	Encoder Feedback	1pc.
SSM23IP-2EG	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
SSM23IP-3EG	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
SSM23IP-4EG	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
TSM11Q-1RM	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	9.2	RS-485	Yes	\$257.00
TSM11Q-2RM	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	11.3	RS-485	Yes	\$264.00
TSM11Q-3RM	NEMA 11	15-30 VDC	Step & Direction, Streaming Commands, Encoder Following, Q Programming, Velocity Control, Modbus	17.7	RS-485	Yes	\$271.00
TSM17C-1CG	NEMA 17	12-48 VDC	Q Programming, CANopen	40	CANopen	Yes	\$547.00
TSM17C-2CG	NEMA 17	12-48 VDC	Q Programming, CANopen	59	CANopen	Yes	\$551.00
TSM17C-3CG	NEMA 17	12-48 VDC	Q Programming, CANopen	73	CANopen	Yes	\$554.00
TSM17P-1AG	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	40	RS-232	Yes	\$378.00
TSM17P-2AG	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	59	RS-232	Yes	\$380.00
TSM17P-3AG	NEMA 17	12-48 VDC	Step & Direction, Encoder Following	73	RS-232	Yes	\$383.00
TSM17Q-1AG	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
TSM17Q-1RG	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
TSM17Q-2AG	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
TSM17Q-2RG	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
TSM17Q-3AG	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
TSM17Q-3RG	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
TSM23C-2CG	NEMA 23	12-70 VDC	Q Programming, CANopen	142	CANopen	Yes	\$562.00
TSM23C-3CG	NEMA 23	12-70 VDC	Q Programming, CANopen	212	CANopen	Yes	\$576.00
TSM23C-4CG	NEMA 23	12-70 VDC	Q Programming, CANopen	340	CANopen	Yes	\$631.00
TSM23P-2AG	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	142	RS-232	Yes	\$392.00
TSM23P-3AG	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	212	RS-232	Yes	\$403.00
TSM23P-4AG	NEMA 23	12-70 VDC	Step & Direction, Encoder Following	340	RS-232	Yes	\$445.00
TSM23Q-2AG	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning,	142	RS-232	Yes	\$507.00

TSM23Q-2AG	NEMA 23	12-70 VDC	Encoder Following, Q Programming, Velocity Control, Modbus	142	RS-232	Yes	\$507.00
TSM23Q-2RG	NEMA 23	12-70 VDC	Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Q Programming, Velocity Control, Modbus	142	RS-485	Yes	\$514.00
TSM23Q-3AG	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
TSM23Q-3RG	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
TSM23Q-4AG	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
TSM23Q-4RG	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
TSM23S-2AG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	142	RS-232	Yes	\$427.00
TSM23S-2RG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	142	RS-485	Yes	\$433.00
TSM23S-3AG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	212	RS-232	Yes	\$439.00
TSM23S-3RG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	212	RS-485	Yes	\$446.00
TSM23S-4AG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-232	Yes	\$485.00
TSM23S-4RG	NEMA 23	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-485	Yes	\$491.00
TXM24C-1CG	NEMA 24	12-70 VDC	Q Programming, CANopen	116	RS-232, CANopen	Yes	\$824.00
TXM24C-3CG	NEMA 24	12-70 VDC	Q Programming, CANopen	340	RS-232, CANopen	Yes	\$868.00
TXM24IP-1EG	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
TXM24IP-3EG	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
TXM24Q-1AG	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
TXM24Q-1EG	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
TXM24Q-1RG	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
TXM24Q-3AG	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

TXM24Q-3EG	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
TXM24Q-3RG	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
TXM24S-1AG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-232	Yes	\$636.00
TXM24S-1EG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	Ethernet	Yes	\$658.00
TXM24S-1RG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	116	RS-485	Yes	\$647.00
TXM24S-3AG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-232	Yes	\$672.00
TXM24S-3EG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	Ethernet	Yes	\$694.00
TXM24S-3RG	NEMA 24	12-70 VDC	Step & Direction, Analog Torque / Velocity, Streaming Commands, Analog Positioning, Encoder Following, Velocity Control	340	RS-485	Yes	\$683.00