

STM23Q-2RN

NEMA 23 Integrated Drive+Motor w/ Q Programming



Product Features

- Sophisticated current control
- Anti-resonance
- Torque ripple smoothing
- Microstep emulation
- Q programming mode for stand-alone control
- Capable of all "S" control modes
- RS-485 port for programming and communications



Description

The STM23Q-2RN integrated stepper is a drive+motor unit, fusing a NEMA 23 step motor and a sophisticated 5.0 A/phase (peak-of-sine) stepper 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](#).

The STM23Q-2RN integrated stepper can operate in all of the same control modes as the S option, plus the ability to run a Q program stored in non-volatile memory. 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 STM23 units are setup and configured using Applied Motion's [ST Configurator™](#) software.

Each STM23 integrated stepper comes with 3 digital inputs, 1 digital output, and 1 analog input. The digital inputs accept signals of 5-24 VDC and can be used for connecting pulse & direction signals, 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 analog input accepts 0-5 VDC signals and can be used for velocity and position control.

The STM23Q-2RN comes with an RS-485 port for programming and serial communications.

Specifications

Part Number	STM23Q-2RN
Supply Voltage	12-70 VDC
Supply Voltage Type	DC
Control Modes	<ul style="list-style-type: none">• Streaming Commands• Analog Positioning• Encoder Following

	<ul style="list-style-type: none"> • Q Programming
Communication Ports	<ul style="list-style-type: none"> • RS-485
Encoder Feedback	No
Step Resolution	<ul style="list-style-type: none"> • Full • Half • Microstepping • Microstep Emulation
Idle Current Reduction	0-90%
Setup Method	Software setup
Digital Inputs	3
Digital Outputs	1
Analog Inputs	1 single-ended
Circuit Protection	<ul style="list-style-type: none"> • Short circuit • Over-voltage • Under-voltage • Over-temp
Status LEDs	1 red, 1 green
Frame Size	NEMA 23
Holding Torque	125 oz-in
Step Angle	1.8 deg
Rotor Inertia	3.68E-03 oz-in-sec ²
Length	3.64 inches
Weight	30 oz
Operating Temperature Range	0 to 85 °C
Ambient Temperature Range	0 to 40 °C
Ambient Humidity	90% max, non-condensing
Insulation Class	Class B (130 °C)
Maximum Radial Load	NA
Maximum Thrust Load	NA
Shaft Run Out	NA
Radial Play	NA
End Play	NA
Perpendicularity	NA
Concentricity	NA