

MDrive® Plus² MDI•34AC

CE  REACH IP54

NEMA 34 Programmable Motion Control
integrated 1.8° 2-phase stepper motor &
control electronics



PRODUCT OVERVIEW

MDrive® Plus² 34ac Motion Control products integrate 1.8° 2-phase stepper motor, fully programmable motion controller, drive electronics, power supply and optional encoder. Products with encoders include stall detection, position maintenance, and find index mark.

Programming for these stand-alone motion control solutions is via RS-422/485 interface with MCode software using simple 1 to 2 character instructions.

MDrive Plus² products deliver reliable performance for new and existing motion control applications. Satisfying the requirements for a wide range of machine builders.

Simplify your machine design and reduce cabinet size by replacing several components with one product. You also eliminate multiple potential failure points, and lower the risk of electrical noise by eliminating cabling between motor and drive.

These compact, powerful and cost effective motion control solutions deliver exceptional smoothness and performance that can reduce system cost, design and assembly time for a large range of 2-phase stepper motor applications.

FEATURES AND BENEFITS

- Integrated microstepping drive, programmable motion controller, NEMA34 1.8° 2-phase stepper motor, and AC power supply
- Advanced current control for exceptional performance and smoothness
- Single supply: 120 or 240 VAC
- 20 microstep resolutions up to 51,200 steps per rev, including: Degrees, Metric, & Arc Minutes
- Auxiliary logic power supply input
- 0 to 5 MHz step clock rate selectable in 0.59 Hz increments
- Up to eight I/O lines and one 10-bit selectable analog input
- IP54 protection rating
- Thermal temp & over voltage/current warning
- Programmable motor run/hold current
- Available options include:
 - Encoder
 - Multiple motor stack lengths
 - Rear control knob for manual positioning
- Single, double, & triple motor stack lengths available
- Graphical user interface provided for quick and easy parameter setup



Additional setup, quick reference information, and supporting documents are available for download from the Novanta IMS download website <https://novantaims.com/dloads/>

Three-dimensional depictions of this product are available for download from <https://novantaims.com/dloads/3d-product-models/>



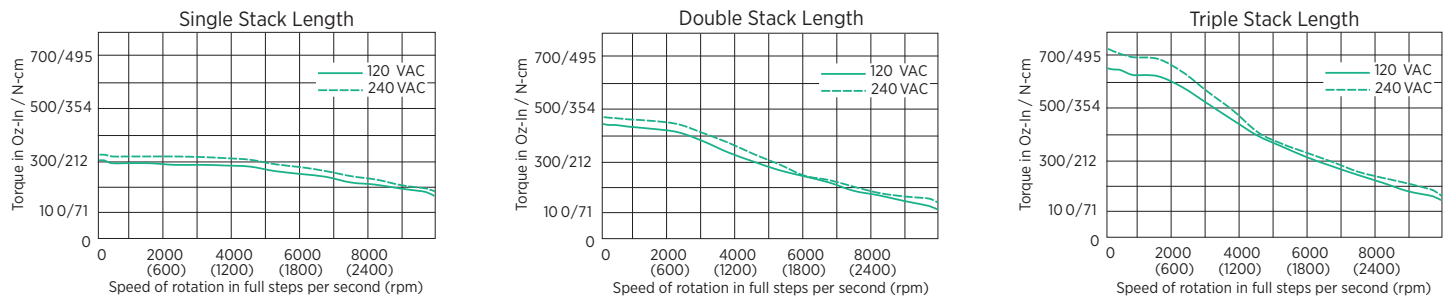
To select from the available features and build the LMD integrated stepper motor to fit your needs, use the Novanta IMS part number builder, available online at <https://novantaims.com/resources/part-number-builders/>

MDrive Plus² MDI•34AC Programmable Motion Control

Motor Performance

		MDrive 34AC		
Motor	Stack length	Single	Double	Triple
Holding torque	oz-in	330	500	750
	N-cm	233	353	529
Detent torque	oz-in	10.9	14.16	19.83
	N-cm	7.7	10.0	14.0
Rotor inertia	oz-in-sec ²	0.01416	0.02266	0.04815
	kg-cm ²	1.0	1.6	3.4
Weight (motor+driver)	oz	6.4	7.7	11.0
	g	2.9	3.5	5.0

Motor Speed Torque



Test conditions: 100% current with damper simulating load.

Accessories

Description	Length feet (m)	Part Number
Communication Converters		
Electrically isolated, in-line converter pre-wired with mating connector to conveniently set/program communication parameters for a single MDrive Plus via a PC's USB port.		
Mates to 5-pin female M12 industrial connector	12.0 (3.6)	MD-CC401-001
Prototype Development Cables		
Speed test/development with pre-wired mating connector with other cable end open.		
Mates to 19-pin male M23 industrial connector with straight termination for I/O, communication and optional encoder	13.0 (4.0)	MD-CS100-000
Mates to 19-pin male M23 industrial connector with right angle termination for I/O, communication and optional encoder	13.0 (4.0)	MD-CS101-000
Mates to 3-pin male Euro AC industrial connector with straight termination for power	13.0 (4.0)	MD-CS200-000
Mates to 3-pin male Euro AC industrial connector with right angle termination for power	13.0 (4.0)	MD-CS201-000
Quick Start Kit		
For rapid design verification, all-inclusive QuickStart Kits includes prototype development cables and communication converter for MDrivePlus initial functional setup and system testing.		
For all MDrive 34 programmable motion control products, add a "K" to the beginning of the part number when ordering		