

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

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We buy your excess, underutilized, and idle equipment
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Custom engineering
so your equipment works exactly as you specify.

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- In stock / Ready-to-ship
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- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

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Find the *Danaher Motion / IDC NextStep* at our website: *Click HERE*

Overview

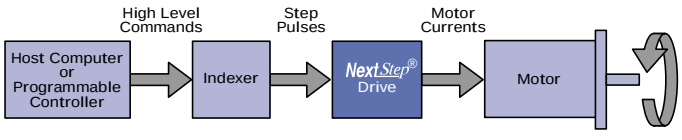


A NextStep® microstepping drive incorporates all the standard features you expect from a competitive, world class motor/drive package and much more, all at a competitive price. IDC has taken step motor performance to a new level of innovation providing performance enhancements, convenience, and quality resulting in genuine value. The NextStep®'s revolutionary design consumes significantly less panel space than other fully packaged systems, delivers an industry leading 17 Watts/in^3, is designed for long life and durability, and most important, the NextStep® increases your system's throughput to levels previously unachievable using open-loop positioning systems.

NextStep® in Functionality and Flexibility

- Operates from standard line voltages of 120 VAC & 240 VAC
- Accepts step & direction or optional CW/CCW step input
- Descriptive tri-color diagnostic LEDs
- Eight user-selectable drive resolutions of up to 50,000 steps/rev with additional resolutions optional
- Achieves peak step motor performance from the motor supplier of your choice
  - 160 VDC bus voltage (120 version) with selectable motor current setting of up to 7.9 amps
  - 320 VDC bus voltage (240 version) with selectable motor current setting of up to 3.9 amps
  - Available with high torque 17, 23, 34, & 42 frame step motors
  - Adjustable motor current waveform for optimal smoothness, and step to step accuracy
- Built in regenerative circuit safely dissipates energy from large inertial loads

Indexer, Drive, Motor Diagram



Compatible Mechanics:
EC2-S, EC3-S, EC4-S, EC5-S, NV-S, N2-S, R2A-S, R3-S, R4-S Positioning Tables

Industrial Devices Corporation
707-789-1000 • 800-747-0064 • E-mail: info@idcmotion.com

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Overview

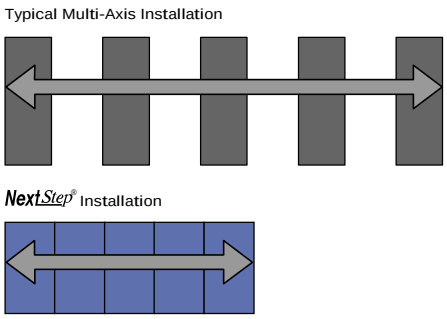


Figure 1. The latest technology in power electronics allows multiple NextStep® drives to be mounted side-by-side for the most efficient use of panel space.

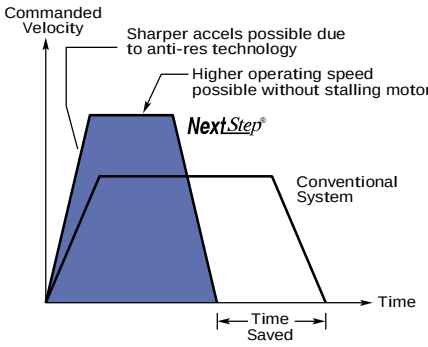


Figure 2. Higher acceleration rates and operating speeds result in better cycle times, higher through-put and better productivity.

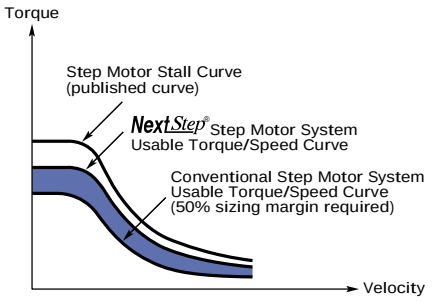


Figure 3. The NextStep® drive provides more usable torque from a given motor than any other microstepping drive on the market today, and generates a significantly better speed/torque curve than conventional step motor systems.

NextStep® in Innovation

- The microstepping industry's first Auto-Adjusting Current Loop delivers more torque at higher speeds for a better speed/torque curve (see Figure 3)
- The NextStep®'s proprietary Anti-Resonance circuitry provides optimum motor performance throughout the entire speed range resulting in:
  - The best throughput available in a stepper drive/motor package
  - Less motor vibration and more usable torque
  - Highest acceleration/deceleration rates possible from the Step Motor (see Figure 2)
  - Overall better Speed/Torque curves delivering more torque at higher speeds (see Figure 3)
  - Smoother performance throughout the entire motion profile
- Internal Cooling Tunnel keeps drive electronics cool and clean for long life (Patent in progress)
- The NextStep®'s efficient design allows it to be stacked together dramatically reducing panel space (see Figure 1)

The NextStep® in Quality

- CE, cULus certified
- Guaranteed to be reliable in unpredictable conditions: short circuit, over temperature, under voltage, and motor regenerative energy protected
- IDC's innovative internal cooling tunnel keeps drive electronics cool & clean for many years of reliable operation and performance
- The user selectable REST switch reduces motor current when your drive is powered, but not in use, reducing both the drive and motor temperature
- The NextStep® uses the latest in surface mount technology and energy efficient hybridized power circuitry
- All NextStep® drives undergo rigorous testing and burn-in processes prior to shipment
- The NextStep® is backed by IDC with a two year warranty

and the NextStep® in Value!

- Dollar for Dollar, square inch for square inch, the best throughput available in a stepper drive/motor package
- Designed for quick and easy installation & operation
- Built in power supply and compact design saves the user time and valuable panel space
- Accessible and removable screw terminal connectors for easy wiring
- Removable connectors are conveniently located on top and bottom of drive for clean panel layout
- Compact design and "stackability" minimizes required panel space (see Figure 1)
- Best Drive Power Density in the Microstepping Industry!

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Specifications

	NextStep®	NextStep®–240
AC Power Input	90-120 VAC Single Phase, 50/60 Hz 500 VA max, @ 7.9 amp setting	100-240 VAC Single Phase, 50/60 Hz 500 VA max, @ 3.9 amp setting
Motor Current	0-7.9 amps, 0.1 amp increments If current setting is higher than 6 amps, drive will fold back current to 6 amps when the motor is at rest	0-3.9 amps, 0.1 amp increments No automatic current fold back feature in NextStep®-240
Bus Voltage	160 VDC nominal	320 VDC nominal
Standard Resolutions	5000, 10000, 18000, 20000, 25000, 25400, 36000, 50000	
Low Resolution Option	200, 400, 1000, 2000	

Motor Compatibility

Type	2 phase, hybrid permanent magnet, 1.8° full step
Inductance	2–60 mH for NextStep®; 8–240 mH for NextStep®-240. Motor inductance less than 10 mH set dipswitch to low. Greater than or equal to 10 mH set to high. Combines with Auto Adjusting Current Loop to optimize performance of any inductance step motor .

Amplifier

Switching Frequency	20 kHz
Protection	
Short Circuit	Amp disabled if phase to phase, or phase to ground short detected
Brownout (Under Voltage)	Amp disabled if supply drops below 90 VAC (100 VAC for -240 version)
Over Temperature	Amp disabled if heatsink exceeds 65° C
Interlock	Amp disabled if interlock connection is broken on motor connector
Regen/Over Voltage	Amp disabled if regen condition causes bus voltage to exceed 220 VDC for 120 VAC input voltage, or 440 VDC for 240 VAC input voltage
Rest (Current Settings)	Switch Selectable. If selected, will reduce motor current to 1 amp after no motion has occurred for 20 minutes. Full current level will resume upon receipt of next step pulse. Reduces drive and motor temperature
Idle (Current Settings)	Switch Selectable. If selected will reduce current to 75% of drive setting if no step pulses are received for 10 ms. Full current level will resume upon receipt of next step pulse. Reduces drive and motor temperature.
Waveform	Switch Selectable. Configures the shape of the current waveform. Default is pure sinusoid. Turning switch On changes waveform to -4% 3rd harmonic. Optimizes smoothness and step-to-step accuracy.

Command Interface

Inputs	Step, direction, and shutdown are optically isolated. (6.5 ma min, 15 ma max) CW/CCW mode is optional & must be ordered from the factory.
Step	250 nsec min width, 2 Mhz max pulse rate, triggered on rising edge
Direction	Logic Low = CW rotation, High = CCW rotation. Direction of motor rotation (CW/CCW) is determined by looking down the motor towards the load. A 0.4 µs set up time is required after a direction change before next step pulse is sent to the drive.
Shutdown	Current Conducting = Amp Disabled, Current not Conducting = Amp Enabled
Fault Output	Optically isolated NPN, Collector (Fault+) and Emitter (Fault-) connections available. Fault output is normally ON (current flowing)
LED Indications	Steps Received, Direction Received, Over-Voltage, Thermal Shutdown, Under Voltage, Interlock, Regen, Short Circuit

Environment

Operating Ambient Temp.	Max. ambient temperature of 50°C (122°F) @ 6 amps current setting
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Humidity	0% to 90% non-condensing
Dimensions	5.4 x 5.4 x 2.5 inches

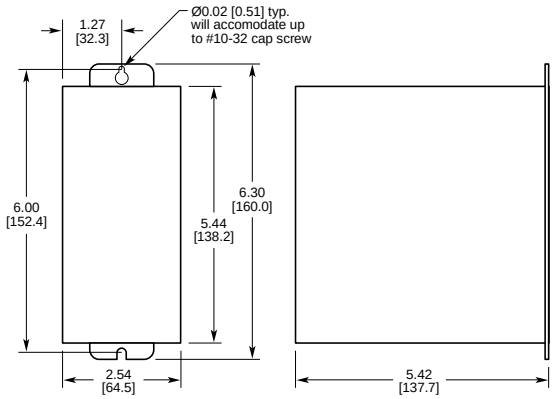
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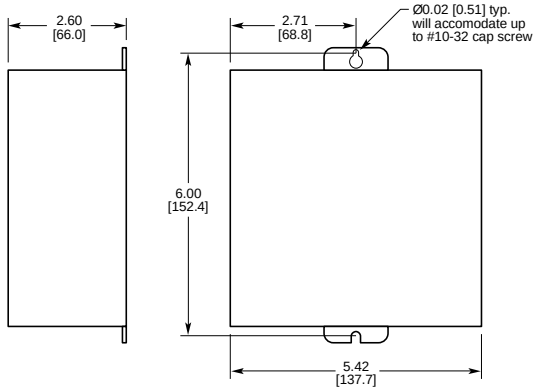
Specifications

Mounting Dimensions in [mm]

Minimum Width (Standard)



Minimum Depth (must order as an option)



How To Order

Model	Description	Options	Description
NextStep®	Single axis, 7.9 amp microstepping drive 120 VAC input voltage	LRES	Low drive resolution
NextStep®–240	Single axis, 3.9 amp microstepping drive 240 VAC input voltage	CW	CW/CCW option
		MD	Minimum depth mounting option

To confirm your selection, review the checklist on page G-6.

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