

ViX Series



Winner of
Control Engineering
Magazine's
Editors' Choice
Award 2002

Small, Intelligent and Powerful Digital Servo/Stepper Drives and Drive/Controllers

With its all-digital, DC-powered design, the ViX family of award-winning drives and drive/controllers offers a new level of economical servo performance. Available in both drive-only and intelligent-drive/controller platforms, the ViX family gives users a robust and cost-effective DC product, particularly in multi-axis applications.

Designed for easy set-up and tuning, the ViX uses wizards-based software that enables users to implement a fully configured system within minutes of unpacking the unit. Its small size—just 4.9 x 1.65 x 3.35 inches—makes it ideal for narrow applications and for direct-panel mounting, or for attachment to a standard DIN rail using an optional adapter.

ViX General Features

- Up to 80VDC bus voltage
- Compact size: 4.9 x 1.65 x 3.35 inches
- Standard RS232C ASCII interface
- 5 digital inputs and 3 digital outputs (software configurable)
- CE (EMC & LVD), UL compliant
- Auto-correction of motor phase/feedback wiring (servo only)

Servo-Specific Features

- Accepts analog ($\pm 10V$), step/direction, CW/CCW signals
- Encoder following
- Current outputs of 2.5A RMS continuous and 5A RMS continuous
- Resolver or encoder feedback

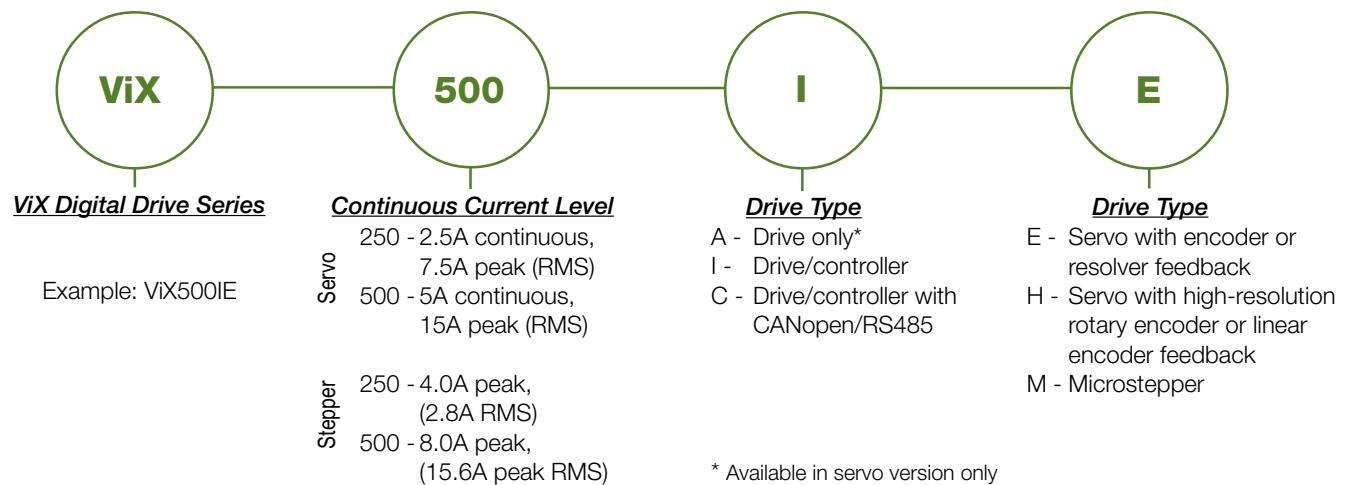
Stepper-Specific Features

- Integer selectable resolution from 200 to 51,200 steps/rev
- Anti-resonance circuitry suppresses mid-range instability
- Recommended motor inductance range of 0.5 mH to 20 mH

Servo and Stepper Optional Controller-Specific Features

- Storage of up to 16 sequences
- Encoder following, registration, feed-rate override
- 5 digital inputs, 3 digital outputs, 1 analog input
- Conditional statements
- Optional RS485/CANbus interface

ViX Part Numbering System



* Available in servo version only

ViX Common Specifications

Drive Input Power

Voltage

ViX500

48-80VDC +5%, -15%

ViX250

24-80VDC +5%, -15%

Controller input power

24VDC, 250mA (no outputs loaded)

Drive Output Current

ViX500

Servo
5A RMS continuous, 15A RMS peak*

Stepper

8.0A pk (5.6 Arms)

ViX250

2.5A RMS continuous, 7.5A RMS peak*

4.0A pk (2.8 Arms)

Physical

Compumotor motors

See table on page 3

Motor inductance range

0.5-10mH recommended (speed range reduced if >10mH)

Motor current limit

Selectable by software

PWM/Motor ripple frequency

20 KHz/40 KHz

Protection

Short-circuit, brownout, over-voltage, under-voltage, drive/motor over-temperature I²t, feedback fault

Performance

Feedback device (servo only)

Resolver or quadrature encoder (selected by software)

Resolver feedback (servo only)

12-bit A-to-D input (gives 4096 counts/rev), absolute accuracy 30 arc-min

Encoder feedback

5V differential, 400 KHz max. input frequency (pre-quadrature), resolution 1000, 1024, 2000 or 5000 lines (i.e., up to 20,000 counts/rev). The H series has fully variable resolution and will support up to 2.5 MHz pre-quadrature encoder input.

Encoder supply

5V output for feedback and following encoder, 250mA maximum loading

Drive Command Inputs

(AE, AH models only)

Velocity and Torque modes

±10V differential, 12-bit resolution

Position mode

Step/direction, step+/step- or quadrature encoder** input with resolution equivalent to feedback device

Digital Inputs

Encoder following input

5, of which 4 are configurable as Home, Limits and Registration. Operating range 5V to 24V. Software configurable 4K7 pull-up/active low or 4K7 pull-down/active high

Compatible with feedback resolution, max. input frequency 2.5MHz. Also configurable as step/direction or step+/step- input

Outputs

Digital outputs

3 - 1 is configurable as Drive OK. Software-configurable active-low/sinking (5V-24V) or active-high/sourcing (24V only). 50mA maximum per output

Encoder output

Fixed resolution (dependent on feedback device)

Fault output

NPN open-collector output, normally low, active high

Analog output

10-bit filtered PWM monitor output, torque or velocity

Motor brake output

24V, 2A maximum, energized to release

Communication

Communication interface

9-pin D-shell (female) connector for RS232 (standard); combined RS485 & CANopen option available

High-speed interface

Dual RJ45 connectors for CANopen, RS485 option, etc., also provide daisychain ports for multi-drop RS232 connections

Diagnostics

LEDs

3 LEDs for feedback, drive and communication status

Environmental

Drive temperature range

32-122°F (0-50°C) local environment fan (fan cooling required about 104°F (40°C))

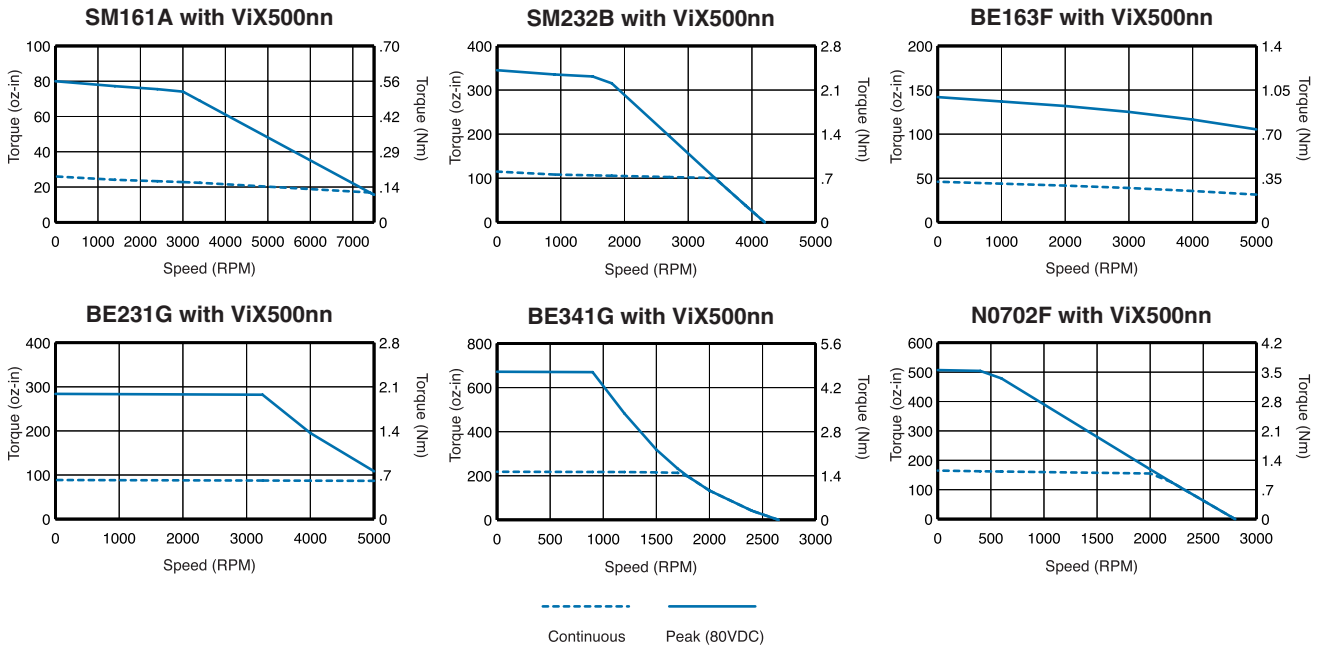
Humidity

0-95% non-condensing

* Maximum duration at peak current - 2 seconds; maximum duty cycle - 10%. The time limit is set by an I²t circuit and will be reduced if the motor is stationary.

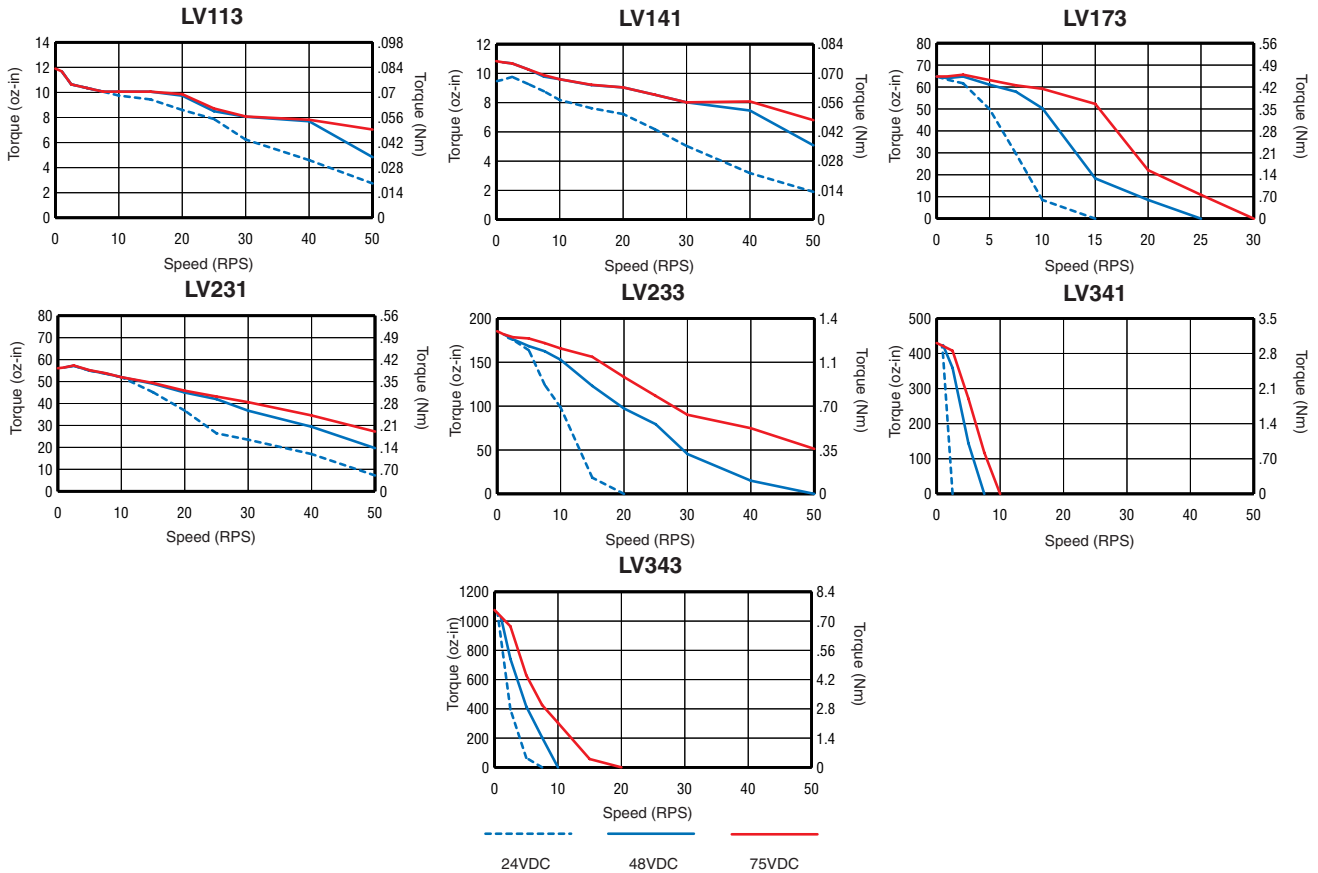
** ViX drive/controller versions (IE, IH) also accept quadrature encoder signals for following.

Servo Motor Speed-Torque Performance Curves



Stepper Motor Speed-Torque Performance Curves

Note: Motors in speed-torque curves are wired in series.



For a comprehensive display of all ViX drive/motor speed-torque curves, please log on to parkermotion.com

ViX Compatible Motors & Accessories

| Servo Drives | Servo Motors | Servo Drives | Servo Motors |
|--|--|--|--|
| ViX250AE ViX250AH ViX250IE ViX250IH | SM160An-nPSn SM161An-nPSn SM162An-nPSn SM230An-nPSn SM231An-nPSn SM232An-nPSn SM233An-nPSn BE161Cn-nPSn BE162Cn-nPSn BE163Cn-nPSn BE164Cn-nPSn BE230Gn-nPSn BE231Gn-nPSn BE232Gn-nPSn BE233Gn-nPSn N0701Dn-nPSn N0702En-nPSn | ViX500AE ViX500AH ViX500IE ViX500IH | SM160An-nPSn SM161An-nPSn SM162An-nPSn SM230An-nPSn SM231An-nPSn SM231Bn-nPSn SM232Bn-nPSn SM233Bn-nPSn BE161Fn-nPSn BE162Fn-nPSn BE163Fn-nPSn BE164Fn-nPSn BE230Gn-nPSn BE231Gn-nPSn BE232Gn-nPSn BE233Gn-nPSn BE341Gn-nPSn BE342Hn-nPSn N0701Fn-nPSn N0702Fn-nPSn |

ViX Stepper Drive/Controller Compatible Motors & Accessories

| Stepper Drives | Stepper Motors | ViX Accessories |
|----------------------|---|--|
| ViX250IM ViX500IM | LV113 LV141 LV173 LV231 LV233 LV341 LV343 | XL-PSU 80 VDC, 250 W Power Supply Module ViX RS232-08 8' RS232 Communication Cable (CE) ViX RS232-16 16' RS232 Communication Cable (CE) VM15-PF ViX Breakout Module and Cable for I/O Connector VM15-PM ViX Breakout Module and Cable for Analog/Encoder Connector DIN Rail Kit ViX DIN Rail Mounting Kit |

ViX Dimensions in inches (mm) – all models

