Vix Series



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

With its all-digital, DC-powered design, the ViX family of awardwinning 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 wizardsbased 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

Servo-Specific Features

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

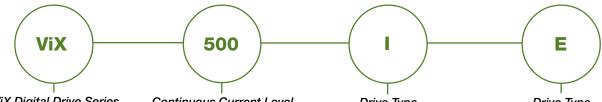
Stepper-Specific Features

- 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

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



ViX Digital Drive Series

Example: ViX500IE

Continuous Current Level

250 - 2.5A continuous,

7.5A peak (RMS)

500 - 5A continuous, 15A peak (RMS)

250 - 4.0A peak, (2.8A RMS) 500 - 8.0A peak, (15.6A peak RMS)

Drive Type

- A Drive only
- I Drive/controller
- C Drive/controller with CANopen/RS485

Drive Type

- E Servo with encoder or resolver feedback
- H Servo with high-resolution rotary encoder or linear encoder feedback
- M Microstepper



^{*} Available in servo version only

ViX Common Specifications

Drive Input Power

Voltage

ViX500

ViX250

Controller input power

Drive Output Current

ViX500 ViX250

Physical

Compumotor motors

Motor inductance range

Motor current limit

PWM/Motor ripple frequency

Protection

Performance

Feedback device (servo only)

Resolver feedback (servo only)

Encoder feedback

Encoder supply

Drive Command Inputs

(AE, AH models only)

Velocity and Torque modes

Position mode

Digital Inputs

Encoder following input

Outputs

Digital outputs

Encoder output
Fault output
Analog output
Motor brake output

Communication

Communication interface High-speed interface

Diagnostics

LEDs

Environmental

Drive temperature range

Humidity

48-80VDC +5%, -15%

24-80VDC +5%, -15%

24VDC, 250mA (no outputs loaded)

<u>Servo</u> <u>Stepper</u>

5A RMS continuous, 15A RMS peak* 8.0A pk (5.6 Arms)
2.5A RMS continuous, 7.5A RMS peak* 4.0A pk (2.8 Arms)

See table on page 3

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

Selectable by software

20 KHz/40 KHz

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

Resolver or quadrature encoder (selected by software)

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

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.

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

±10V differential, 12-bit resolution

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

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

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

Fixed resolution (dependent on feedback device)

NPN open-collector output, normally low, active high

10-bit filtered PWM monitor output, torque or velocity

24V, 2A maximum, energized to release

9-pin D-shell (female) connector for RS232 (standard); combined RS485 & CANopen option available Dual RJ45 connectors for CANopen, RS485 option, etc., also provide daisychain ports for multi-drop

RS232 connections

 $\ensuremath{\mathsf{3}}$ LEDs for feedback, drive and communication status

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

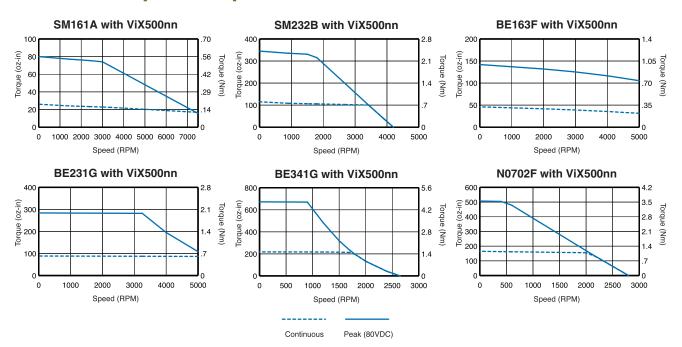
0-95% non-condensing

 $^{^{\}star\star}$ ViX drive/controller versions (IE, IH) also accept quadrature encoder signals for following.



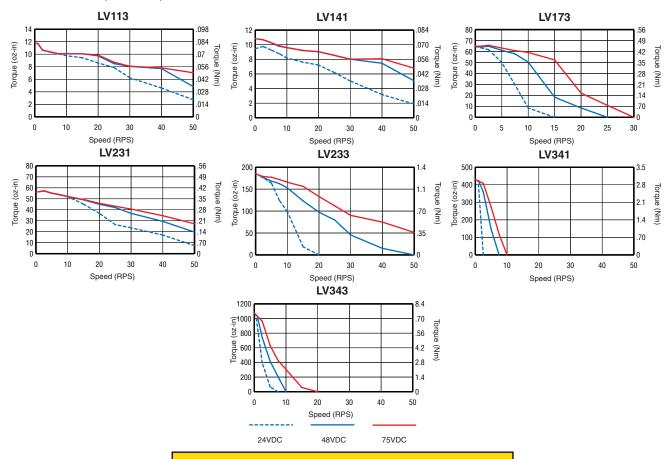
^{*} Maximum duration at peak current - 2 seconds; maximum duty cycle - 10%. The time limit is set by an I²t circuit and will be reduced if the motor is

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

VIA 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 BE230Gn-nPSn BE231Gn-nPSn BE231Gn-nPSn BE232Gn-nPSn BE233Gn-nPSn N0701Dn-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 BE231Gn-nPSn BE232Gn-nPSn BE232Gn-nPSn BE234Gn-nPSn BE342Hn-nPSn N0701Fn-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

