

# Versatile Servo Drive VSD-E

## Evolution

### When was the last time your motion control Evolved?

We want to be part of the cure in ongoing economical crisis! See how our uniquely innovative OEM motor drive products will enhance Your efficiency.

### Join the Evolution!

Our flag ship drive product, VSD-E is a state of the art precision servo motor drive/controller for **AC** and **DC** servomotors and **stepping** motors. Possible control methods include position, velocity and torque modes. Built-in motion profiler enables simple **point-to-point** moves as well as **continuous** synchronous motion tracking.

VSD-E can be configured also as **dual axis DC servo drive** effectively halving the per axis price.

VSD-E is perfectly matched to wide range of motors from **5W to 1000W**, thanks to truly unique high dynamic range torque control (HDRT). Two independent current sensing ranges provide ultra smooth torque control and low noise.

### Tough as stone

As our products are deployed in critical applications, we have **zero tolerance** for hardware design flaws and firmware bugs. If you suspect a flaw, let us know and the problem will be tracked down and fixed in a high priority. To ensure long term reliability of our products, we have selected only premium quality components with significant headrooms for overloading. Every sold unit has gone through **extensive testing** procedure where devices are taken to their specified limits and beyond.

### Time to go Brushless?

Rapidly increasing popularity of brushless motors have caused BL servo motor prices drop to same levels with DC servos. Due to simply superior properties and continuously lowering price, brushless technology will be sooner or later dominating the moving world and brush DC will eventually become extinct. The only remaining question is : why not have this technological advantage over competition while it's still possible?

### Unparalleled pricing

Due to lightweight organization and direct sales to customers, we are able to

keep our pricing very competitive or even offensive. Despite of the price, we are able to build our products using only **premium quality components** from industry's most respected manufacturers. Also highly **maximized versatility** of our drives are eliminating a dozen of different models giving us the benefits of high volume production and reduced support overhead.

### Panel installation & effortless configuration tools

VSD-E can be directly installed to cabinet front or rear panel with outreaching connectors drastically reducing time of drive system assembly. We also manufacture a parallel interface board, VSDEPI, that connects to drive with straight flat cables minimizing cable mess.

GD's intuitive configuration software brings servo configuration to this century, say goodbye to guesswork in tuning. GDtool & DCtool also enables fast replication of parameters in mass production.

### Support your local industry

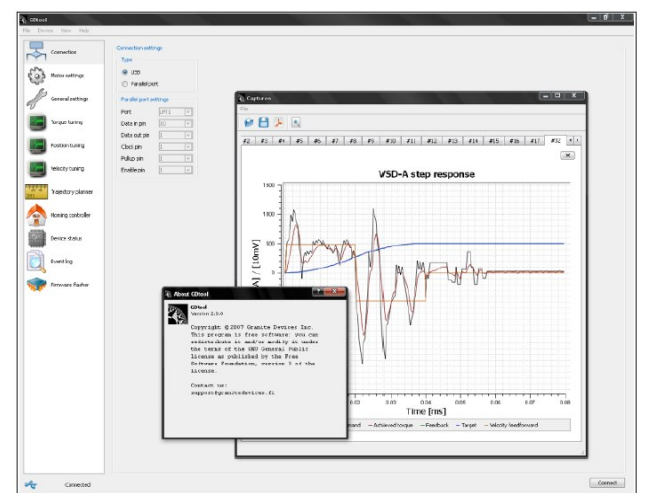
We utilize Western & European workforce as much as possible. Our products extensively rely on components made by major western companies such as Texas Instruments, Freescale Semiconductor, Fairchild Semiconductor, National Semiconductor and Phoenix Contact. Our drives are designed, assembled and tested in northern Europe conforming to the highest industrial quality standards.

### Contact us for fast quote

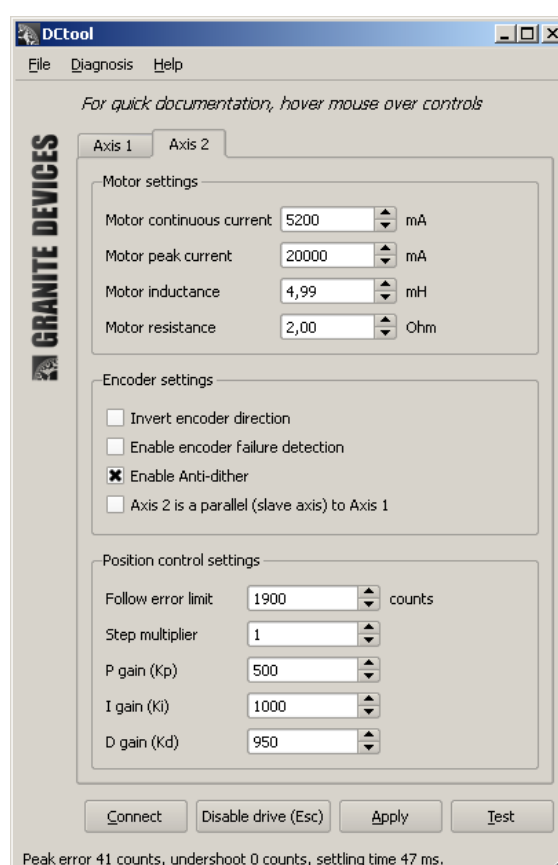
We are looking forward to respond quickly to your inquiries and any requests. For more information, please visit our web site [www.granitedevices.fi](http://www.granitedevices.fi) or contact us directly at :

[sales@granitedevices.fi](mailto:sales@granitedevices.fi)

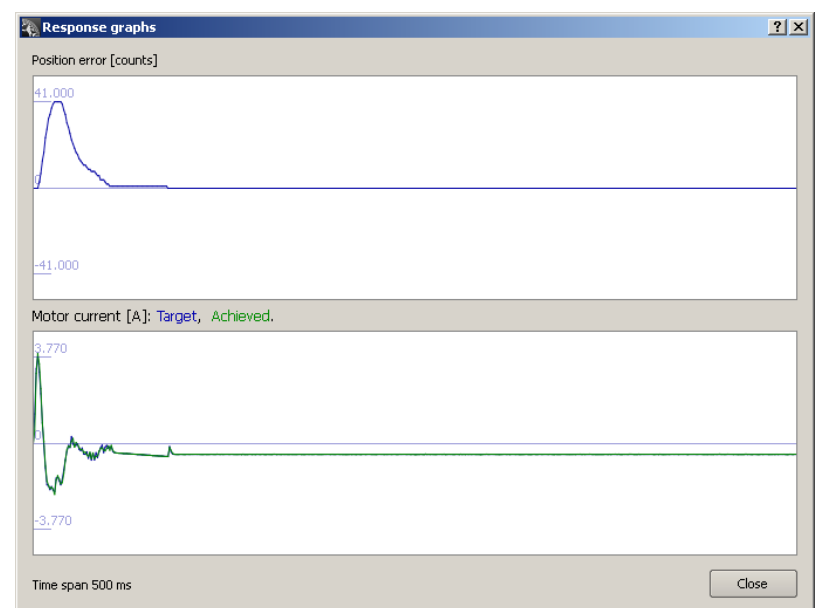
Tel : +358 44 99 175 33



VSD-E fitted with additional heat sink and installation panel







DCtool setup software



Step response data downloaded from drive

## Compare your self!

	<b>Geckodrive G340</b> 	<b>Granite Devices VSD-E/XE</b> Dual axis configuration 	<b>Teknic Sst-1500-RCx</b> 	<b>Granite Devices VSD-E/XE</b> Single axis configuration 
<b>Motor types</b>	Brush DC	2 × Brush DC (independent axis)	Brush DC, BLDC, AC	Brush DC, BLDC, AC, linear motor, stepper, uninstallable stepper, (2&3 phase types)
<b>Encoder input</b>	Single ended	2 × differential, single ended	Differential, single ended	Differential, single ended
<b>Input voltage range</b>	18-80VDC	12-160VDC	20-90VDC	12-160VDC
<b>Output current (peak/cont)</b>	20A/20A	2 × 20A/8A VSD-E 2 × 20A/11A VSD-XE	32/16A	40A/14A (DC) 20A/10A (AC) VSD-E 40A/18A (DC) 20A/14A (AC) VSD-XE
<b>True torque control</b>	No	Yes	Yes	Yes
<b>Control inputs</b>	Step/direction	2 × Step/direction	Step/direction, +/-10V	SPI, step/direction, quadrature, PWM, indexer, +/-10V
<b>Input multiplier/gearing</b>	1,2,5,10X	1-20X	Unspecified range	Fractional gearing 1/32767-32767
<b>Drive protections</b>	Under voltage, optoisolation	Over voltage, under voltage, short circuit, over current, over temperature, reverse supply polarity, fuse, regenerative over voltage, optoisolation	Over voltage, under voltage, short circuit, motor, over temperature, fuse	Over voltage, under voltage, short circuit, over current, over temperature, reverse supply polarity, fuse, regenerative over voltage, optoisolation
<b>Motor protections</b>	Current limit	Separated peak/continuous current limits	RMS current limit, motor overheat, over current	Separated peak/continuous current limits, motor overheat (I <sup>2</sup> t), over current
<b>Machine protections</b>	Fixed following error limit	Adjustable following error limit, torque limits, servo runaway protection (encoder failure detection), blocked motion detection	Adjustable following error limit, stall detection, torque limits	Adjustable following error limit, stall detection, servo runaway protection (encoder failure detection), blocked motion detection, soft position limits, torque limits
<b>Braking resistor drive</b>	No	No	No	Yes (in most motor modes)
<b>Feed forwards</b>	No	No	Yes	Yes
<b>Velocity/accel. limits</b>	No	No	Yes	Yes
<b>Additional features</b>	Anti-dither	Soft error recovery, anti-dither, PID control, slave axis support, smooth step multiplier	Internal homing controller, input filtering, anti-dither, error history	Internal homing controller, soft error recovery, configurable I/O, input smoothing filter, anti-dither, selectable PID or PIV control
<b>Programmable indexer</b>	No	No	No	Yes
<b>Motor control modes</b>	Position	Position	Velocity, position	Torque, velocity, position
<b>Price per axis @ Qty 100</b>	\$124	€75 (estimate) \$105 (estimate)	\$427	€150 (estimate) \$210 (estimate)

Note : specifications & pricing are subject to change. VSD-E price estimates are based on EUR/USD exchange ratio of 1.40.

# We hope to hear from you soon!