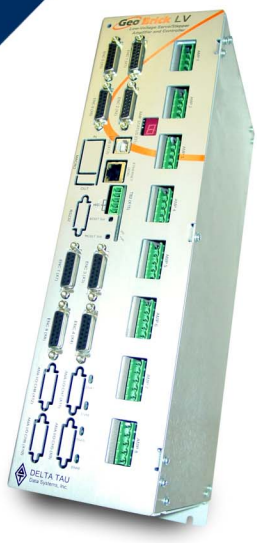
DELTA TAU
EUROPA

New generation

GeoBrick LV Family

Compact, powerful, multi-axis, multi-technology machine motion



Features (all models: LV, LV-19, LV-PC)

Amplifier Hardware Specification
4 & 8 Axes versions available
Motor operating Voltage 24-48Vdc
Control Voltage 24Vdc
Integrated universal power amplifiers
5A cont. 10A peak
configurable for
stepper motors
ac servo motors
dc brushed motors
Fully digital PWM control
Fully protected for overvoltage, over current,
short circuit & shoot-through

Controller Hardware Specification
Turbo PMAC2 CPU with
80MHz DSP56303 CPU 100Mbps Ethernet TCP/IP Communication interface
USB2.0 Communications interface
RS232 Serial Communications Interface
Quadrature Differential encoder feedback with Halls
Axes flags for all channels including:
Axes flag inputs HOME, PLIM, MLIM & USER
One Fast position compare output

General Purpose I/O
8 thermal-protected outputs 0.5A @24V sink or source by user wiring
16 diode protected inputs sinking or sourcing by user wiring

Options

Additional 8 axes with Macro interface fibre
optic or RJ45
Additional General purpose I/O
8 thermal-protected outputs 0.5A @24Vsink or source by user wiring
16 diode protected inputs sinking or sourcing by user wiring

Serial Encoder Options
SSI; Yaskawa Sigma II; EnDat; HiperFace; Tamagawa

Sinusoidal Encoder & Resolver Feedback Options

FieldBus Options
DeviceNet Slave; DeviceNet Master; Profibus Slave; Profibus Master;
EtherCATSlave; EtherCAT Master; CanOpen Slave; CanOpen Master;
CC-Link Slave

Analogue I/O Options
16 Bit analogue inputs and outputs

Communication Options
DPRAM
DPRAM & ModBus

Software specification
Trajectory generation
Linear interpolation with S-Curve
Accel/Decel Computational Features
Circular interpolation with S-curve Accel/Decel
Rapid point to point move
Cubic B-spline interpolation
Cubic Hermite-spline (PVT) Interpolation
Automatic move until triggered with hardware capture
Altered destination on the fly
Interactive jog
Multi move lookahead for velocity and acceleration limiting

Servo Features
Standard PID feedback filter
Velocity, acceleration and friction feed forward
2nd order notch and low pass filter
Gains changeable at any time
Programmable input , integer and output limits
Alternate 35-term Pole placement servo filter
Alternate user-written high level "Open Servo" algorithms

Commutation Features
Sinusoidal commutation of AC servo motors
Vector control of AC induction motors Automatic coordination of multiple axes
Direct micro-stepping of stepper motors (512 microsteps/step)
Digital Current loop closure with direct PWM

Compensation Features
Position compensation tables (1D & 2D)
Torque compensation tables
Backlash compensation tables
Tool radius compensation

Safety Features
Hardware & software over travel limits
Amplifier enable/fault handshaking
Following error limits
Integrated current limits
Encoder loss detection
Watchdog timer
Programme and communications checksums

Features LV-PC only

Vega 86-6240 PC Specification
VIA Mark CoreFusion 533MHz CPU
10/100Mbit EtherNet port
USB & RS232 ports
80Mb HDD
VGA interface
Mouse & Keyboard connection

Computational Features: Real-time multi tasking operating system ♦ 48-bit floating point math for user programmes ♦ Trigonometric and transcendental functions ♦ Automatic type matching of different variable types
Coordination and master/slave features: ♦ User-defined coordinate systems for automatic coordination of axes ♦ Separate coordinate systems for independent Multi-motor axes support eg gantry control ♦ Dynamic axis transforms eg offsets rotations and mirroring ♦ User-written forward and inverse kinematic algorithms for non cartesian geometries ♦ Electronic gearing (no programming necessary) ♦ Electronic cams with programmable profiles
Motion program features: High-level programming language ♦ Automatic sequenced execution of moves ♦ Calculations and I/O sychronous to motion ♦ Axes programmed in engineering units ♦ Motion values as constants or expressions ♦ Automatic coordination of multiple axes ♦ Executable G-Code programming
PLC Program features: Execution Asychronous to programmed motion ♦ I/O control as in hardware PLC ♦ Executive functions for stand alone applications ♦ Safety and status monitoring ♦ Servo Gain scheduling ♦ Data reporting functions ♦ Access to all registers in controller.

New generation flexible motion technology

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