# Dual Axis Servo Drive TSD80/TSD130
Highest Dynamics and Precision at 100kHz

The TSD series consists of two complete servo drives in one case.

Current and position control loops operate both at 100kHz and have improved current and position capturing. The control loop is extensible by C# user code, allowing to solve even the most challenging tasks.

Option modules allow for dual-loop control, sin/cos Encoder with 2MHz/18bit, analog I/O, FFT, Laser-PWM etc.
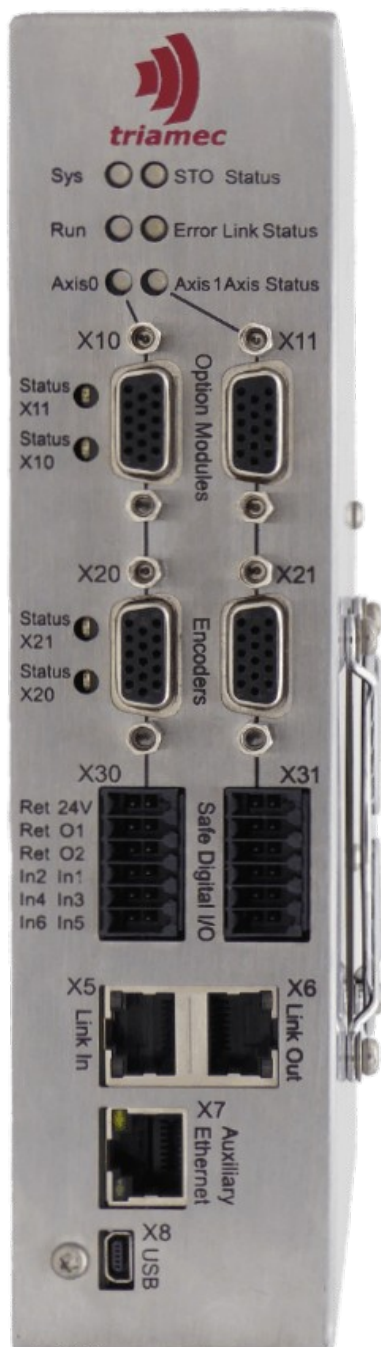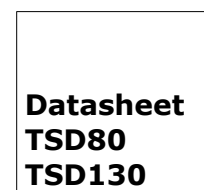
Properties

- 100kHz control loop (current/position)
- Freely programmable in C# for control loop extensions and general control purposes
- Improved current resolution
- Up to 2MHz 18bit sin/cos-Encoder
- Up to 10kHz set point rate
- Up to 15Arms nominal current (30A peak)
- Safety "Safe Torque Off"
- Tria-Link or EtherCAT fieldbus

Applications

- Machine tool (Optics, Molds, etc.)
- Positioning tables (<1nm stand still)
- Direct drives for highest precision and stiffness
- Ultra precision machining (optics etc.)
- Position controlled high-speed spindles
- Gantries

Redefining Motion Control

Datasheet TSD80 TSD130

Specifications

		TSD80-06	TSD80-10	TSD80-15	TSD130-10
Motor configuration		2 Motors, 2 and 3 phase synchronous or asynchronous AC, DC			
Supply, rated / min.-max.		80VDC / 24 - 85VDC			130VDC / 24 - 135VDC
Current nominal / peak		4.2Arms / 6Apk	10Arms / 20Apk	15Arms / 30Apk	10Arms / 20Apk
Thermal time constant		20s			
Output power, cont.		460W	1100W	1650W	1680W
Safety		Safe Torque Off: SIL3/PLe			
Protection		Drive and motor temperature (KTY83/84, PT100, PT1000, PTC-1K); i2t, over voltage, over current			
Position measurement (per axis)	General	5.2V supply with a maximum of 500mA for both encoders together.			
	Analog	sin/cos 1Vpp: 65536 times interpolation, auto calibration, FIR filtering, max. frequency 500kHz (with option module EH: 2MHz 18bit / 10MHz quadrature)			
	Incremental	RS422: max. pulse frequency 500 kHz (RS422 Fast: 10MHz), TTL: max pulse frequency 2.5MHz			
	Digital	Standards: EnDat 2.1 & 2.2; BiSS B, BiSS C, SSI, Tamagawa, Nikon (Encoder with additional sin/cos signals recommended)			
	Sensoress	Sensorless commutation/control, suitable for fast spindles			
Digital inputs		2x 6 Inputs isolated, 24V, 2x 300µs, 4x 1200µs 2x 4 fast TTL level inputs on the D-Sub encoder connector			
Digital outputs		2x 2 Outputs isolated, 24V, 1A			
Option Modules		2x, Extensions for encoder, analog I/O, FFT, laser PWM, etc.			
Logic Supply		24VDC ±10%, 1.7A max			
Fieldbus		EtherCAT 100Mbps / Tria-Link 200Mbps allowing direct transmission of values from one servo drive to others on the same bus.			
Service Interfaces		USB / Ethernet			
Programming within the servo-drive		10kHz hard real time task, freely programmable in C# incl. coupling of axes; additional asynchronous task			
Programming PC side		TAM API for .NET Framework; Beckhoff TwinCAT; Python			
Dimensions		WxHxD: 51 x 230 x 170mm^3			

Subject to change without notice.

Datasheet TSD80 TSD130

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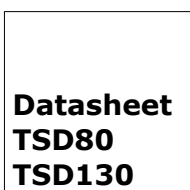
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