TRIAMEC

100kHz Servo Drives

Redefining Motion Control

TRIAMEC

Engineered for ultra-precision and exeptional dynamics

Triamec develops and manufactures 100 kHz ultra-precision servo drives for cutting-edge machines. With sub-nm accuracy, unmatched transparency and real-time programmability, our drives deliver what others benchmark against.

They power semiconductor stages, laser systems, high-precision machine tools, ultra-precision optics machines, and high-speed spindles – achieving subatomic stand-still noise and unmatched motion accuracy.

Founded in 2001, Triamec is an independent Swiss company, owned by its management and driven by engineering excellence.

1

ULTRA Precise

100 kHz control loop.
Sub-nm accuracy. Maximum dynamics.

2

ULTRA Programmable

Run custom C# code directly on the drive.
Programmable for your application.

3

ULTRA Transparent

Everything visible, everything loggable.
Flight-data recorder included.

4

ULTRA Supported

Personal support – from integration
through lifecycle.

DUAL AXIS SERVO DRIVE

TSD Series | 24–365 V DC, 0.5–6.9 kW per Axis

Compact dual-axis drives for high-precision motion and maximum dynamics — ideal for semiconductor stages, laser systems, and multi-axis machines.

	Axes	PWM	V DC nominal	V DC Power supply	A rms per Axis	A peak per Axis	W Power	W x H x D (mm) Dimensions
TSD80-06	2	2 Level 100 kHz	80	24-85	6	6	460	51 x 230 x 170
TSD80-10					10	20	1100	
TSD80-15					15	30	1650	
TSD130-10			130	24-135	10	20	1680	
TSD350-10			350	24-365	10	20	4600	68 x 262 x 230
TSD350-15					15	30	6900	

SINGLE AXIS SERVO DRIVE

TSP Series | 3×208–480 V AC, 9.5–38 kW

High-power single-axis drives for demanding machine tool and high-speed spindle applications.

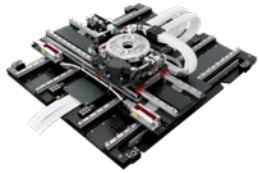
	Axes	PWM	VDC nominal	V AC Power supply	A rms per Axis	A peak per Axis	kW Power	W x H x D (mm) Dimensions
TSP700-10	1	3 Level 100 kHz	700	3 x 208-480 50/60 Hz	10	20	9.55	69 x 315 x 295
TSP700-20					20	40	19.1	
TSP700-40					40	80	38.2	152 x 315 x 308

MOTOR-SIDE FILTERS

TFS and TFD Series

Single- and dual-axis filters are designed to suppress common-mode voltages. They are connected between servo drive and motor.

- Protect motor bearings and tools from electrical arcing and electrochemical erosion.
- Reduce electromagnetic interference, especially when using voice-coil or open motors.
- Achieve highest EMC standards.



SUB-NANOMETER PRECISION

Semiconductor and laser applications

Triamec servo drives deliver sub-nanometer standstill stability, ultra-fast move-and-settle-times and unsurpassed scanning accuracy. The pulsing unit enables precise triggering of lasers and other systems. As a result, Triamec servo drives are perfectly suited for the stringent performance requirements of semiconductor manufacturing and laser processing.

SUB-NANOMETER SURFACE FINISHES

Ultra-precision machining

With Triamec's trajectory streaming, precalculated moves can be streamed at up to 50'000 set-points per second to the axes. This minimizes interpolation errors so that the shape of demanding free-form surfaces is preserved. Additionally, trajectory streaming enables precalculated feedforward currents and synchronized process control. Together with the high-performance 100 kHz position controller, this combination delivers ultimate accuracy in diamond turning and optical manufacturing.

SEAMLESS ETHERCAT INTEGRATION

High-precision machine tools

Triamec servo drives are native EtherCAT slaves and communicate seamlessly with Beckhoff TwinCAT and other PLCs. They enable outstanding precision and surface quality in high-speed machining applications. Triamec motor-side filters help extend the lifetime of tools and components. Full parameter access for diagnostics allows continuous process and equipment monitoring. Specific analysis, including sensor evaluation, can be programmed on the drive.

100 KHZ PWM

High-speed spindles

The high switching frequency of Triamec servo drives minimizes power losses and improves efficiency. This enables cooler operation, reduces thermal stress on components, and extends motor and bearing lifetime. This is particularly critical for continuous high-speed operation, which can cause motors to overheat when using conventional servo drives. Across all power ratings, Triamec servo drives retain their exceptional positioning performance – even in demanding high-speed spindle applications.

Triamec servo drives redefine motion control wherever nanometer precision, high stiffness and speed determine success – from semiconductor and laser applications to ultra-precision machining.

Trusted by leading technology partners worldwide, Triamec provides outstanding expertise in motion control, cutting-edge servo drives, and reliable and long-term partnership.

Learn more at **triamec.com**

Triamec Motion AG
Lindenstrasse 16, 6340 Baar,
Switzerland
Phone +41 41 747 40 40
info@triamec.com

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