



TANGO PCI-E

The High Resolution Stepper Motor Controller as a PCI-E Slot Card.

Product Features

TANGO PCI-E is the slot card version of the TANGO product family. The controller can be integrated via PCI Express bus in your PC system and enables control of up to four axes. The positioning is done through programming or via manual operating device. Digital and analog inputs/outputs provide numerous additional functions.

Control of up to 4 axes

- ▶ different model types available for operation of 1–4 axes
- ▶ sensitive manual operation via Joystick or ERGODRIVE

Maximum torque, even at high speed

- ▶ up to 48 V motor voltage with external power supply, up to 4,200 rpm
- ▶ phase currents of up to 2.5 A

High position resolution

- ▶ 819,200 microsteps/revolution
- ▶ exact positioning within sub- μm range
- ▶ smooth running of motors

Future-proof PC integration

- ▶ operation via PCI-Express bus
- ▶ installation of several TANGO PCI-E controllers into a PC possible

Energy-efficient ecological design

- ▶ lower power dissipation, resulting in decreased caloric development and lower power consumption
- ▶ no fan required

Software support for easy integration

- ▶ „Microsoft Authenticode Certificated Driver“, compatible to all Windows operating systems including Windows 10 (32/64 bit)
- ▶ compatible with native instruction set of TANGO product family
- ▶ programming by means of DLL, LabView VI and software „SwitchBoard“

Order Information

TANGO 1 PCI-E ¹	00-76-150-0811
TANGO 2 PCI-E ²	00-76-150-0812
TANGO 3 PCI-E ³	00-76-150-0813
TANGO 4 PCI-E ⁴	00-76-150-0814

Options

AUX I/O	on request
Encoderinterface	on request
Snapshot/trigger ⁵	00-76-801-5800

Accessories

1-Axis Joystick	00-76-100-0823
2-Axes Joystick	00-76-200-0820
3-Axes Joystick	00-76-300-0820
3-Axes Joystick ⁶	00-76-300-0821
4-Axes Joystick ⁶	00-76-400-0820
ERGODRIVE 2 ²	00-27-322-1600
ERGODRIVE 3 ³	00-27-322-1500
PROFILER SCD CL	00-76-900-4840
Motor cable Z-axis ⁷	00-76-102-9803
Motor cables XY-axes ⁷	00-76-202-0808
Motor cables XYZ-axes ⁷	00-76-302-0809
Motor cable 4 th axis ⁷	00-76-402-0810

Motor Output Stage	
Number of axes	1 to 4
Supported motor types	stepper motors 2 or 4 phases, individual adaption to various motor types
Step resolution	4,096 micro-steps/macro-step, 819,200 micro-steps/revolution (with 200-step motor)
Phase current	axis 1 to 3: max. 1.25 A or 2.5 A (selectable) axis 4: max. 1.0 A
Motor current setting	motor current adjustment control from 0.03 A to max. phase current, adjustable via software, motor phase correction, short-circuit-proof outputs
Motor current reduction during standstill	0...100 % of motor current setting
Power supply	12 V DC (power supply of the PC) optional: external 24 V or 48 V power supply (100...240 V AC)

Positioning	
Positioning modes	distance and vector positioning, positioning by setting speed and direction, simultaneous positioning of vectors and single axes, manual positioning, endless rotation
Speed range	0.000001...70 rps (each axis individually)
Acceleration	0.0001...20 m/s ² , linear or sin ² (each axis individually)
Travel range	depending on motor and spindle pitch (e.g. max. ±2.6 m with 200-step motor and 1 mm spindle pitch)
Instruction set	TANGO native (more than 180 instructions), Venus-1, Venus-2, others on request
Processing speed	up to 250 vectors/s (depending on PC model and software)

Interfaces and Functions	
Communication	PCI Express bus
Encoder interface (optional)	connection of incremental length and angle measuring systems type nanoScale ¹ , 1Vpp or RS-422 (selectable via software) for precise positioning in closed-loop operation, analog resolution: 16 bit, max. frequency with RS-422: 30 MHz
Operating devices (optional)	Joystick, ERGODRIVE (automatic identification of all operating devices)
Additional inputs/outputs (AUX I/O, optional)	analog input 0–5 V, analog outputs 0–10 V, TTL I/O, TTL limit switch inputs
Connection of additional peripherals	e.g. LED 100, PROFILER SCD CL, Liquid Dispenser
Input/output functions	save coordinates / move to coordinates, emergency stop, safety shutdown of output stage, fast trigger functions (optional), output of analog voltage, limit switch evaluation, closed-loop positioning (optional)
Other functions	on-board measuring of temperature, position correction with and without measuring system

Ambient Conditions	
Ambient temperature	+5 °C...+70 °C
Cooling	convection, no fan required
Humidity	85 % max., non-condensing
Dimensions (L × W)	167.6 × 106.7 mm (without slot bracket/plugs)
Weight	approx. 0.2 kg (without slot bracket/plugs)