

Human Rated 120V and 28V Single Axis BLDC Controllers

Motiv's TANGO Controller line is designed and built to deliver performance to the most critical and challenging applications; life support systems for our astronauts. Available in standard (28V) and a high power configurations (120V), the TANGO will operate a variety of ECLSS systems with both BLDC and Stepper motors. With a standard Bill of Materials which meet high mission pedigree Class 1 EEE parts the TANGO is ready for future habitat applications including ISS, Commercial Habitats, and Lunar Gateway.

All Motiv motor control platforms utilize extensive fault protection features including motor winding faults, temperature monitoring, and radiation effects to offer a solution to support high reliability needs of our customers. The TANGO also supports a variety of sensor options and control modes to give a high level of flexibility for an extremely critical piece of hardware.

For requests or questions send to: info@motivss.com



TANGO Controller
(28V version Shown)

PERFORMANCE	VALUES
Input Voltage Range	120V or 28V (Standard ISS Bus Voltage)
Motor Continuous Current	8.6A rms / axis
Motor Peak Current	10A
Quiescent Power	<5W @ 28V <12W @ 120V
Commutation Sensing	Hall Effect Sensor
Sensing	<ul style="list-style-type: none"> • Potentiometer • Temperature • Limit Switches
Motor Speed Support	500-10,000 RPM (typical)
Communication Bus Options	Standard: RS-422/485
Control Modes	Brushless / Servo: <ul style="list-style-type: none"> • Position • Velocity • Current Stepper: <ul style="list-style-type: none"> • Microstepping • Full Step (1k PPS, max)
Applications	<ul style="list-style-type: none"> • Pumps • Fans • Blowers • Valve Controls • Air Release Mechanisms

ENVIRONMENTAL	VALUES
Operating Temperature	-25C° to +65C°
Non-Operating Temperature	-40C° to +75C°
Random/Sine Vibration	GEVS Standard
Radiation Tolerance TID SEU LET Threshold	100 kRad (>75 MeV-cm2/mg)
Orbit/Mission Support	Human Rated missions in: LEO, Lunar, Deep Space
EMI/EMC Filter Included	MIL-STD-461
PHYSICAL	VALUES
Dimensions (packaged)	7.0" x 6.5" x 4.0" 17.8cm x 16.5cm x 10.2cm
Mass/Weight	7.2 lbs 3.25 Kg
Available EEE Classes	Level 1 per EEE-INST-002
Available Hardware Models	EDU/EM/FM

EXPORT RESTRICTIONS

Export of Motiv Motor Controllers is controlled under Export Control Classification Number (ECCN) 9A515.x and is available for sales in the countries listed in Group A:5.

