01™ TITAN 14bit SMS V3.0

ZERO ONE MECHATRONICS

The Strongest and most Versatile continuous servos
No DEAD ZONE – Continuous Rotation – Full PID Control
14bit ABSOLUTE ENCODER

Overview

Our TITAN supermodified servos are based on 360deg version of SAVOX 1256TG (Titanium alloy gearbox) servo and are manufactured for continuous rotation of the output shaft (by removing in the factory the mechanical stop from the output servo gear) offering innovative PID position / speed control, rendering appropriate solutions for most robotics applications. And don't worry we offer you also a legacy PPM interface.

The TITAN servos are powered by **SAVOX** technology. The gears are of titanium alloy and the motor of this specific servo are manufactured by SAVOX while their torque rating is 277ozin (20kgcm) @ 6V. The equipped coreless motor can operate also up to 7 Volts. The stray field of the coreless motors are so strong that the GMR sensor array of infineon's TLE 5012B of our 15bit Magenc-LowRev cannot operate reliably.

So we are offering to our customers the robust and stray field immune 14bit (16384 ticks/rev) Magenc 14bit SFI (Stray Field Immune). Based on a very sophisticated implementation of HALL effect MEMS sensors ams chip 5047D give us the opportunity to bring to the market a set of VERY EFFICIENT and ROBUST servos.

… and don't worry we are offering a warranty of 2 years .

Specifications

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Weight (gr)	50	**Actuator Mode**	Yes
Dimension (mm)	40.3 x 20.2 x 37.2	**Wheel Mode**	Yes
Resolution	0.022 degs	**Communication without additional electronics**	RS-485/Uart/I2C/TTL standard/TTL 1kHz
Rotation Measurement	Continuous (**64bit position counter**)	**Position Feedback**	Yes
Encoder Type	Absolute Magnetic Encoder	**Load Voltage Feedback**	Yes
Ticks/rev	16384	**Input Voltage Feedback**	Yes
Torque (oz-in)	**500 @ 6V / 300 @ 7V**	**Compliance/PID**	Yes
Torque (kg-cm)	**20 @ 6V / 21.6 @ 7V**	**Current Measurement**	Yes
Speed (No Load) RPM	132	**Overload Protection**	See our manual commands 11.2.6 & 11.2.7 (pp28,29)
Maximum Current	4900 mA	**Velocity**	Can be provided as ticks/sec
Motor Type	Coreless Brushed	**Realtime tick**	YES
Standby	28 mA	**Joint Torque Sensing**	Via command getcurrent (11.2.6)
Gear	**Titanium**	**Setpoints**	YES – (velocity & Position)
		Actual Motor	Savox SA-1256TG

Also keep in mind …

- Modified for continuous rotation (360 degrees) with 16384 ticks/rev (14BIT) ams IC !
- Magnetic stray field immuned
- Highly responsive & accurate
- Continuous Rotation WITHOUT DEAD BAND and 21.6 kgcm torque (@7V)
- Absolute Position measurement (repeatability up to 5 ticks).
- Dual Ball Bearings-Not oilite bushings! aluminium /plastic casing
- 64 bit position measurement.
- coreless motors (stronger than ferrite ones)
- 25T spline
- premium quality by Savox specially made for 01™ Mechatronics

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