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SG50BL-CAN

Engineered and Manufactured in South Korea

1 Performance Specification

Model	SG50BL-CAN
Control System	CAN2.0A,B / DroneCAN (UAVCAN v0)
Position Type	Contactless Magnetic Encoder
Motor Type	BLDC Motor
Operating Voltage Range	18.0V ~ 32.0V
Voltage	At 24.0V
No Load Speed	120.0 °/sec
	0.5 sec/60°
	20.0 RPM
Rated Torque (At – 20% Load)	10.19 N·m (104.0 kgf·cm)
Peak Torque	50.99 N·m (520.0 kgf·cm)
Idle Current (At Stopped)	45mA
Running Current (At No Load)	300mA
Peak Current	10,000mA
Operating Travel	Servo Mode : ±60°(Default), ±150°(Programmable)
Multi-Turn	Turn Mode : ±32760 turns (DroneCAN : n/a)
Continuous Mode	N/A
Temperature Sensing	Able (MCU, Motor)
Voltage Sensing	Able
Current Sensing	Able
Humidity Sensing	Able
Servo Amplifier Type	32bit Programmable Digital

2 Mechanical Features

Conector Type	Circular
Dimensions	100.0 x 50.0 x 105.0 mm (±0.2mm) / (3.937 x 1.969 x 4.134 inch)
Weight	1450.0g (51.15 oz)
Housing	Aluminum Alloy
Gear Reduction	5 Hardened Steel Gears
Bearing	4 Ball Bearing & 9 Needle Bearing
Horn Gear Spline	Square 12 x 12
Gear Train Backlash	< 0.5°
Slip Clutch Release Momentum	N/A
Radial Load On Output Shaft	< 5099 N (520.0 kgf)
Push Load On Output Shaft	N/A

3 Connector

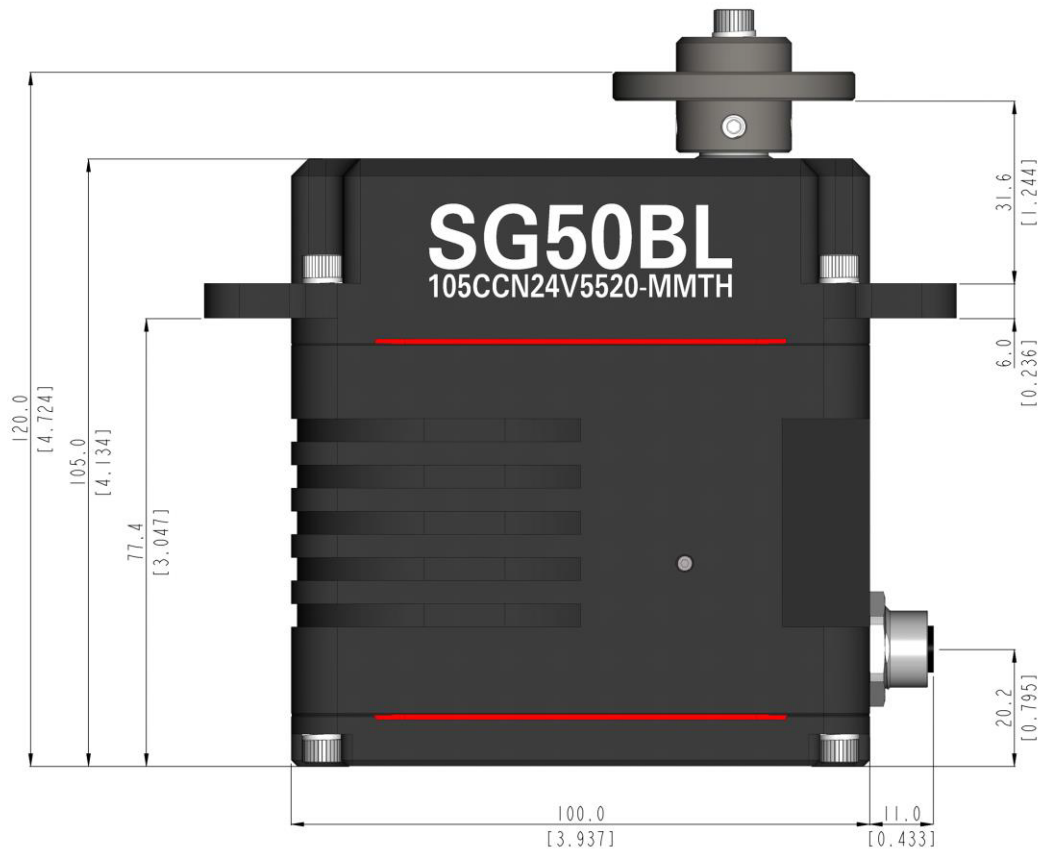
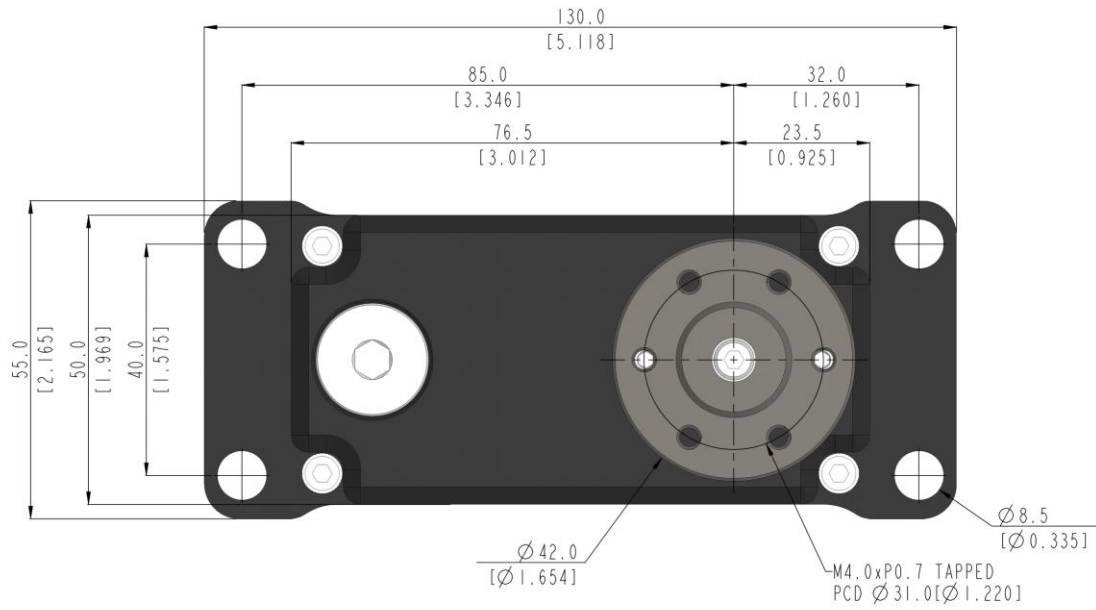
Conector Type	Circular		
Manufacture	TE Connectivity		
Conector	M12 Circular female 5P (T4131012051-000)		
Wire	N/A		
Mating	M12 Circular male 5P (Ex :T4111002051-000)		
Pin Assignment		1.	Gnd
		2.	Vcc
		3.	Can-High
		4.	Can-Low
		5.	Case Gnd

4 Environmental Specifications

Operation Temperature	-30°C (-22°F)	MIL-STD-810G Method 502.5
	+70°C (+158°F)	MIL-STD-810G Method 501.5
Storage Temperature	-40°C (-40°F)	MIL-STD-810G Method 502.5
	+80°C (+176°F)	MIL-STD-810G Method 501.5
Humidity	95% @35°C ~ 60°C @300hours	MIL-STD-810G Method 507.5
IP-Rating	IP68	IEC 60529
Vibration	Orthogonal axes : $\pm X$, $\pm Y$, $\pm Z$ from 50 ~ 500Hz Duration : sweep 5min Acceleration 30G Displacement : 5mm	MIL-STD-810G 514.6C-VII EN 60068-2-6
Mechanical Shock	Procedure 1 - Functional shock 20g, 11ms, Sawtooth Waveform	MIL-STD-810G 516.6
EMC	EN 61000-4-2 EN 61000-4-3 EN 55016-2-1 EN 55016-2-3	EN 61000-6-2:2005+Cor.:2005 EN 61000-6-3:2007+A1:2011
MTTF	>1,000h	Test Condition Load : 20% of Max Torque 0.5Hz sweep(± 60)

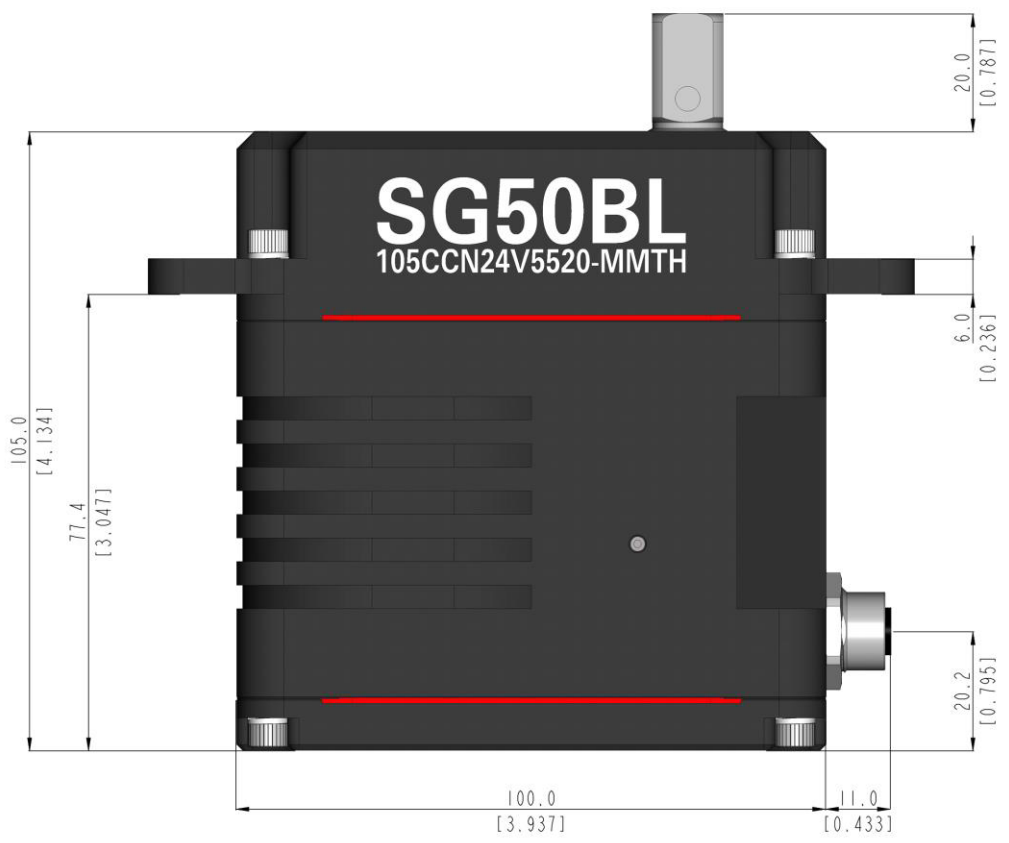
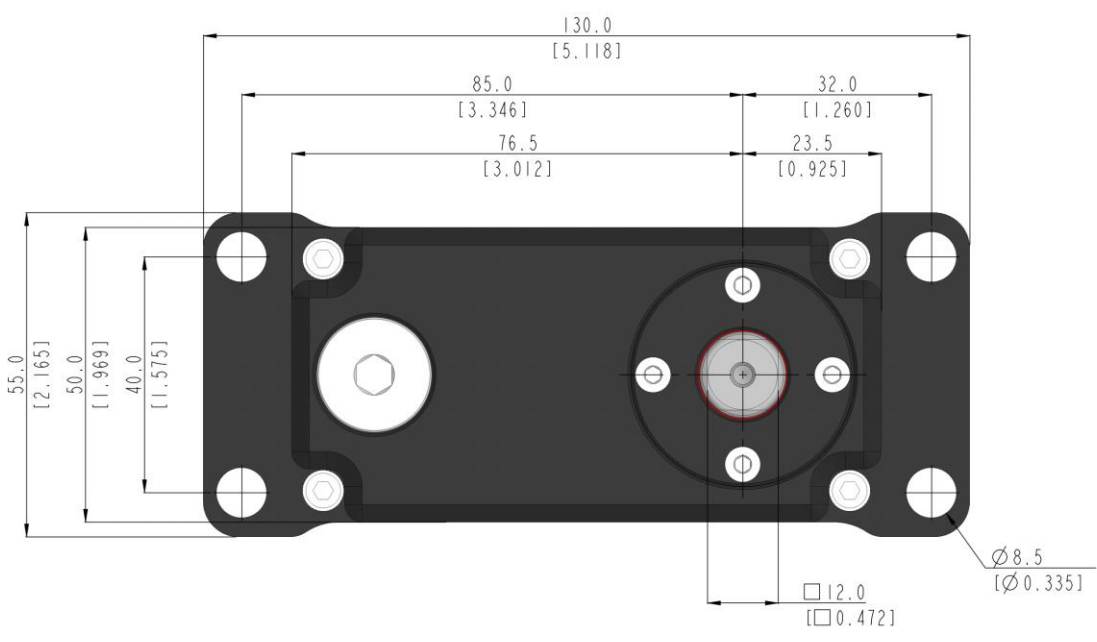
5 Dimensions

5-1 WITH HORN



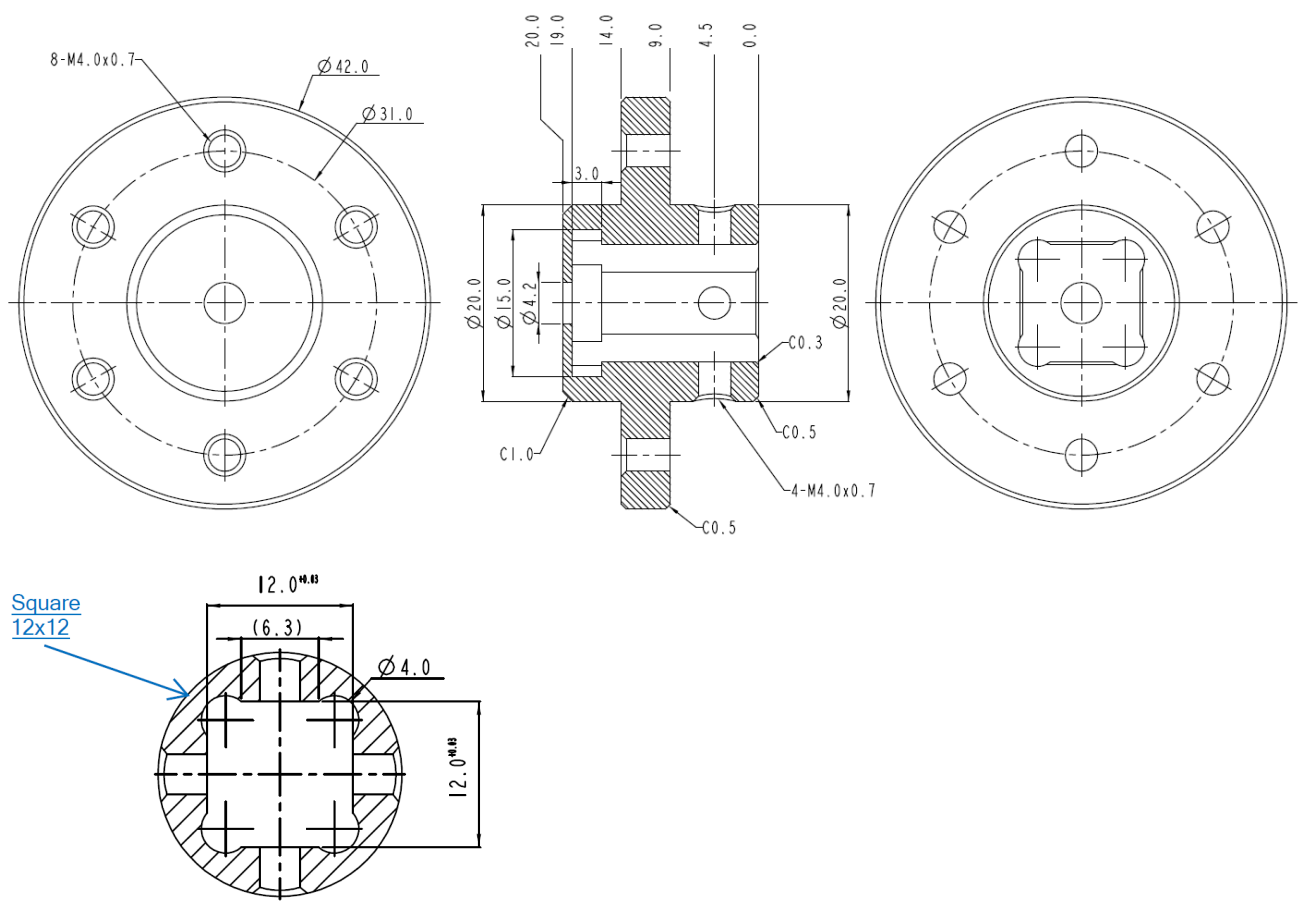
unit : mm [inch]

5-2 WITHOUT HORN



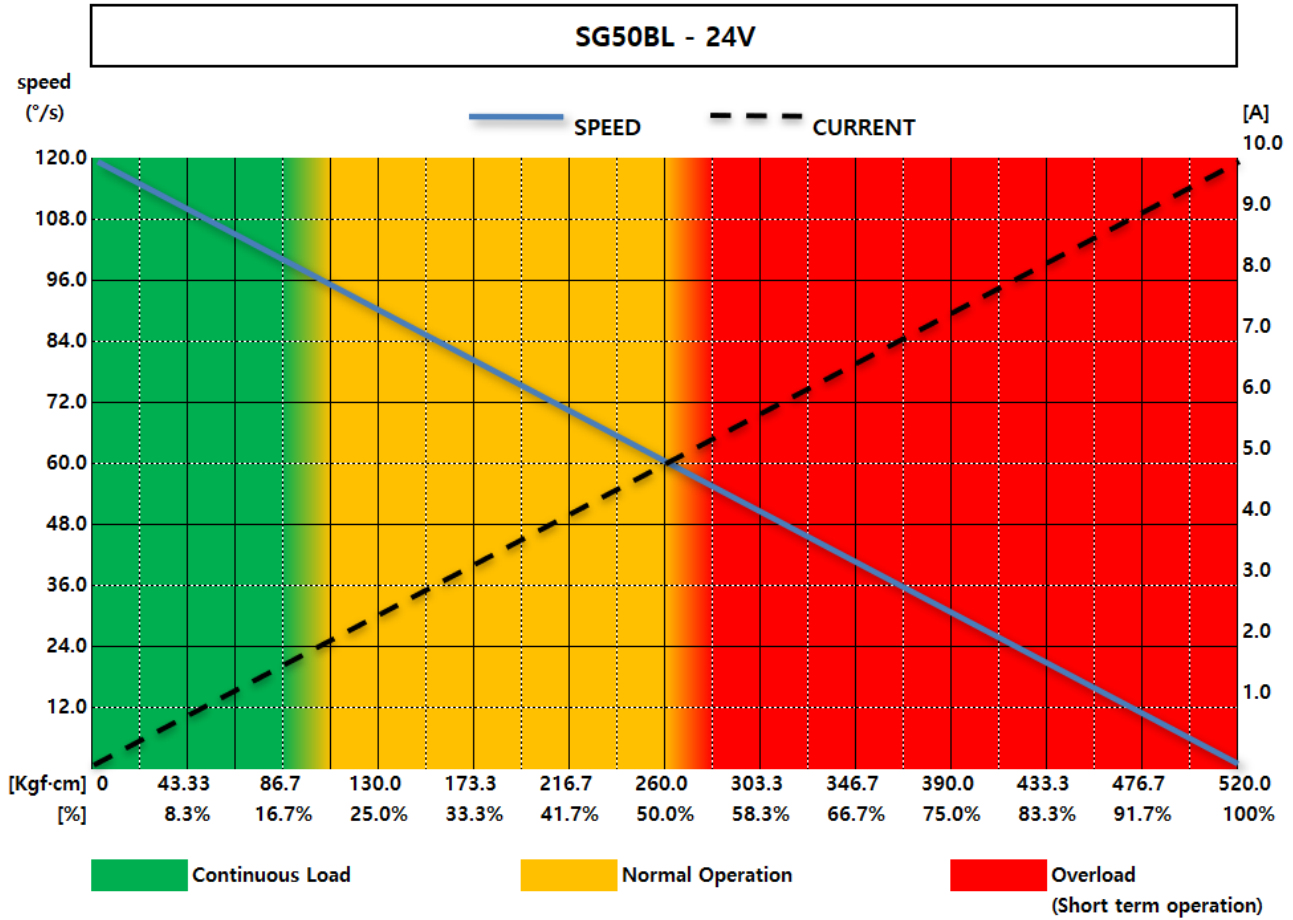
unit : mm [inch]

6 Dimensions – Accessory



unit : mm

7 Performance Graph



8 Changes

Data	Version	Updates
2023-06	2.00	-

REFERENCES

- ✓ For the protocol manuals of CAN, DroneCAN, RS485 and TTL, please contact Hitec Commercial Solutions: Support@HitecGroupUSA.com

- ✓ If you would like to purchase additional industrial servos, please contact Hitec Commercial Solutions Sales Staff: <https://www.hiteccs.com/contact-us>

