

Manufactured with  
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## SG50BL-CAN

Engineered and Manufactured in South Korea

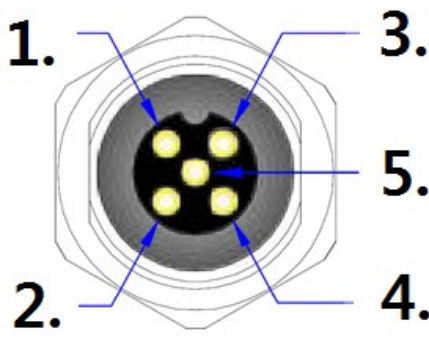
## 1 Performance Specification

<b>Model</b>	SG50BL-CAN
<b>Control System</b>	CAN2.0A,B / DroneCAN (UAVCAN v0)
<b>Position Type</b>	Contactless Magnetic Encoder
<b>Motor Type</b>	BLDC Motor
<b>Operating Voltage Range</b>	18.0V ~ 32.0V
<b>Voltage</b>	At 24.0V
<b>No Load Speed</b>	120.0 °/sec
	0.5 sec/60°
	20.0 RPM
<b>Rated Torque (At 20% Load)</b>	10.19 N·m (104.0 kgf·cm)
<b>Peak Torque</b>	50.99 N·m (520.0 kgf·cm)
<b>Idle Current (At Stopped)</b>	45mA
<b>Running Current (At No Load)</b>	900mA
<b>Peak Current</b>	10,000mA
<b>Operating Travel</b>	Servo Mode : ±60°(Default), ±150°( Programmable)
<b>Multi-Turn</b>	Turn Mode : ±32760 turns (DroneCAN : n/a)
<b>Continuous Mode</b>	N/A
<b>Temperature Sensing</b>	Able (MCU, Motor)
<b>Voltage Sensing</b>	Able
<b>Current Sensing</b>	Able
<b>Humidity Sensing</b>	Able
<b>Servo Amplifier Type</b>	32bit Programmable Digital

## 2 Mechanical Features

<b>Connector Type</b>	Circular
<b>Dimensions</b>	100.0 x 50.0 x 105.0 mm (±0.2mm) / (3.937 x 1.969 x 4.134 inch)
<b>Weight</b>	1450.0g (51.15 oz)
<b>Housing</b>	Rugged Aluminum Alloy With Hardcoat Anodizing (MIL-A-8625 Type III)
<b>Gear Reduction</b>	5 Hardened Steel Gears
<b>Bearing</b>	4 Ball Bearing & 9 Needle Bearing
<b>Horn Gear Spline</b>	Square 12 x 12
<b>Gear Train Backlash</b>	< 0.5°
<b>Slip Clutch Release Momentum</b>	N/A
<b>Radial Load On Output Shaft</b>	< 6118.8N (623.94 kgf)
<b>Push Load On Output Shaft</b>	N/A

### 3 Connector

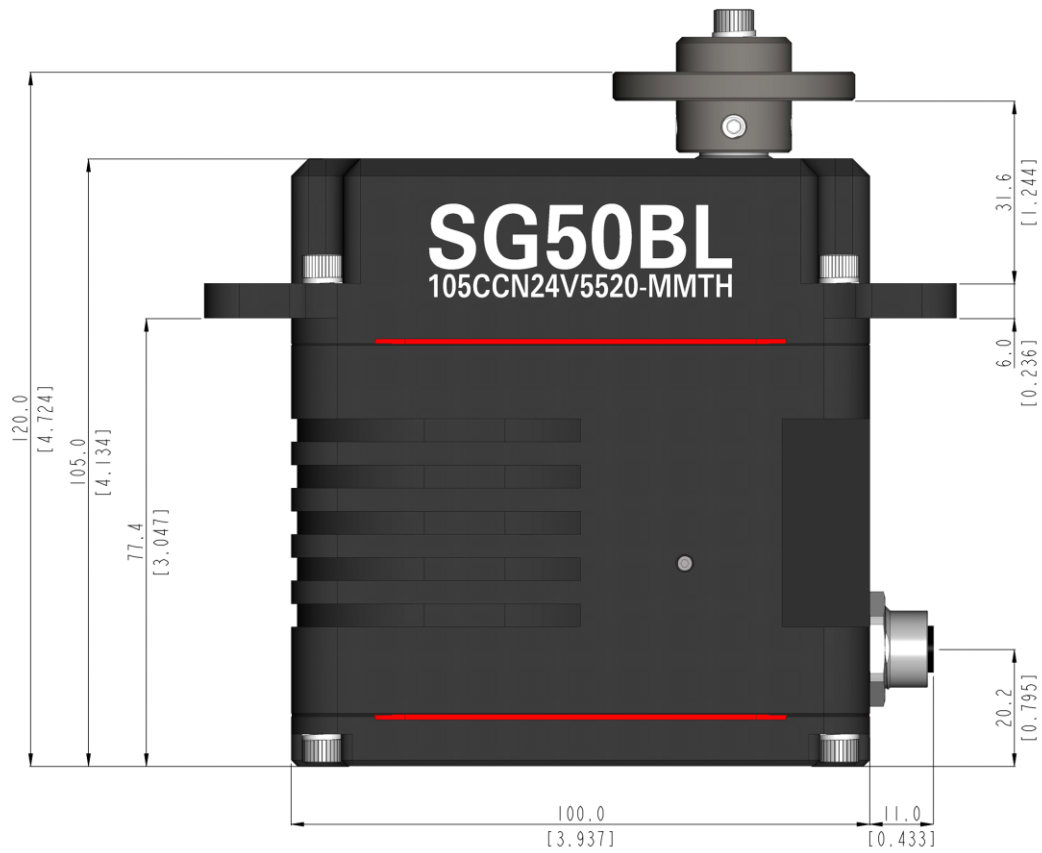
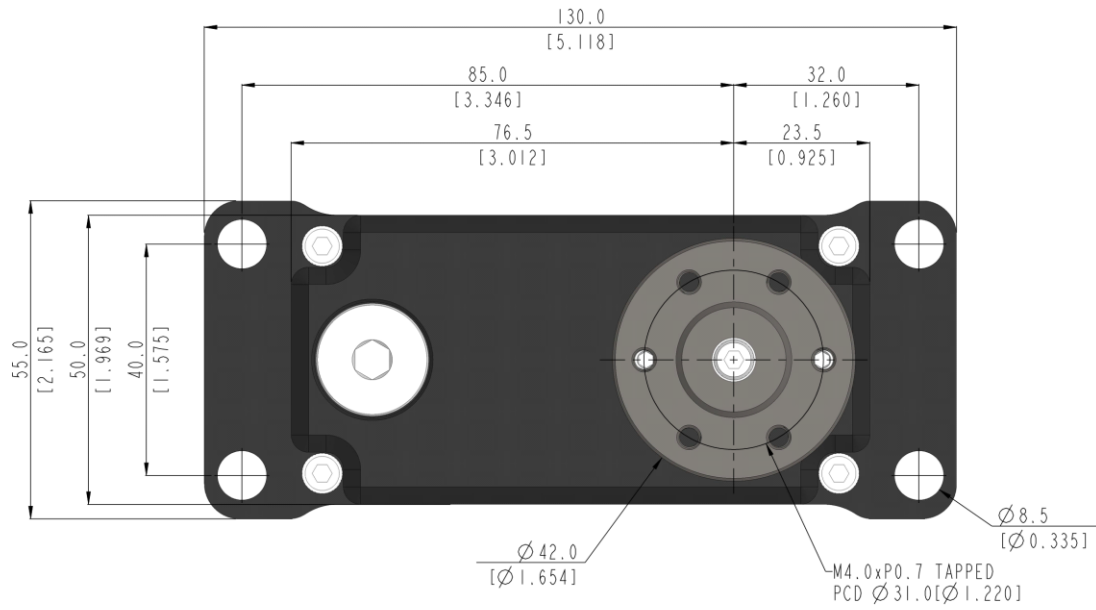
<b>Connector Type</b>	Circular		
<b>Manufacture</b>	TE Connectivity		
<b>Connector</b>	M12 Circular female 5P (T4131012051-000)		
<b>Wire</b>	N/A		
<b>Mating</b>	M12 Circular male 5P (Ex :T4111002051-000)		
<b>Pin Assignment</b>		1.	Gnd
		2.	Vcc
		3.	Can-High
		4.	Can-Low
		5.	Case Gnd

### 4 Environmental Specifications

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

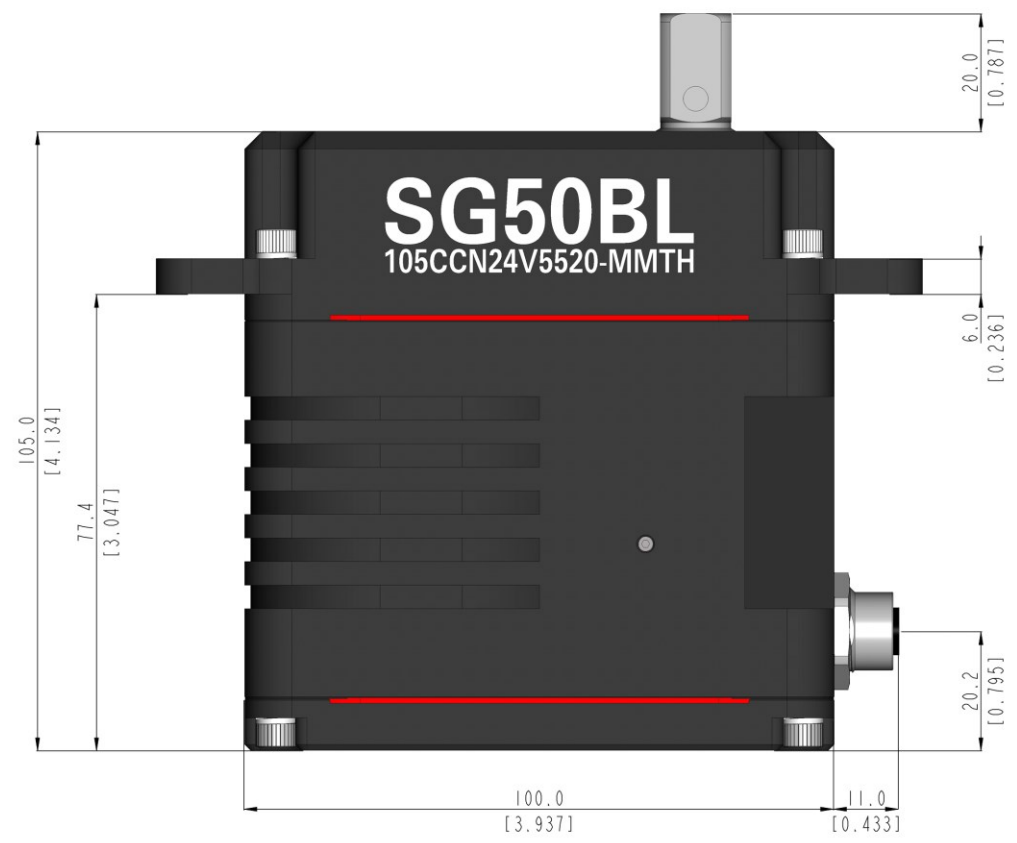
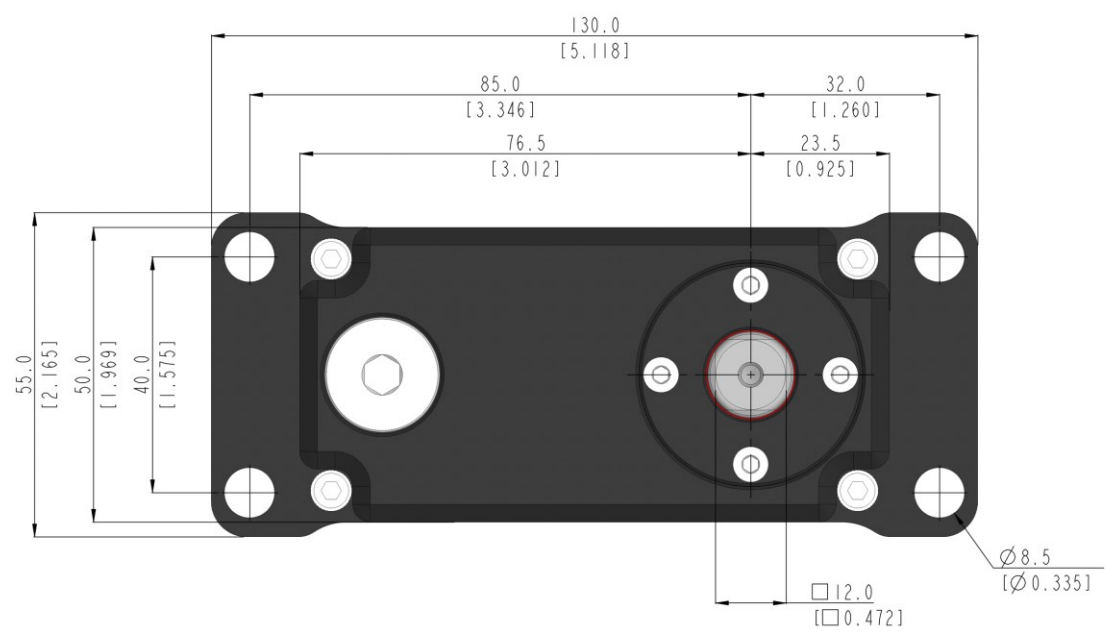
## 5 Dimensions

### 5-1 WITH HORN



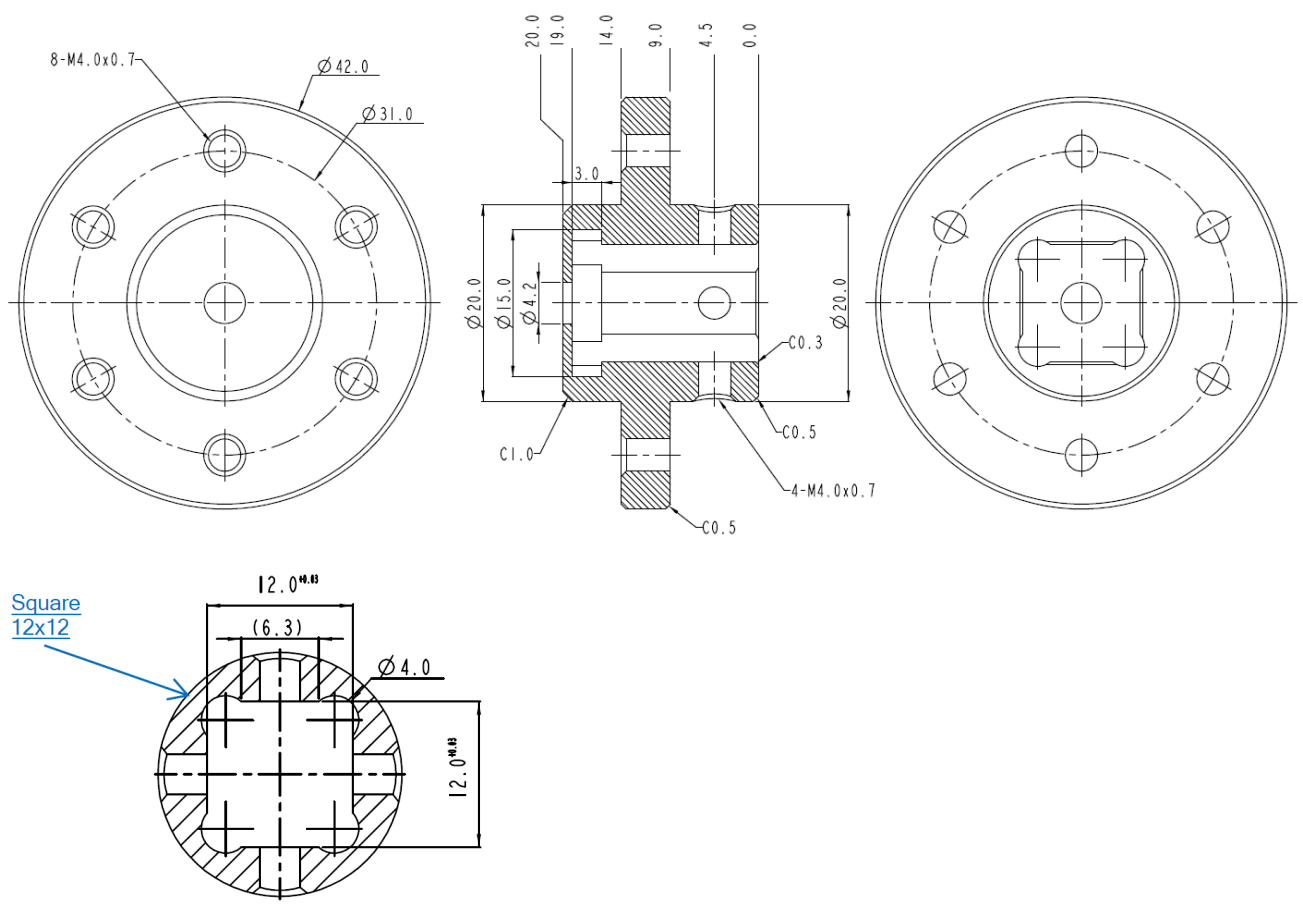
unit : mm [inch]

**5-2 WITHOUT HORN**



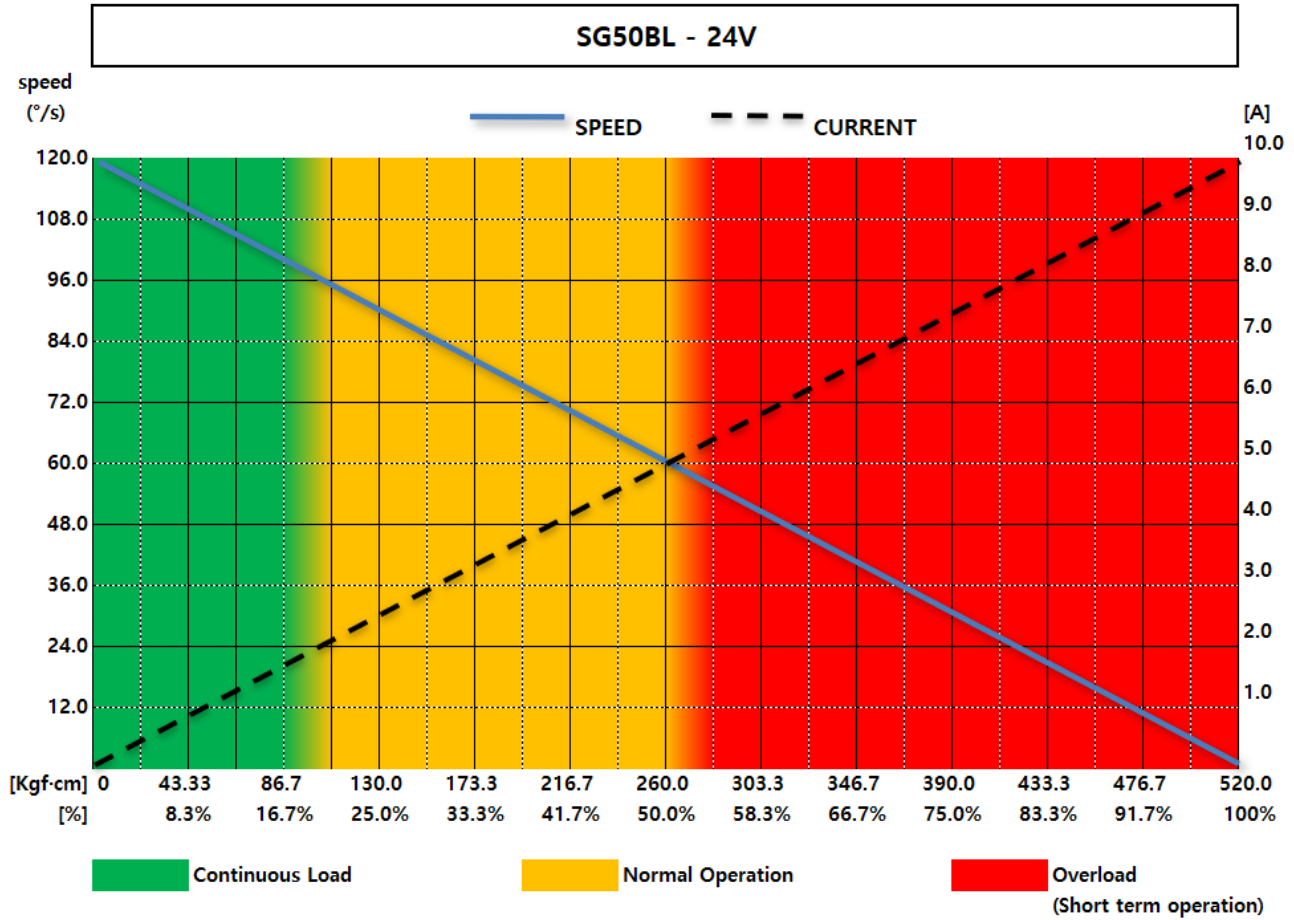
unit : mm [inch]

### 6 Dimensions – Accessory



unit : mm

## 7 Performance Graph



## 8 Changes

Data	Version	Updates
2023-06	2.00	-
2023-11	2.01	Modify the 'Radial Load On Output Shaft' value. Add information about anodizing to Housing. Fix document formatting errors.
2024-01	2.02	Add text regarding References.
2024-07	2.03	Modify the Running Current specification.



## REFERENCES

- ✓ For the protocol manuals of CAN, DroneCAN, RS485 and TTL, please contact Hitec RCD Korea.  
( [industrial.sales@hitecrd.net](mailto:industrial.sales@hitecrd.net) )
- ✓ If you would like to purchase additional industrial servos, please contact Hitec Network or local Hitec distributors in your place.  
( <https://hitecrd.com/contact-us/international-distributors> )
- ✓ This product should not be used directly on the human body for medical purposes.
- ✓ This product should not be used for war weapons.
- ✓ All specifications are subject to change without notice.
- ✓ Be careful as strong magnetic fields may cause malfunction of the product.

