Manufactured with hitecnology

SG50BL-CAN

Engineered and Manufactured in South Korea

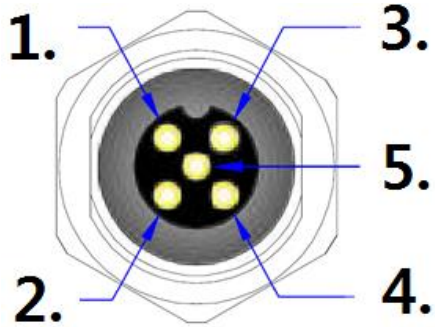
1 Performance Specification

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)	900mA
Peak Current	10,000mA
Operating Travel	Servo Mode : ±60º(Default), ±150º(Programmable)
Multi-Turn	Turn Mode : ±32760 turns (DroneCAN : n/a)
Continuous Mode	N/A
Temperature Sensing	Enabled (MCU, Motor)
Voltage Sensing	Enabled
Current Sensing	Enabled
Humidity Sensing	Enabled
Servo Amplifier Type	32bit Programmable Digital

2 Mechanical Features

Connector 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	Rugged Aluminum Alloy With Hardcoat Anodizing (MIL-A-8625 Type III)
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	< 6118.8N (623.94 kgf)
Push Load On Output Shaft	N/A

3 Connector

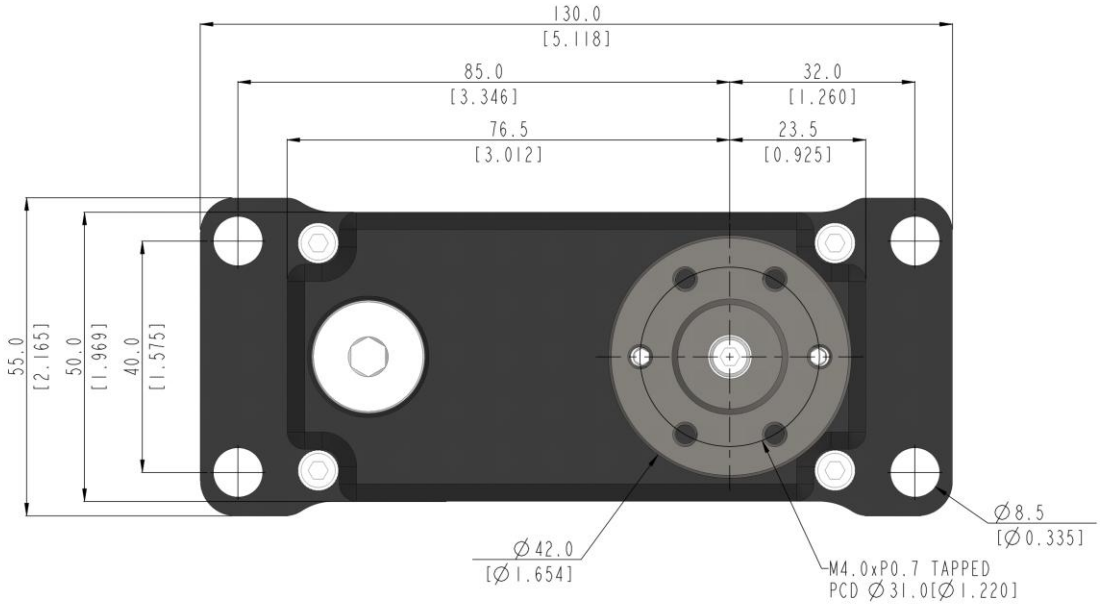
Connector Type	Circular		
Manufacture	TE Connectivity		
Connector	M12 Circular female 5P (T4131012051-000)		
Wire	N/A		
Mating	M12 Circular male 5P (Ex :T4111002051-000)		
Pin Assignment		1.	Gnd
		2.	Vcc
		3.	Can-High
		4.	Can-Low
		5.	Case Gnd

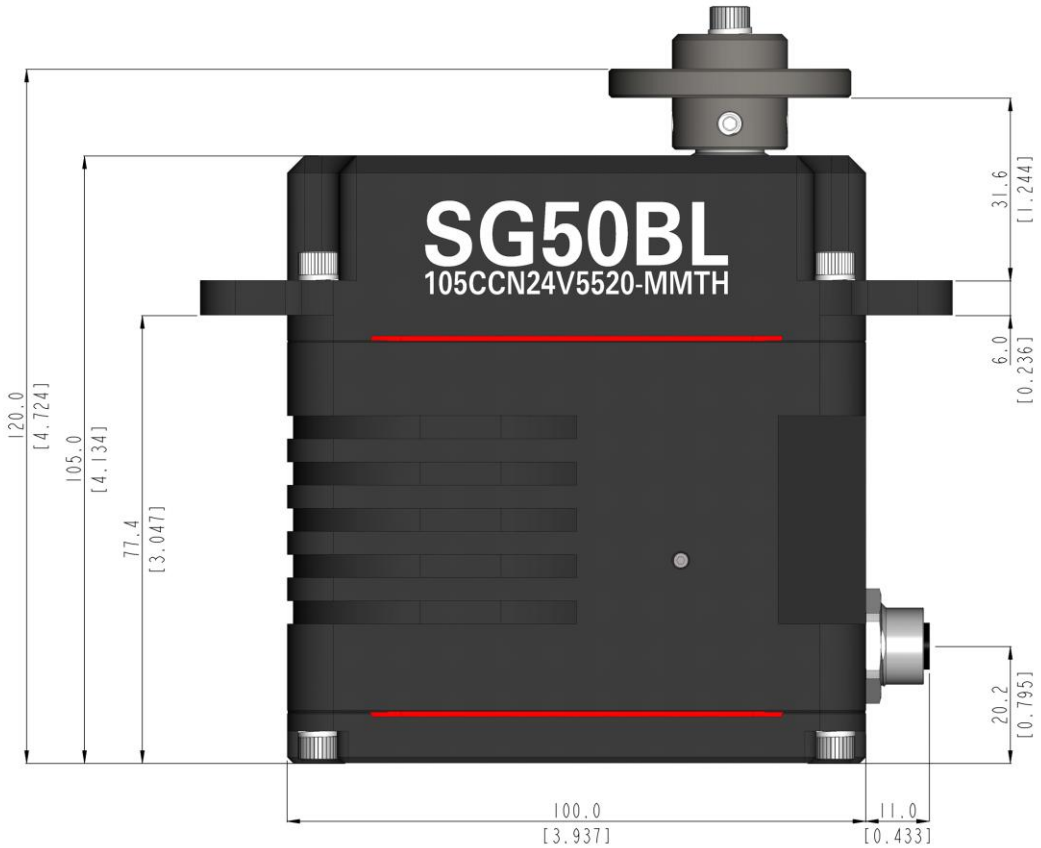
4 Environmental Specifications

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 : ±X , ±Y, ±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

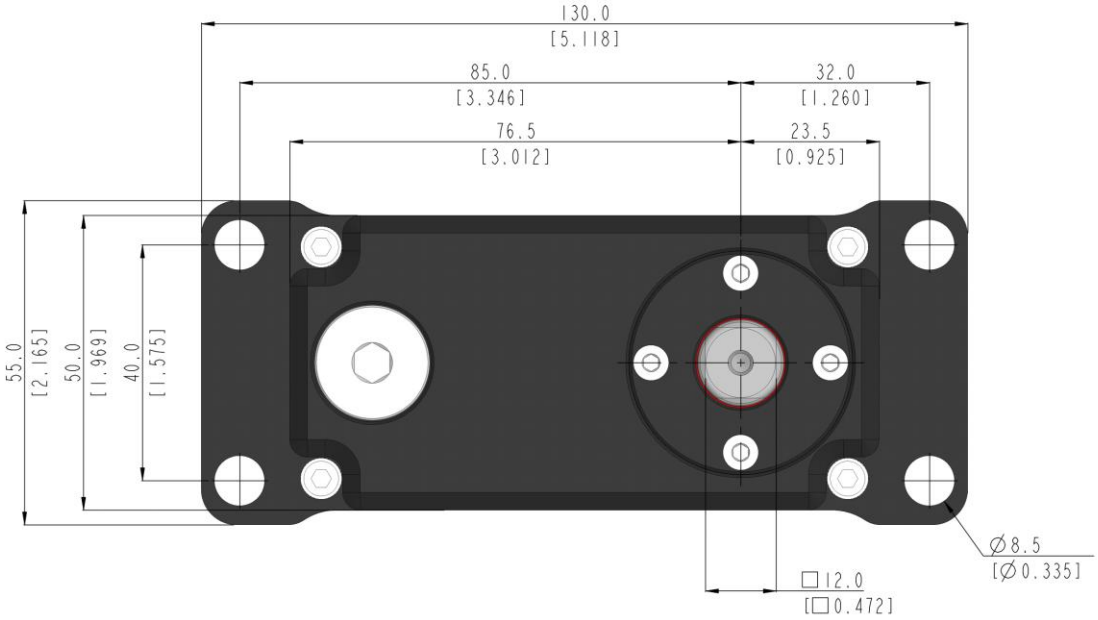
5-1 WITH HORN

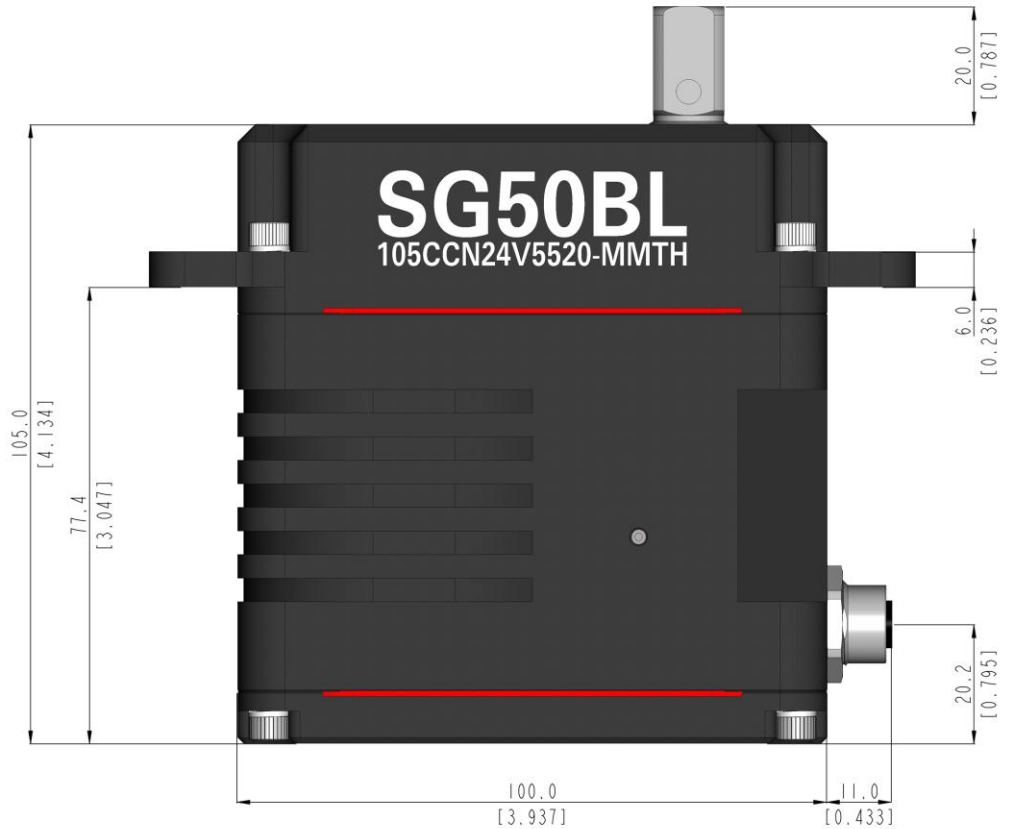




unit : mm [inch]

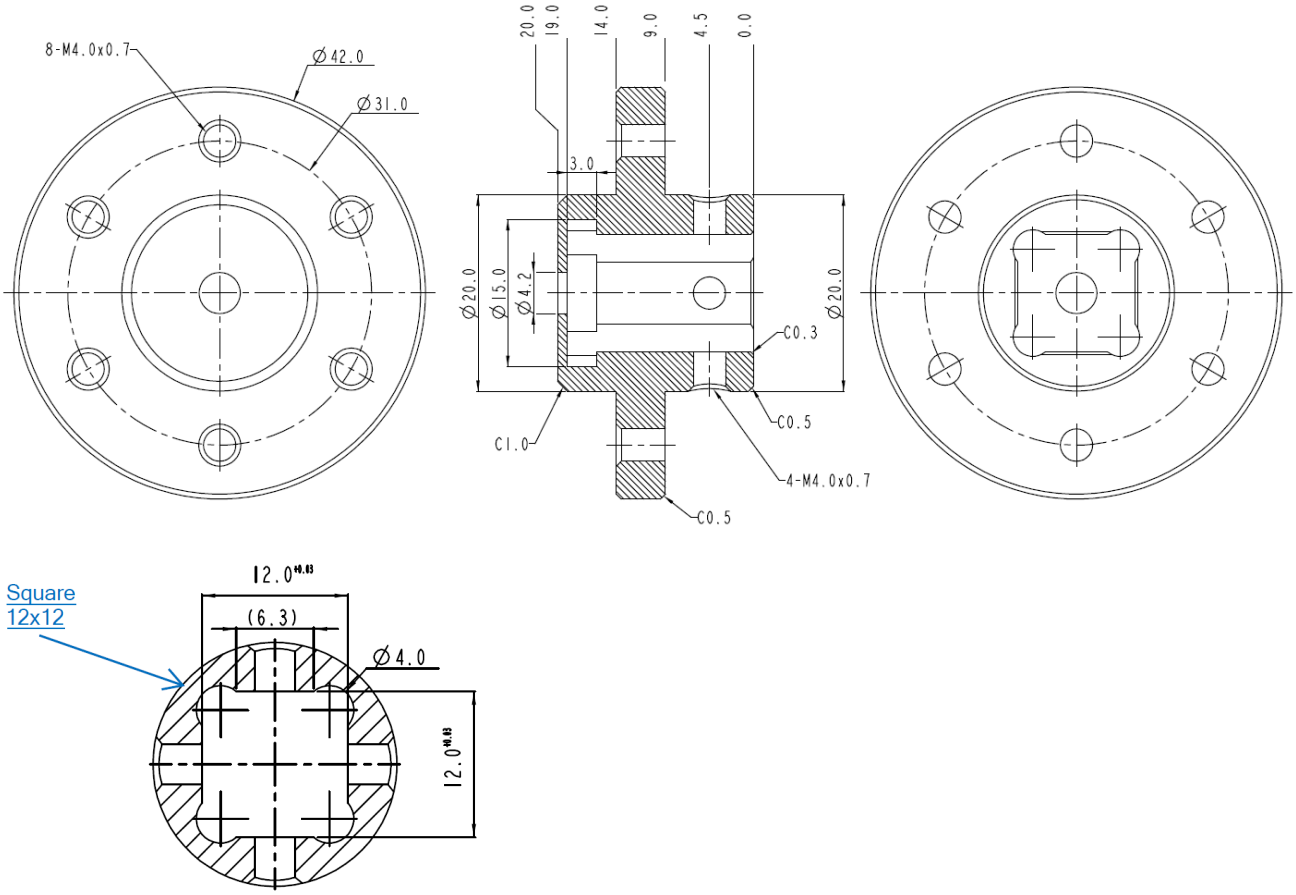
5-2 WITHOUT HORN





unit : mm [inch]

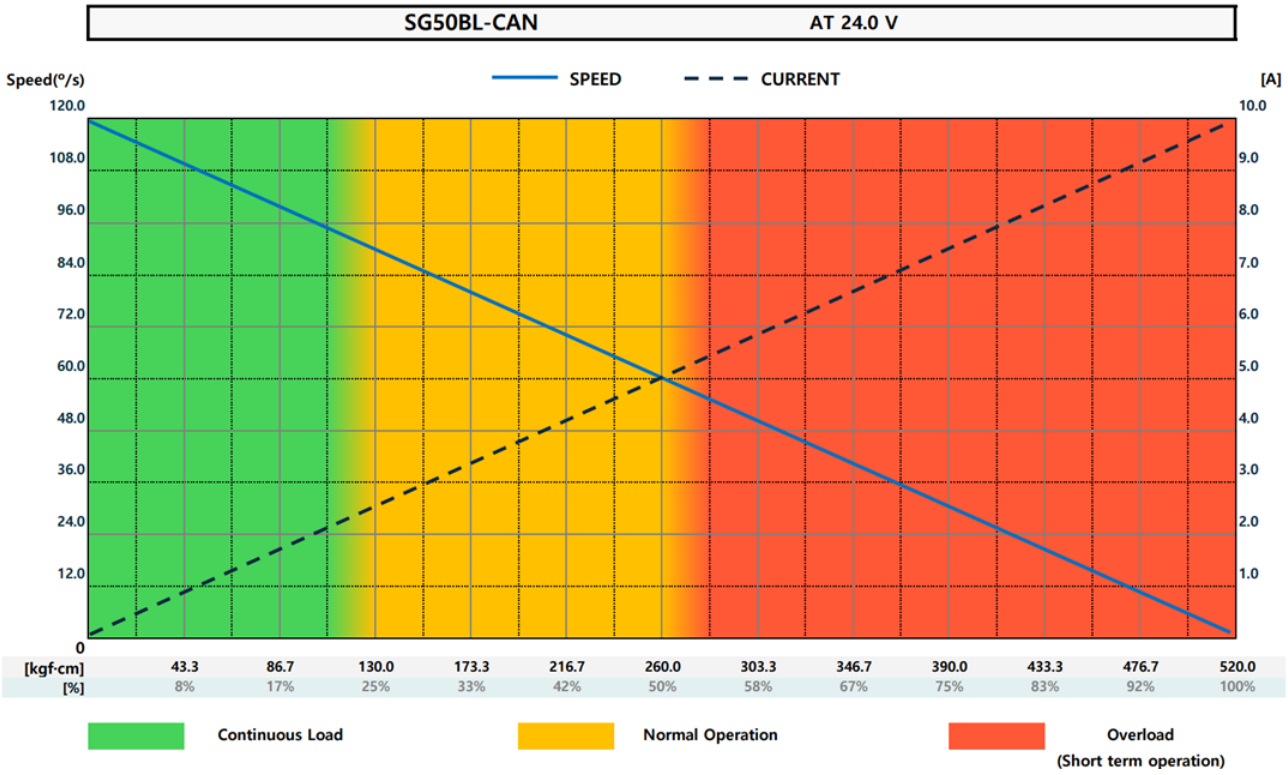
6 Dimensions – Accessory



unit : mm

7 Performance Graph

Ver 2.0



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.
2025-01	2.04	Changed the phrase 'Able' to 'Enabled' and fixed a typo.
2025-03	2.05	Change the performance graph format.

REFERENCES

- ✓ For the protocol manuals of CAN, DroneCAN, RS485 and TTL, please contact Hitec RCD Korea. (industrial.sales@hitecrcd.net)
- ✓ If you would like to purchase additional industrial servos, please contact Hitec Network or local Hitec distributors in your place. (https://hitecrcd.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.