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SG33BL-CAN

Engineered and Manufactured in South Korea

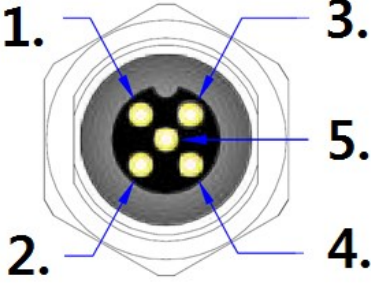
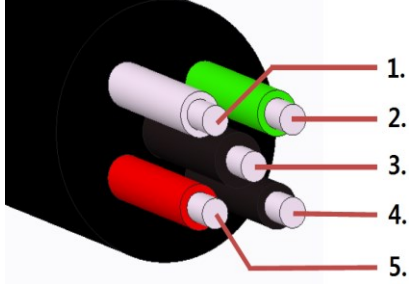
1 Performance Specification

Model	SG33BL-CAN-T-12V	SG33BL-CAN-T-24V
Control System	CAN2.0A,B / DroneCAN (UAVCAN v0)	
Position Type	Contactless Magnetic Encoder	
Motor Type	BLDC Motor	
Operating Voltage Range	9.0V ~ 15.0V	18.0V ~ 32.0V
Voltage	At 12.0V	At 24.0V
No Load Speed	324 °/sec	
	0.185 sec/60°	
	54.05 RPM	
Rated Torque (At 20% Load)	2.88 N·m (29.4 kgf·cm)	
Peak Torque	14.41 N·m (147.0 kgf·cm)	
Idle Current (At Stopped)	30mA	20mA
Running Current (At No Load)	500mA	230mA
Peak Current	10,000mA	6,400mA
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	Gland Cable
Dimensions	64.0 x 33.0 x 90.0 mm (±0.2mm) / (2.520 x 1.299 x 3.543 inch)	
Weight	480.0g (16.93oz)	500.0g (17.64oz)
Housing	Rugged Aluminum Alloy With Hardcoat Anodizing (MIL-A-8625 Type III)	
Gear Reduction	4 Hardened Steel Gears	
Bearing	6 Ball Bearing & 2 Needle Bearing	
Horn Gear Spline	Square 6.5 x 6.5	
Gear Train Backlash	< 0.5°	
Slip Clutch Release Momentum	N/A	
Radial Load On Output Shaft	< 1729N (176.32kgf)	
Push Load On Output Shaft	N/A	

3 Connector

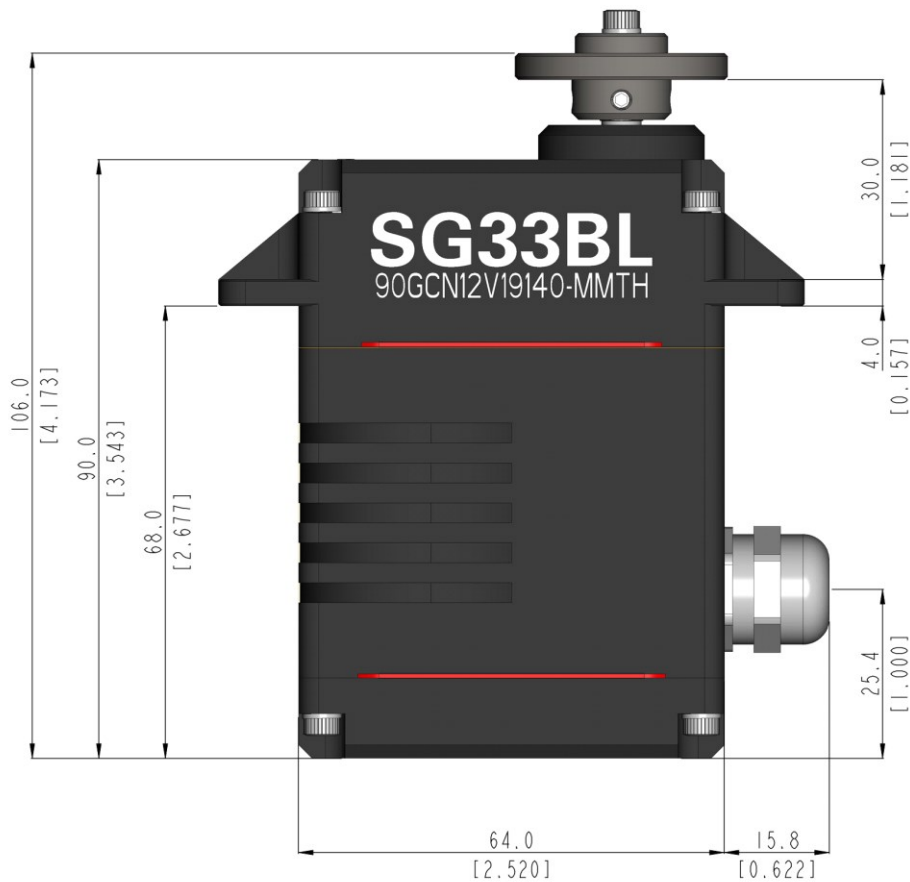
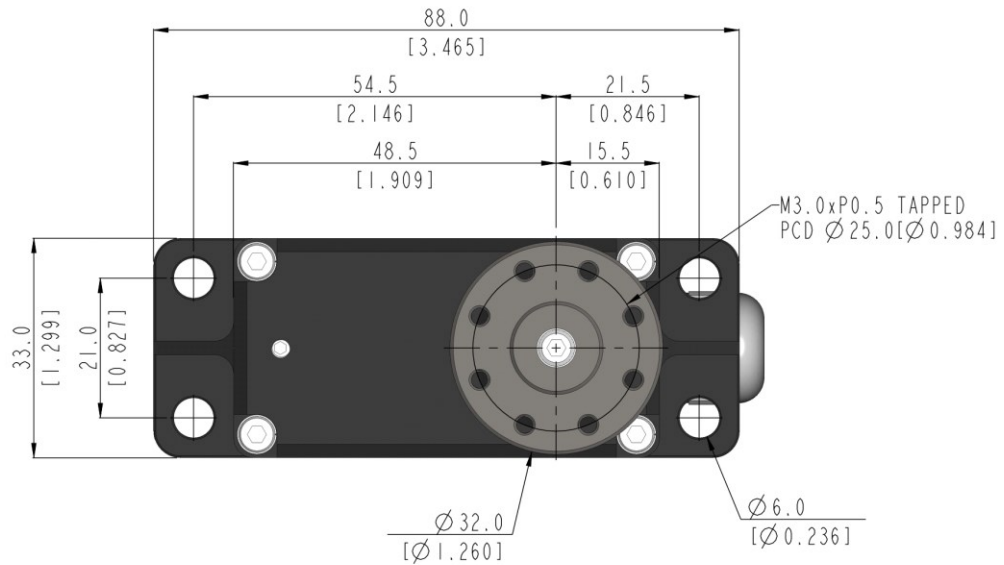
Conector Type	Circular	Gland Cable		
Manufacture	TE Connectivity	LS CNS		
Conector	M12 Circular female 5P (T4131012051-000)	N/A		
Wire	N/A	400mm / 20AWG		
Mating	M12 Circular mal 5P (Ex :T4111002051-000)	N/A		
Pin Assignment				
	1.	Gnd	1.	Can-Low
	2.	Vcc	2.	Can-High
	3.	Can-High	3.	Case Gnd
	4.	Can-Low	4.	Gnd
	5.	Case Gnd	5.	Vcc

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)

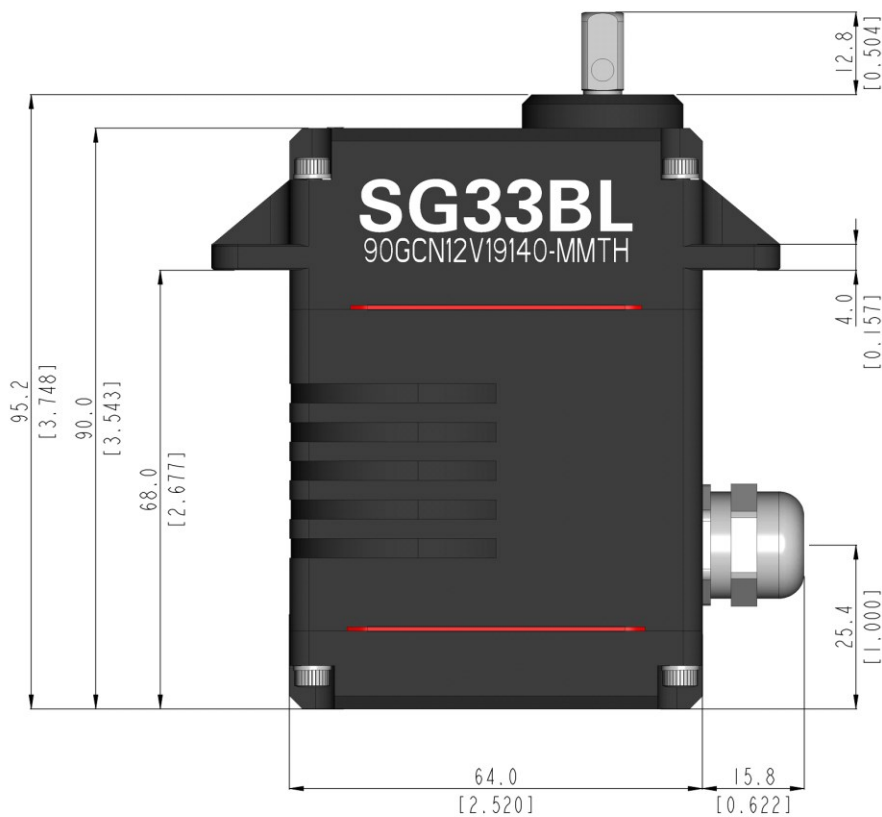
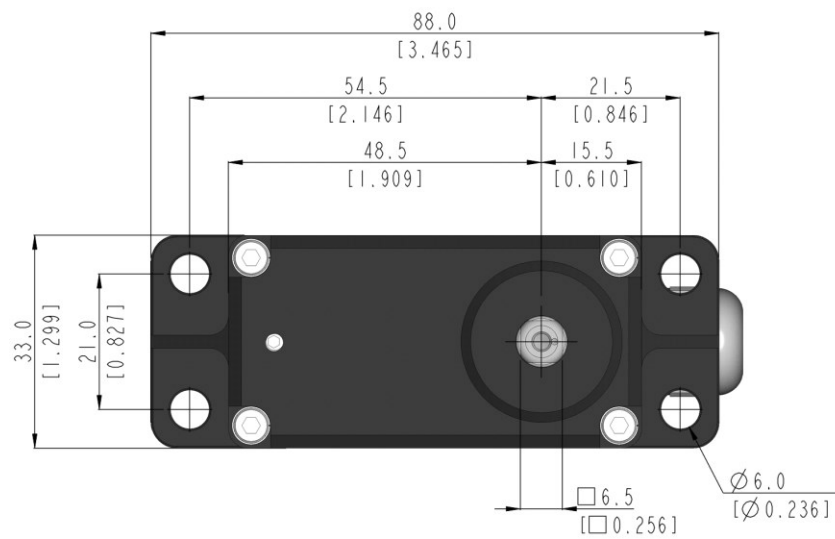
5 Dimensions

5-1 CABLE GLAND TYPE – WITH HORN



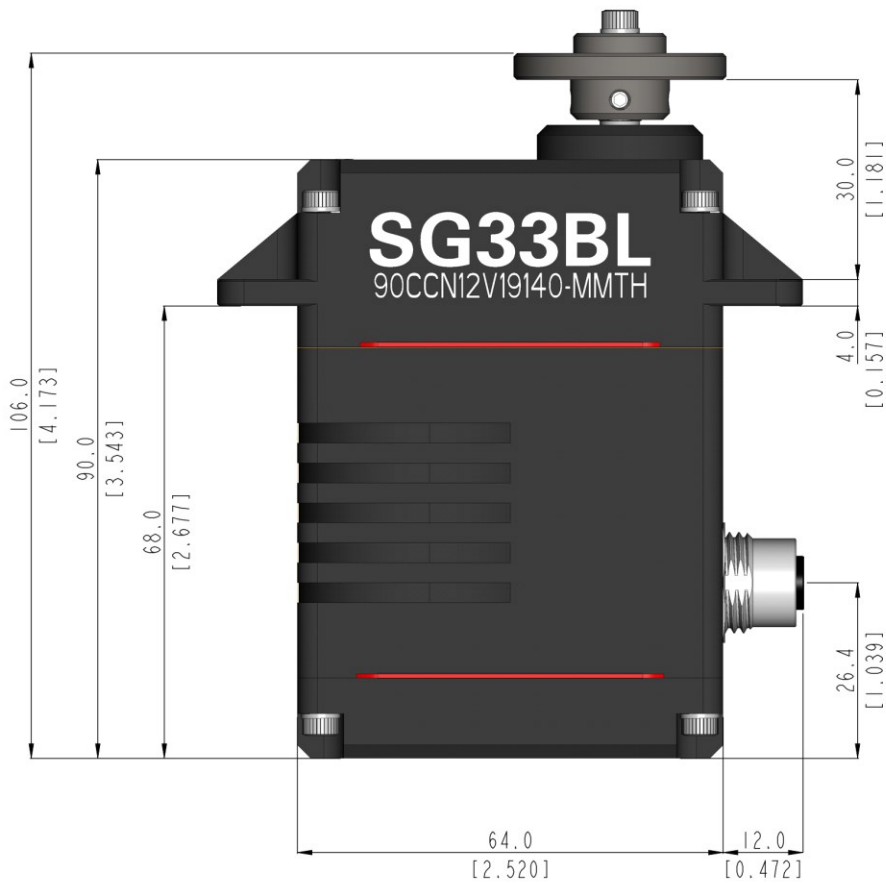
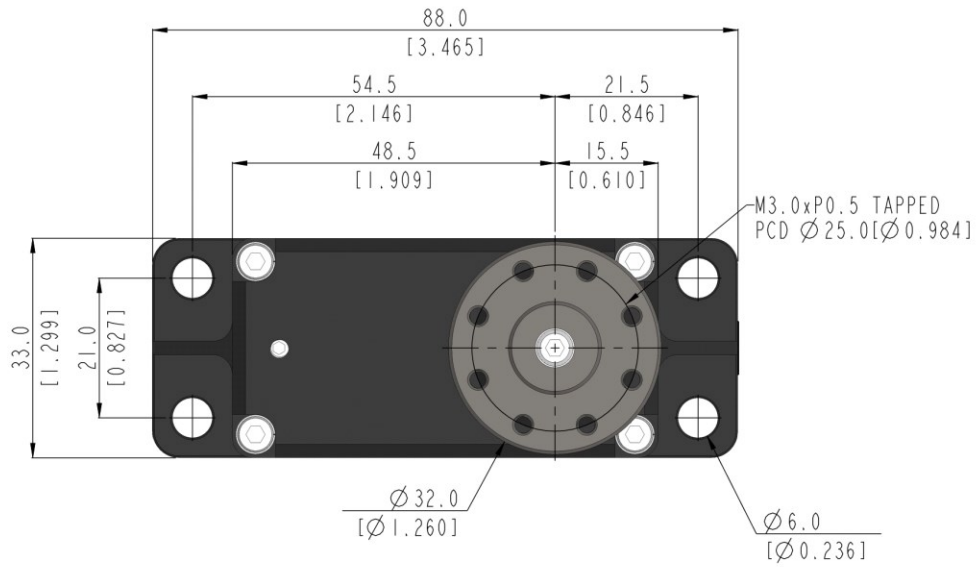
unit : mm [inch]

5-2 CABLE GLAND TYPE – WITHOUT HORN



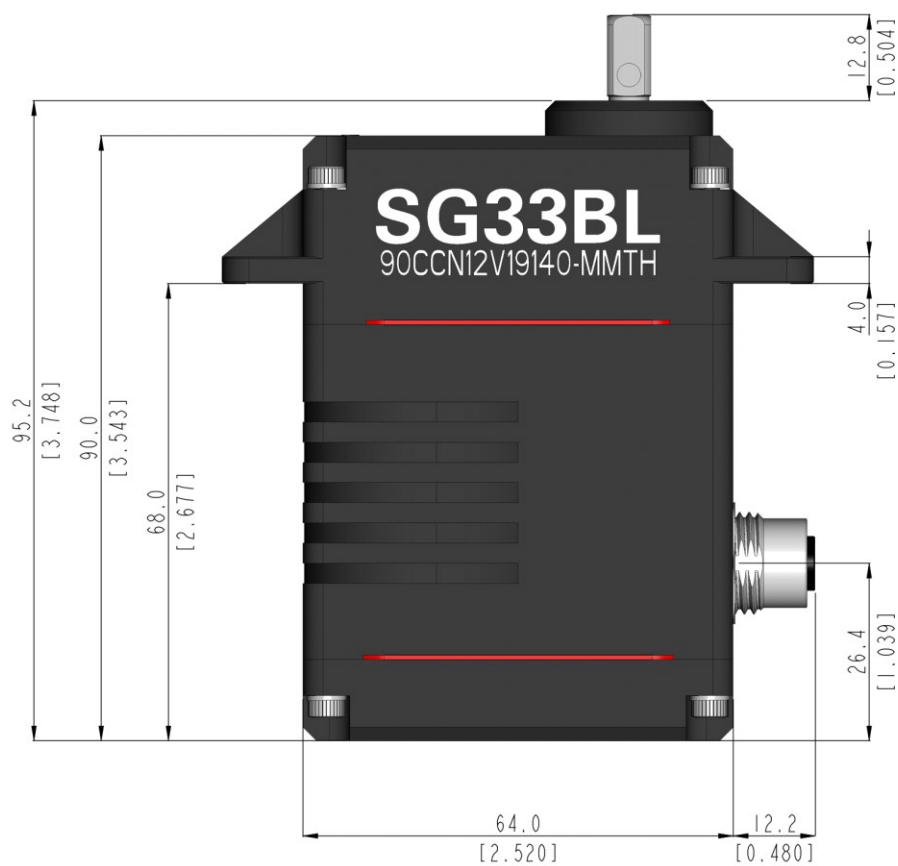
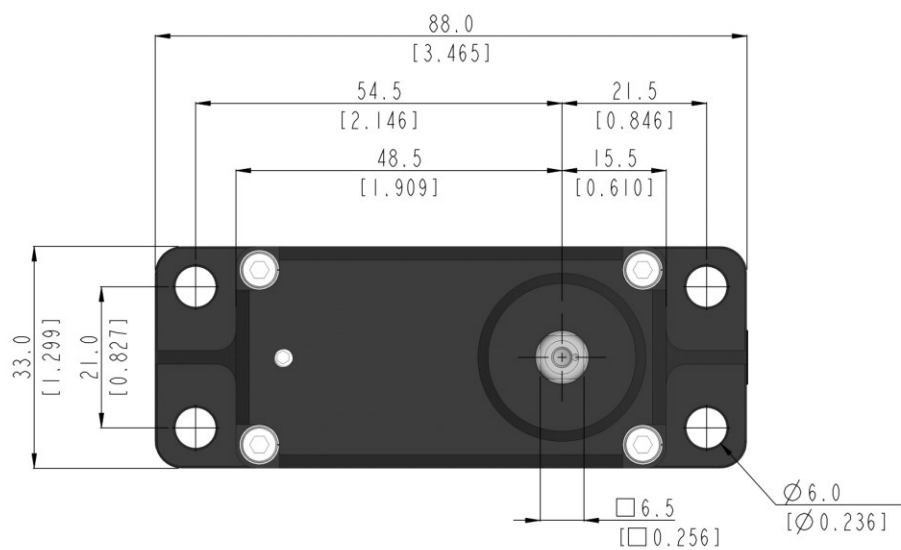
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5-3 CIRCULAR CONNECTOR TYPE – WITH HORN



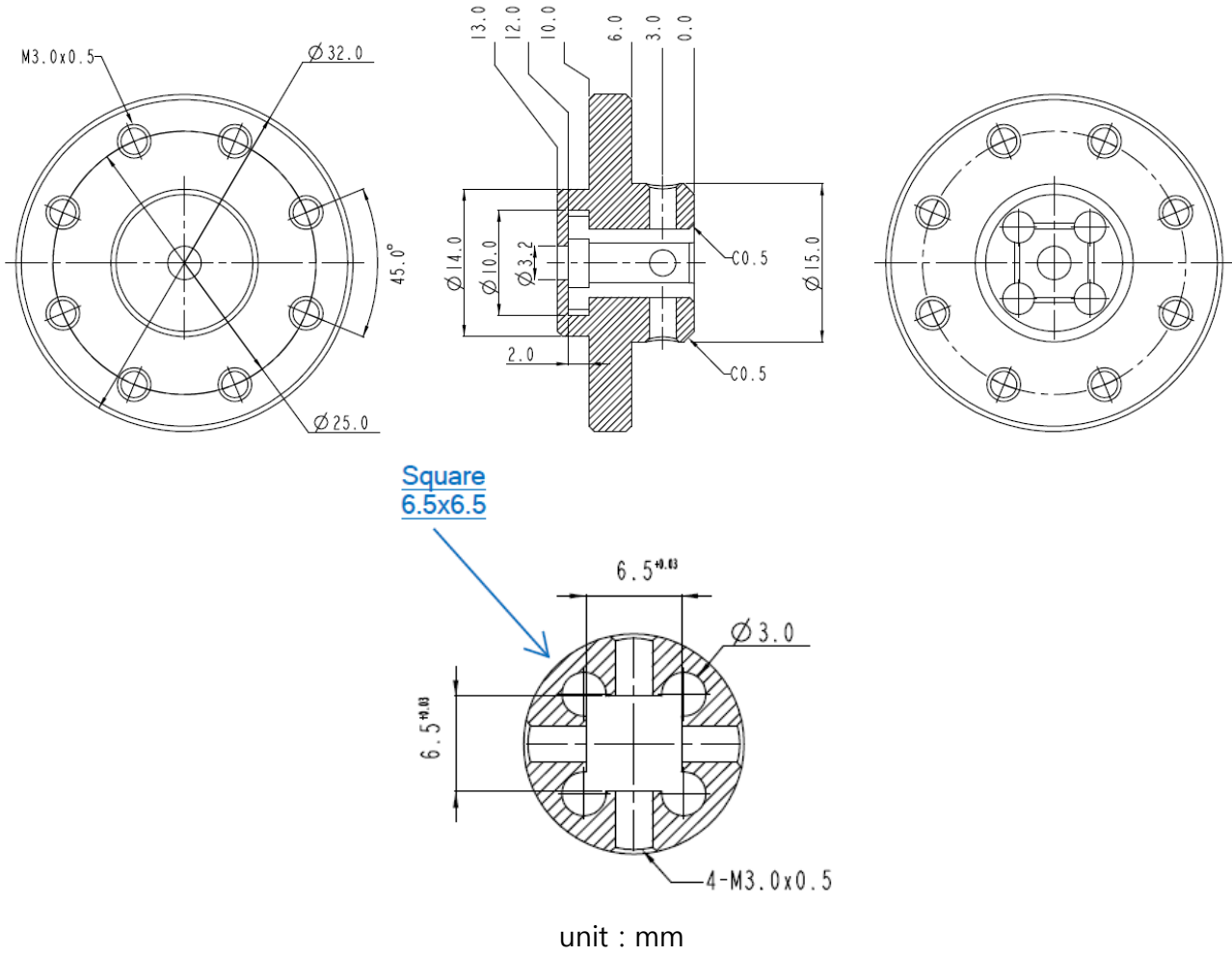
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5-4 CIRCULAR CONNECTOR TYPE – WITHOUT HORN

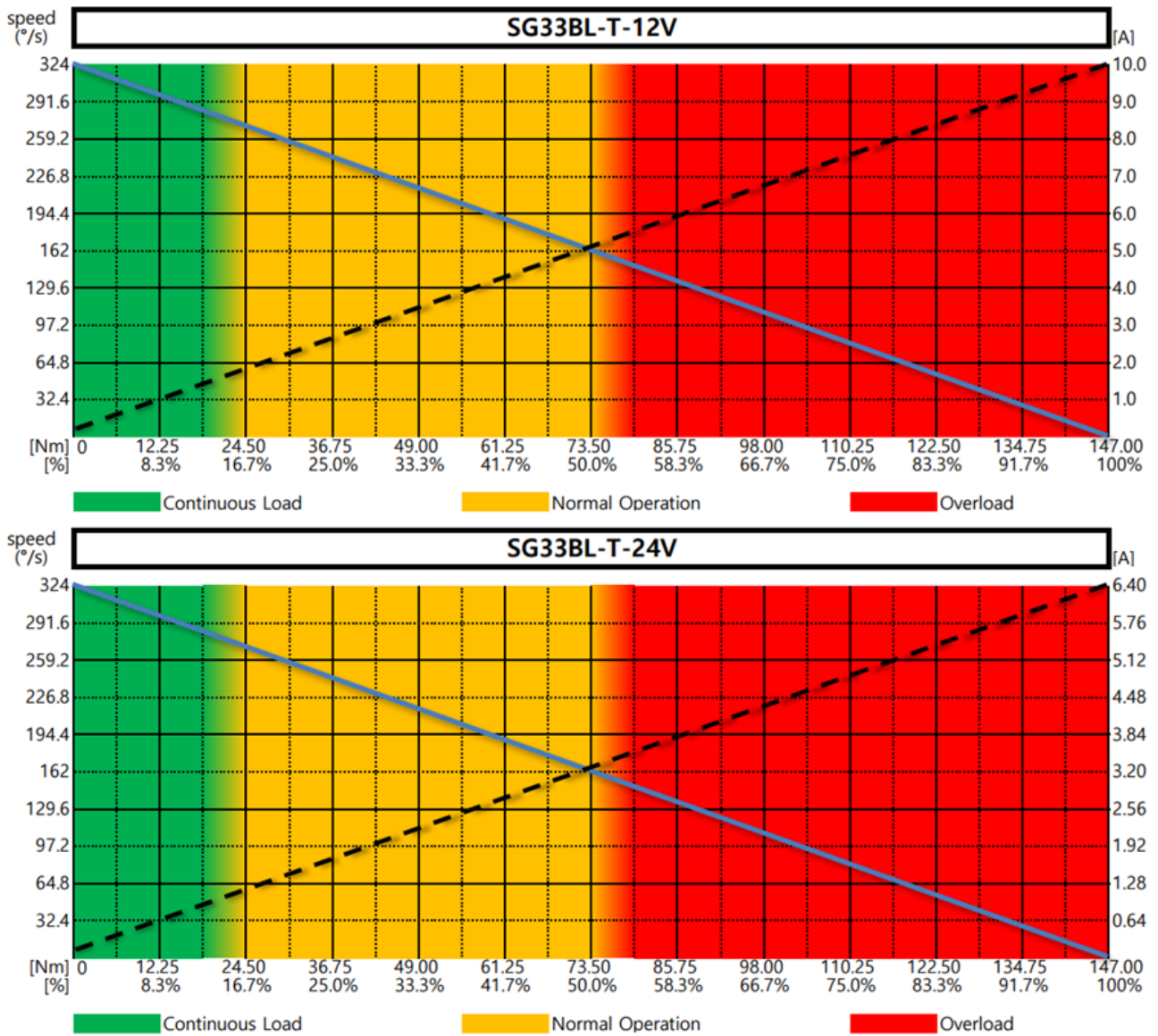


unit : mm [inch]

6 Dimensions – Accessory



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. Delete Speed Version information. Fix speed value error.
2024-01	2.02	Add text regarding References. Fix 'Radial Load On Output Shaft' error value. Fixe performance graph error.

REFERENCES

- ✓ For the protocol manuals of CAN, DroneCAN, RS485 and TTL, please contact Hitec RCD Korea.
(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.

