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SG33BL-CAN

Engineered and Manufactured in South Korea

1 Performance Specification

Model	SG33BL-CAN-S-12V	SG33BL-CAN-T-12V	SG33BL-CAN-S-24V	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	400.0 °/sec	320 °/sec	400.0 °/sec	320 °/sec
	0.15 sec/60°	0.185 sec/60°	0.15 sec/60°	0.185 sec/60°
	66.66 RPM	53.33 RPM	66.66 RPM	53.33 RPM
Rated Torque (At – 20% Load)	2.15 N·m (22.0 kgf·cm)	2.88 N·m (29.4 kgf·cm)	2.15 N·m (22.0 kgf·cm)	2.88 N·m (29.4 kgf·cm)
Peak Torque	10.78 N·m (110.0 kgf·cm)	14.41 N·m (147.0 kgf·cm)	10.78 N·m (110.0 kgf·cm)	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 95.0 mm (± 0.2 mm) / (2.520 x 1.299 x 3.740 inch)	
Weight	480.0g (16.93oz)	500.0g (17.64oz)
Housing	Aluminum Alloy	
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	< 14.41N (147.0 kgf)	
Push Load On Output Shaft	N/A	

3 Connector

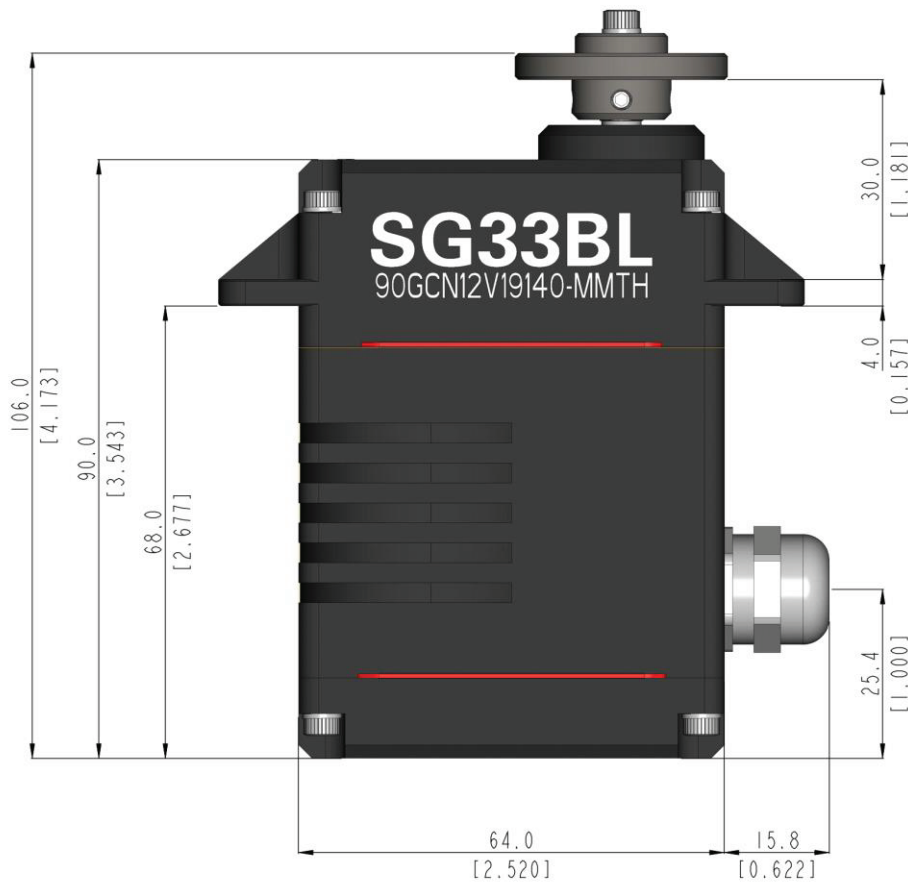
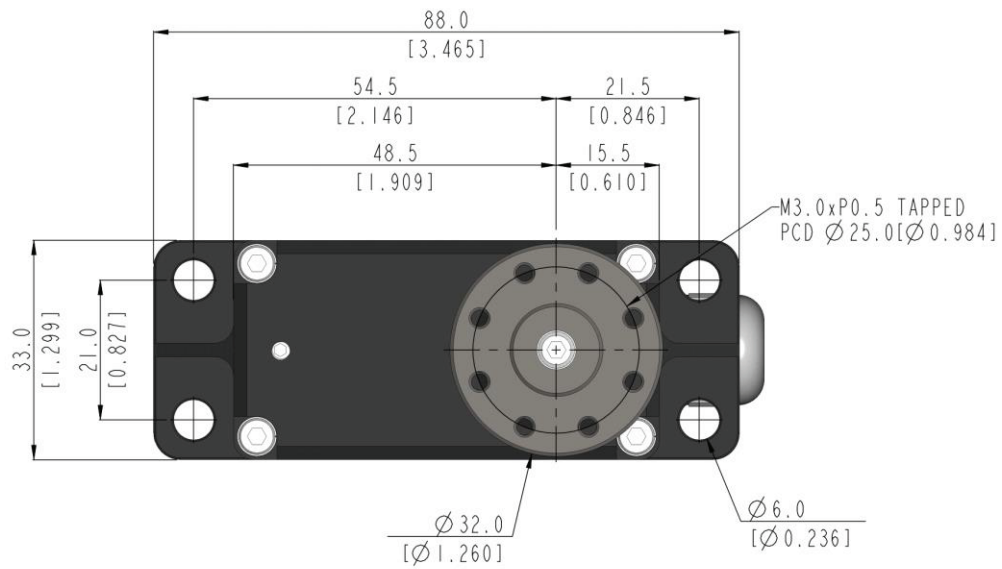
Conector Type	Circular	Gland Cable		
Manufacture	TE Connectivity	LS CNS		
Conector	M12 Circular female 5P (T4131012051-000)	N/A		
Wire	N/A	400mm / 20AWG		
Mating	M12 Circular male 5P (Ex :T4111002051-000)	N/A		
Pin Assignment				
	1.	Gnd	1.	Can-Low
	2.	Vcc	2.	Can-High
	3.	Can-High	3.	Case Gnd
	4.	Can-Low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

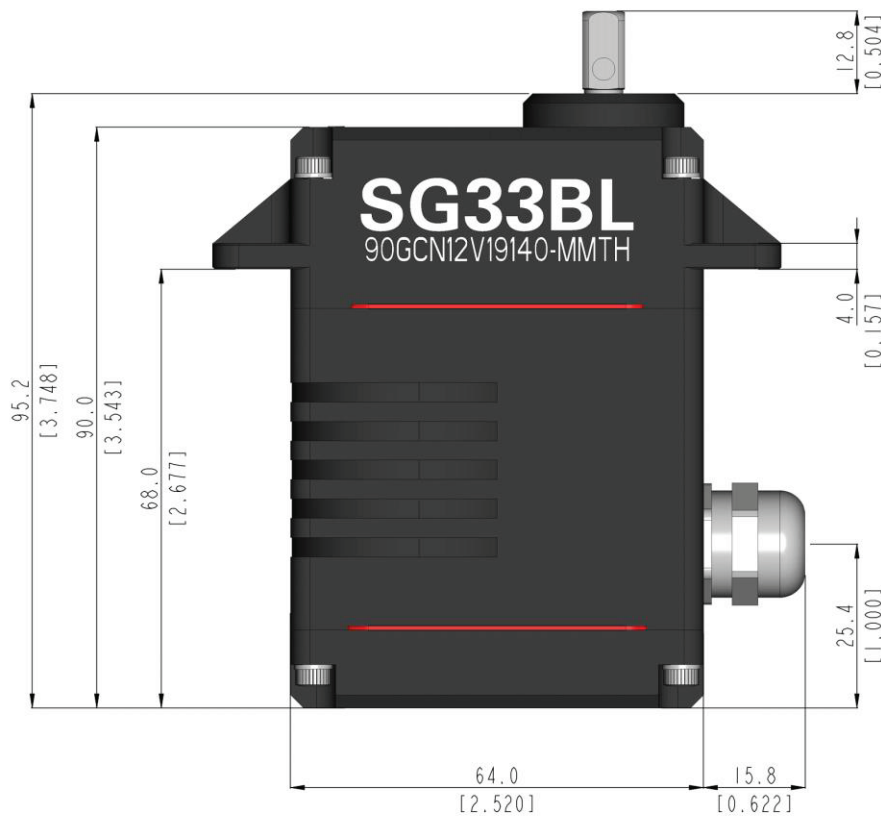
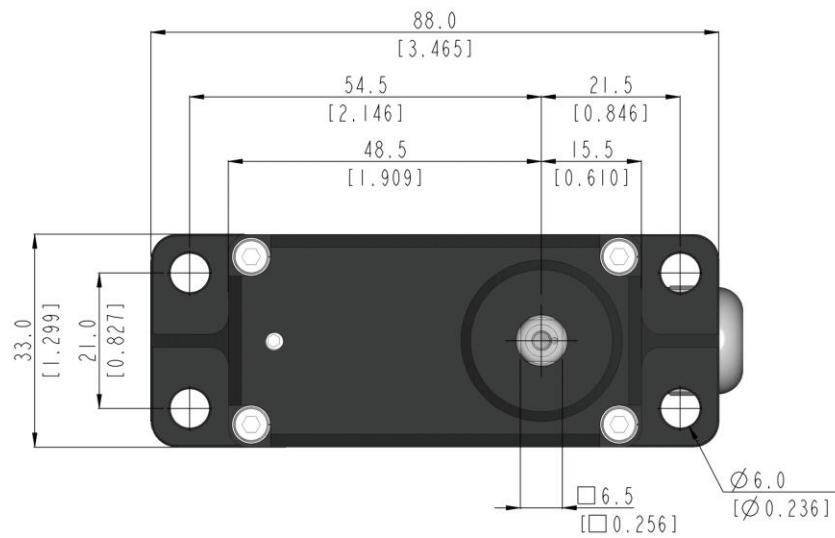
5 Dimensions

5-1 CABLE GLAND TYPE – WITH HORN



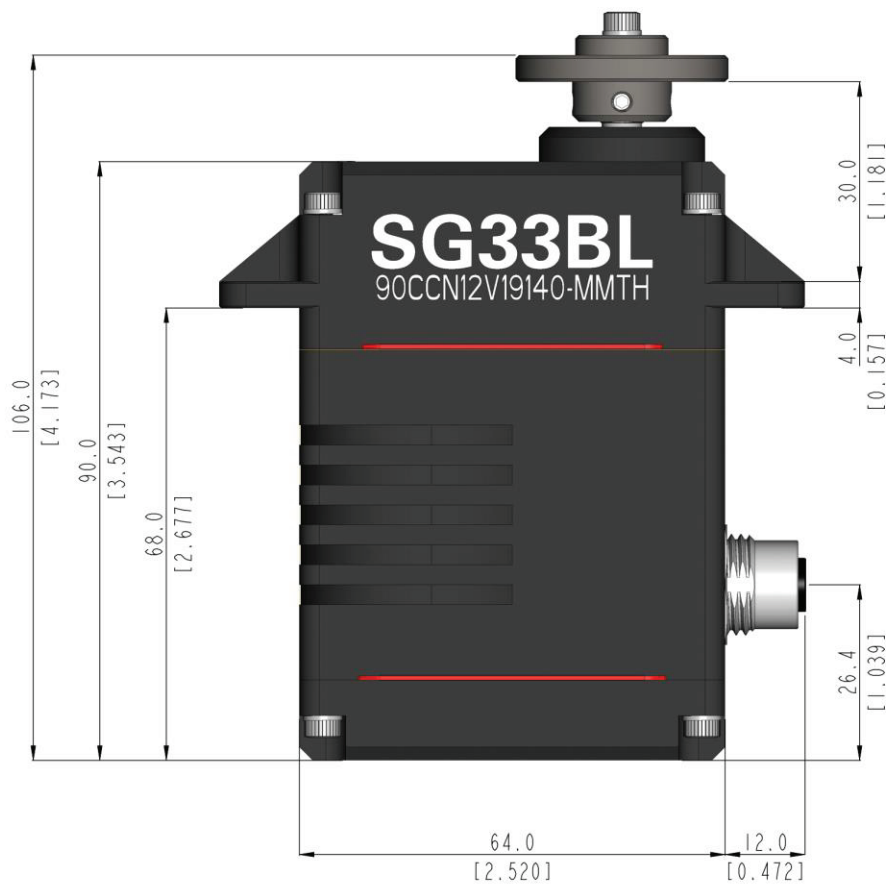
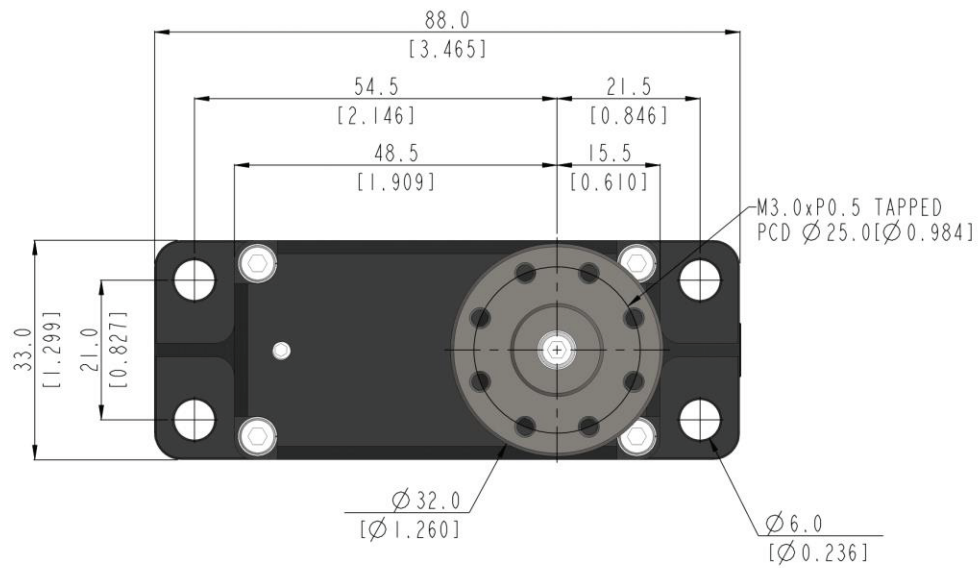
unit : mm [inch]

5-2 CABLE GLAND TYPE – WITHOUT HORN



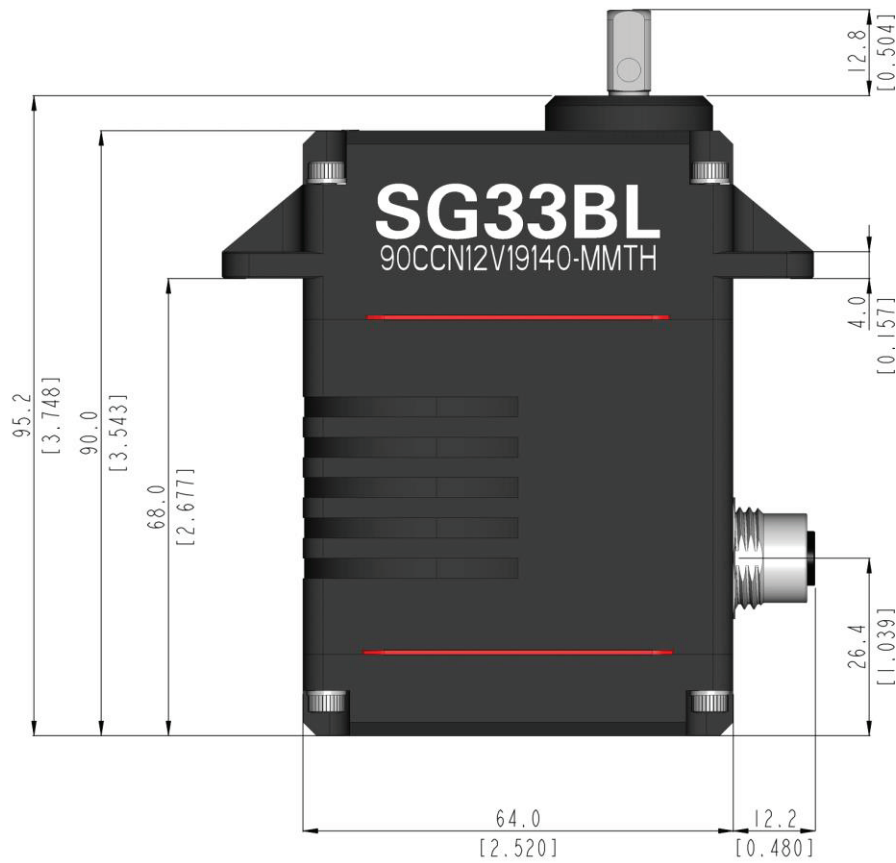
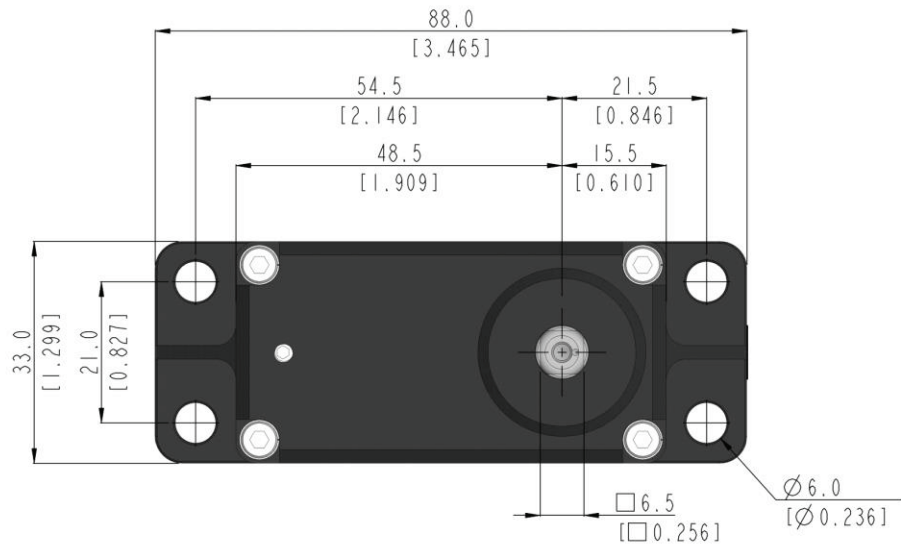
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5-3 CIRCULAR CONNECTOR TYPE – WITH HORN



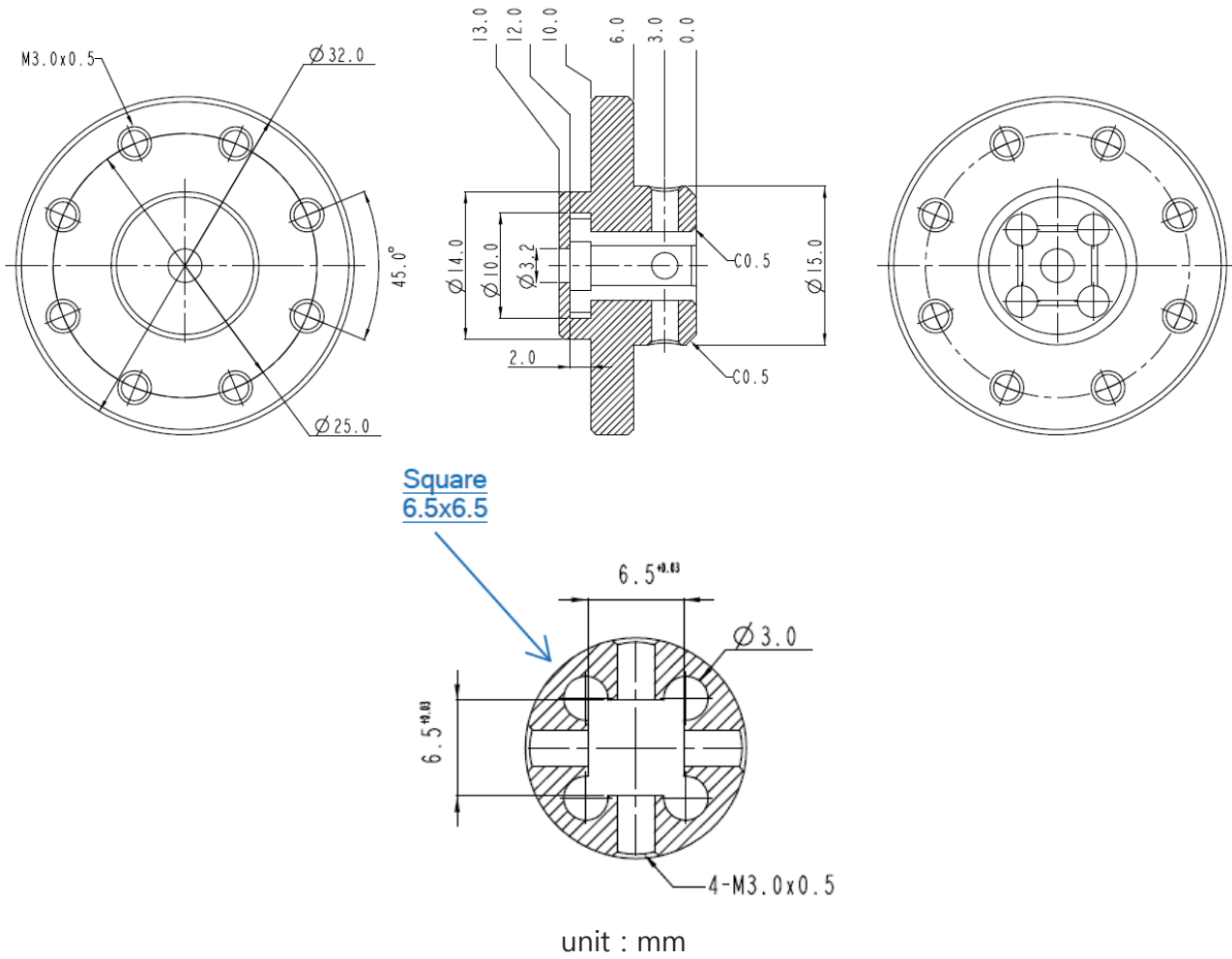
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5-4 CIRCULAR CONNECTOR TYPE – WITHOUT HORN

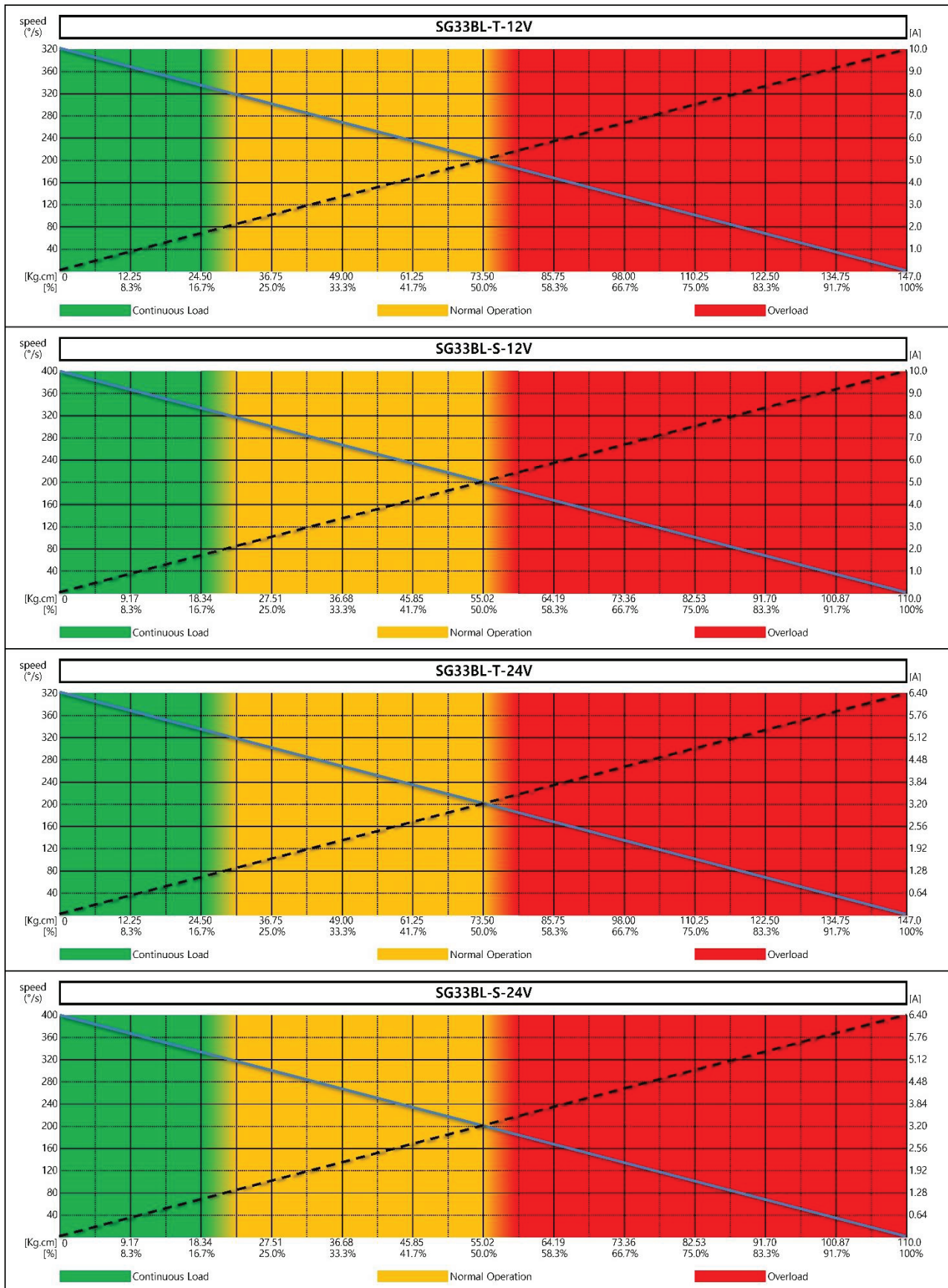


unit : mm [inch]

6 Dimensions – Accessory



7 Performance Graph



8 Changes

Data	Version	Updates
2023-06	2.00	-

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>

