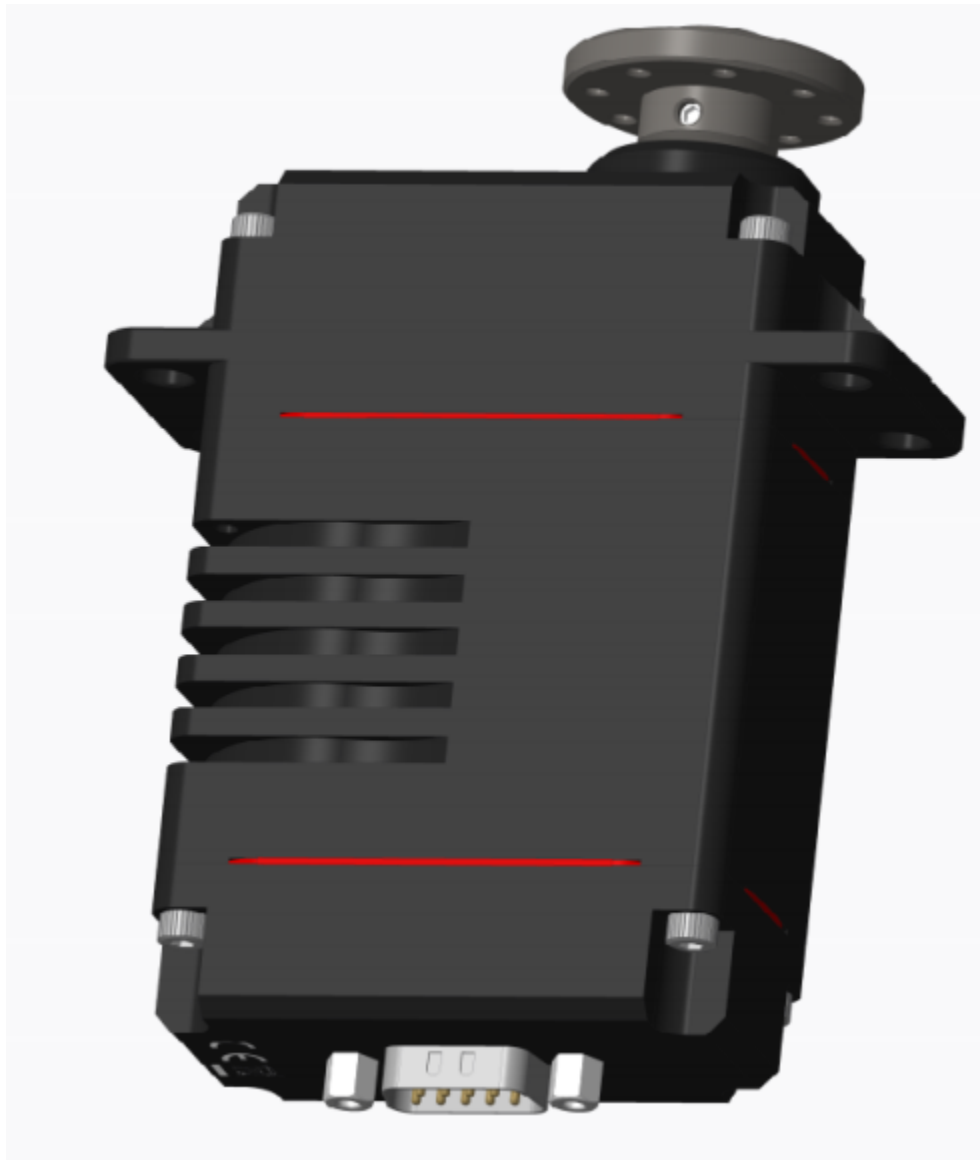




〈Features〉

Contactless position sensor

Durable aluminum alloy case & Steel gears with ball bearing & Heat treatment

Waterproof & Dust resistance (IP67)

〈Applications〉

Industry

UAV

Robotics

Automation

PERFORMANCE SPECIFICATIONS

	<u>SG33BL-S-12V</u>	<u>SG33BL-T-12V</u>
Control system	+PULSE WIDTH CONTROL 1500usec NEUTRAL	
Operating voltage range	9.0V ~ 15.0V	
Test voltage	At 12.0V	At 12.0V
No - load speed	400°/sec	320°/sec
	0.15sec/60°	0.185sec/60°
Rated torque	1.8N·m (18.35kgf·cm)	2.4N·m (24.47kgf·cm)
Peak torque	10.8N·m (110.12kgf·cm)	14.4N·m (146.84kgf·cm)
Idle current (At stopped)	45mA	45mA
Running current @no load (900usec ~ 2100usec)	400mA	500mA
Peak current	10000mA	10000mA
Control signal	PWM RS-485 TTL(Half duplex)	
Operating travel (900usec ~ 2100usec)	Standard : $\pm 60^{\circ} \pm 0.5$ Optional : $\pm 160^{\circ} \pm 0.5$	
Multi turn	Optional : Max ± 8 Turn ($\pm 2880^{\circ}$)	
Motor type	BLDC motor	
Position type	Contactless	

MECHANICAL FEATURES

Dimensions	64.0 x 33.0 x 95.0mm (± 0.2 mm) / (2.52 x 1.30 x 3.74in)
Weight	400g ($\pm 10\%$)
Housing	Rugged Aluminum Alloy
Gear reduction	Durable Hardened steel with Gear protection system
Ball Bearing	6 Ball bearing & 2 Needle bearing
Horn gear spline	Square 6.5x6.5
Gear train backlash	< 0.5°

Slip clutch release momentim	>Peak torque +20%
Axial load on output shaft	<10.0kgf

ENVIRONMENTAL SPECIFICATIONS

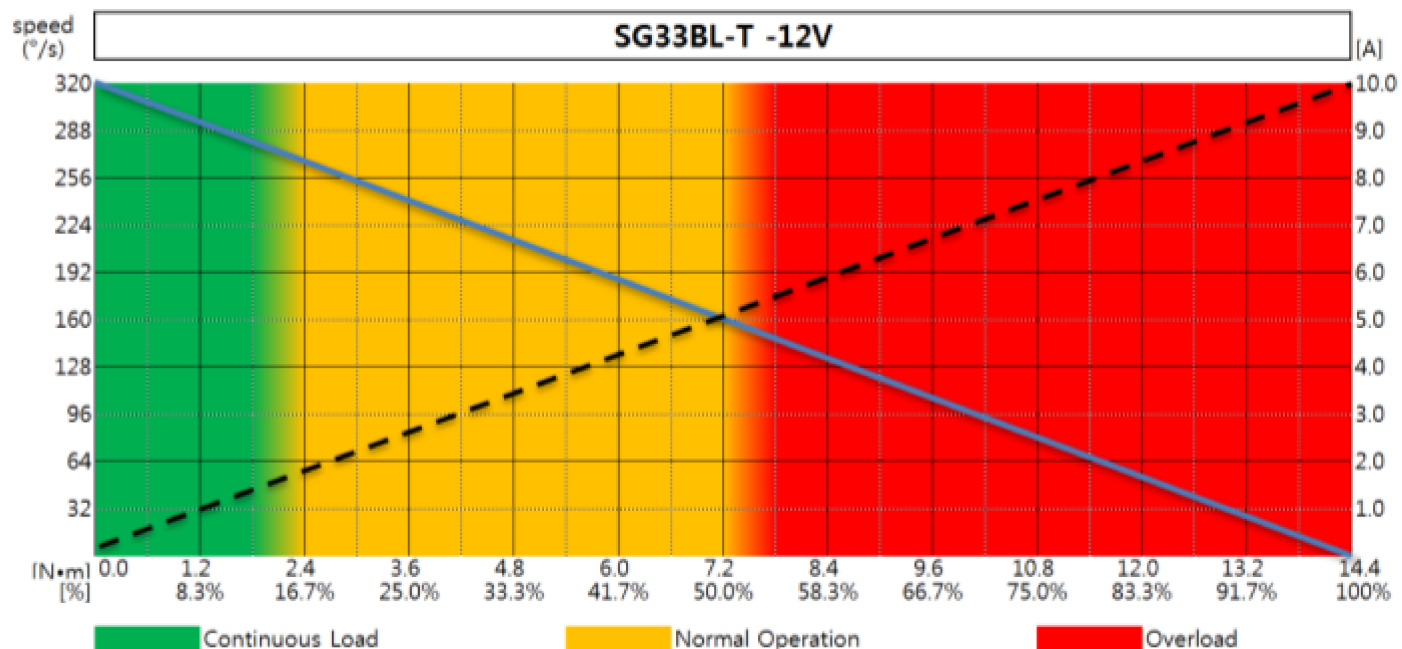
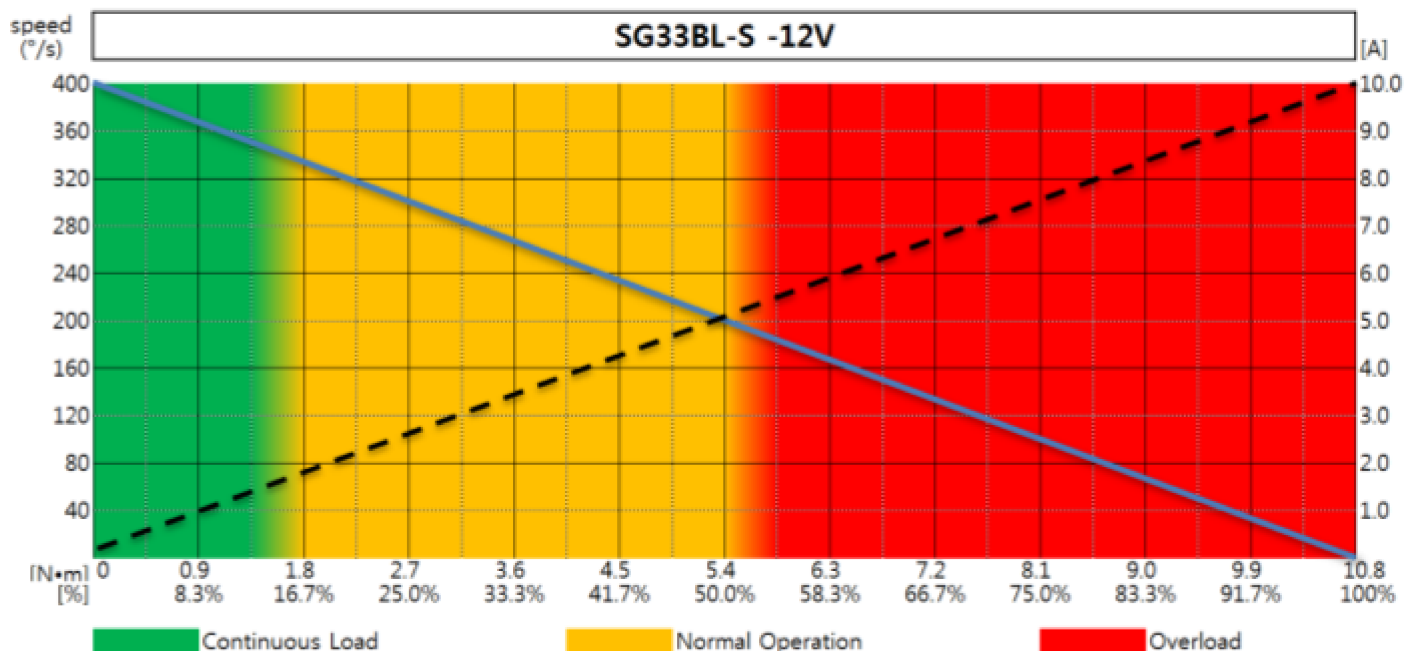
Operation temperature	-30°C (-22°F)	MIL-STD-810G Method 502.5
	+70°C (+158°F)	MIL-STD-810G Method 501.5
Storage temperature	-40°C (-40°F)	MIL-STD-810G Method 502.5
	+80°C (+176°F)	MIL-STD-810G Method 501.5
Humidity	95% @35°C ~ 60°C @300hours	MIL-STD-810G Method 507.5
Water & Dust protected	IP67 (Please contact for IP68 conditions.)	IEC 60529
Variation	Orthogonal axes : ±X , ±Y, ±Z from 50 ~ 500Hz Duration : sweep 5min Acceleration 30G Displament : 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	-	CISPR 16-1,2 IEC 61000-4-2,4,6
MTBF*	> 500h	Test Condition Load : 20% of Max Torque 0.5Hz sweep(±60)

CONNECTOR

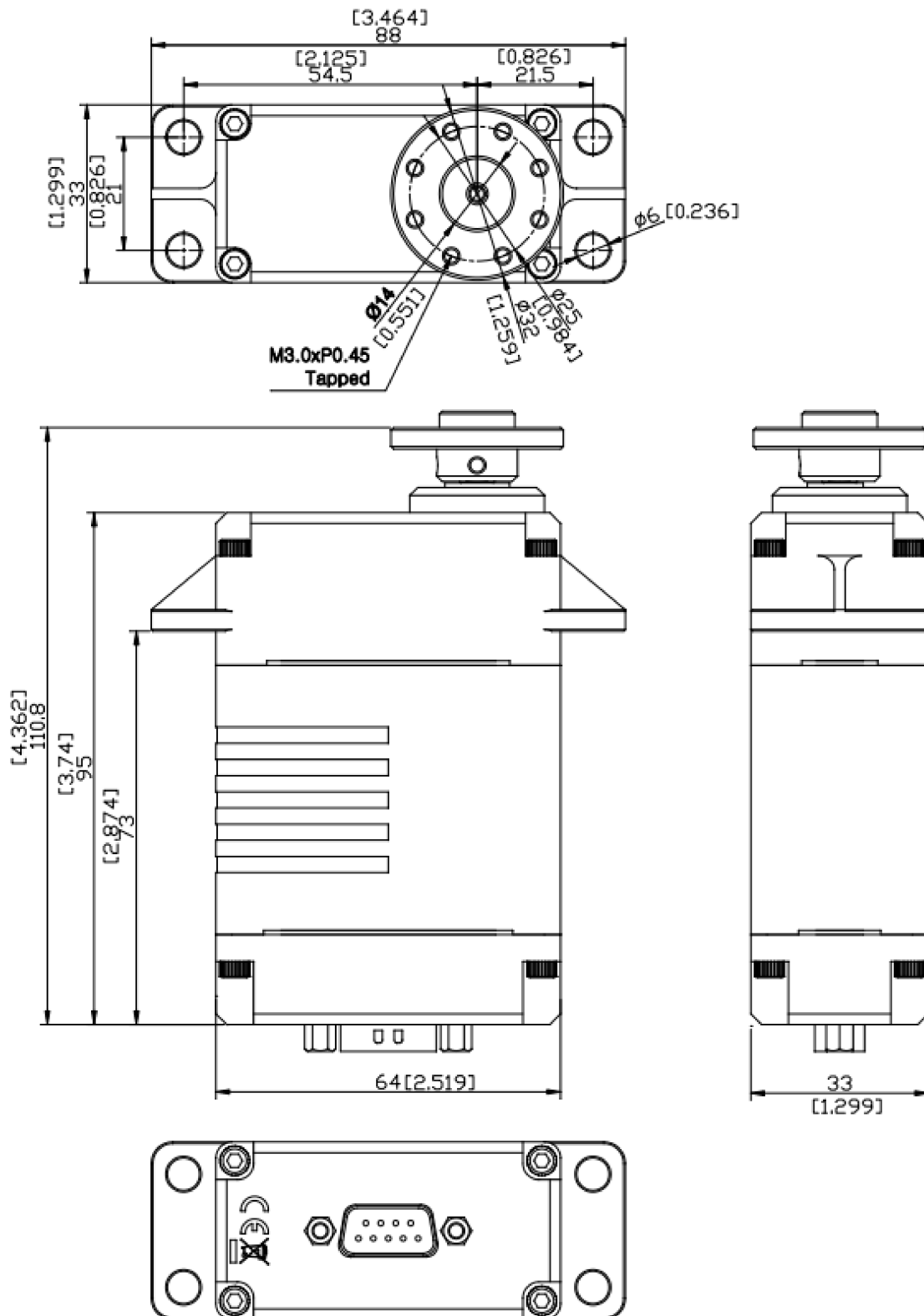
Connector wire length	-
Connector	D-SUB9



Pin#	Signal
1	RS485 A
2	RS485 B
3	Analog Feedback "+"
4	PWM/TTL
5	Case GND
6	V+
7	V-
8	Not connected
9	Analog Feedback "-"



DIMENSIONS



unit : mm [inch]