

# BLA21-06U-A02 Technical Specification

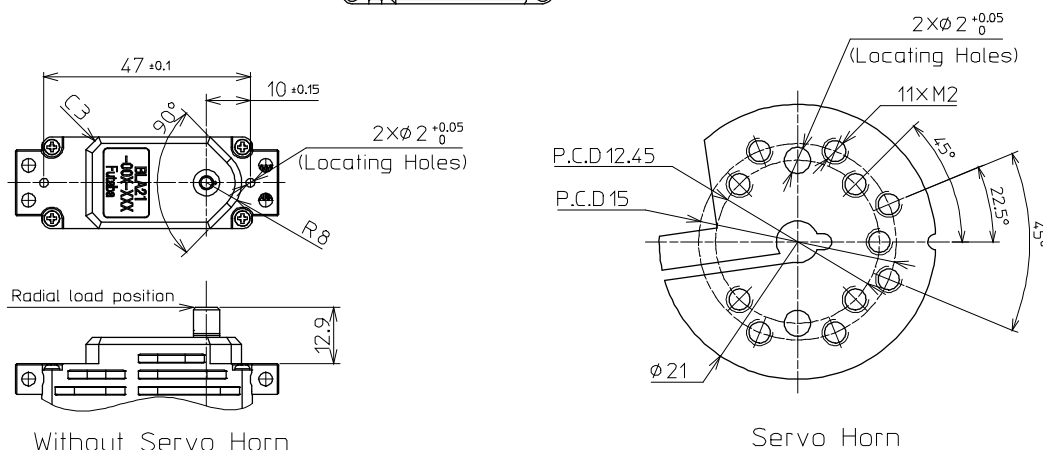
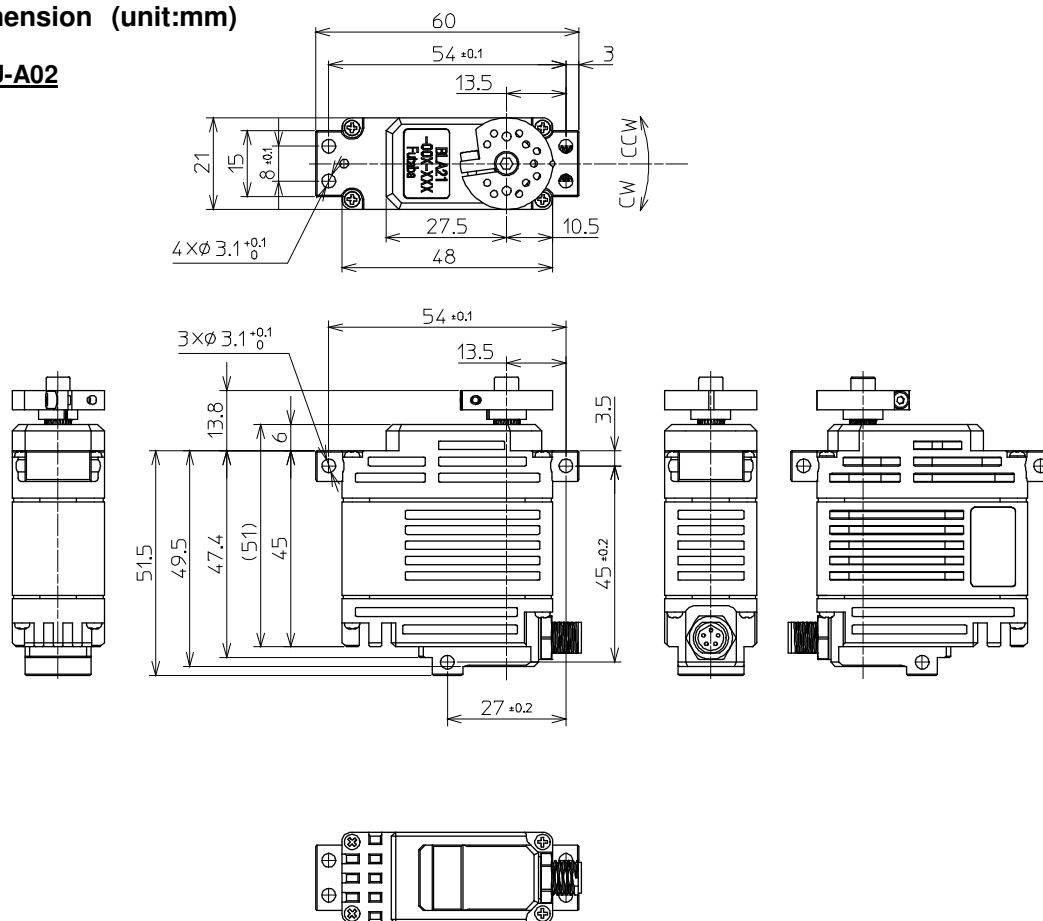
Item		Specification				Remark		
1	CommunicationInterface	CAN BUS				Protocol	UAVCAN V0	
						Baud Rate	1Mbps	
						Sample Point	87.5%	
						Node ID	1~127	
						(Please ask us for more information)		
2	International Protection Code	IP67				Waterproof and dustproof		
3	Rated Voltage	6.0 ~ 7.4V				DC power supply.		
4	Operating Voltage	5.0 ~ 8.4V				DC power supply.		
5	Standby Current	≤ 70mA				at 7.4V		
6	Starting Current *	Design value	≤ 20A			at 7.4V		
		Protection	12A			100% of torque control. See No.7.		
7	Operating mode	Angle control	+36,000,000.0° ~ -36,000,000.0°			See No.13.		
		Speed control	-300rpm ~ +300rpm			Commandable speed. See No.12 for actual speed.		
		Torque control	-100% ~ +100%			Max. torque at supply voltage of 7.4V is 100%. See No.9. The actual torque that can be output depends on the power supply, load, etc., so use the command value as a guide.		
8	Consumption Current *	LL	Me	UL	unit	at 7.4V, No-Load LL : Low Limit Me : Medium Value UL : Upper Limit		
		170	270	370	mA			
9	Max. Torque *	LL	Me	UL	unit	at 7.4V		
		38.0	48.0	58.0	kgf·cm			
		3.73	4.71	5.69	N·m			
		528	667	805	ozf·in			
		42.0			kgf·cm			
10	Rated Torque *	50.0			kgf·cm	at 6.0V Medium Value		
		12.0			kgf·cm	at 8.4V Reference value		
		1.18			N·m	at 7.4V		
		167			ozf·in			
		9.7			kgf·cm	at 6.0V Medium Value		
11	No Load Speed * (Angle control mode)	12.0			kgf·cm	at 8.4V Reference value		
		LL	Me	UL	unit	at 7.4V		
		0.04	0.07	0.10	s/60°			
		600	857	1500	°/s			
		100	143	250	rpm			
0.08			s/60°					
12	No Load Speed * (Speed control mode)	0.06			s/60°	at 6.0V Medium Value		
		LL	Me	UL	unit	at 7.4V		
		100	143	250	rpm			
		Mechanical					+179.9° ~ -180.0°	Absolute
		Software					+36,000,000.0° ~ -36,000,000.0°	Pseudo absolute *Incremental above mechanical range.
13	Travel Angle *	Range						
		Error	LL	Me	UL	unit	at 7.4V, No-Load, Position:±60°	
		---	±1.5	±3.0	°			
Repeatability	---	±0.5	±3.0	°	at 7.4V, No-Load, Position:0°→+60°→0°, 0°→-60°→0°			
14	BackLash *	≤ 0.5°				-		
15	Temperature Range	Operating	-40~+80°C (-40~176°F)			*The operating noise of servo may become loud in low temperature.		
		Storage	-40~+80°C (-40~176°F)			-		
		Protection	+80°C (176°F)			Torque OFF at set temperature or higher.		
16	Outer Dimension	48.0x 21.0 x 51.0mm (1.89 x 0.83 x 2.01 in)				Refer to Outer Dimension		
17	Weight	127g				with Horn and screws without cables		
18	Case Material	Aluminum				Surface : Anodizing Salt Water Resistance, EMI Case Shielding		
19	Gear Set Material	Steel				Surface : Hardening treatment		
20	Gear bearing	8 ball bearing				-		
21	Radial load	100N				Load position : Refer to Outer Dimension * Design reference value.		
22	Position Sensor	Magnetic Encoder				-		
23	Motor Type	Brushless DC Motor				-		
24	Cable	Shielded Cable (Detachable)				Cable Length : 15.75 inch (400mm)		
25	Connector	Manufacture	ODS Electronics Co., Ltd.					
		Type	MMEPM05MCC-SHS7001					
		Mating	MAEAF05FCC-SRC7000 etc.					
		Pin Assignment	1	Brown	Battery(+)			
			2	White	Battery(-)			
			3	Blue	CAN-H			
4	Black		CAN-L					
5	Drain	Case Shield Line						
26	MTTF *	Operating time > 1,000h (continue testing) (Please contact us for a test report)				<b>Operating Condition</b> • at 7.4V • ±60°, 0.5Hz sweep <b>Test Condition</b> • Load : Rated Torque (Powder Brake)	<b>Angle Command Value</b> 	
		Operating time ≥ 1,000h (Please contact us for a test report)				<b>Operating Condition</b> • at 7.4V • ±60°, 0.5Hz sweep • No-Load <b>Test Condition (sine wave)</b> • Frequency : 10 to 500Hz (sweep 1oct/min, amplitude limit 2mm) • Acceleration : 300m/s <sup>2</sup> • Vibration axis : X,Y,Z		

\* At 23±5°C (Initial Performance Data)

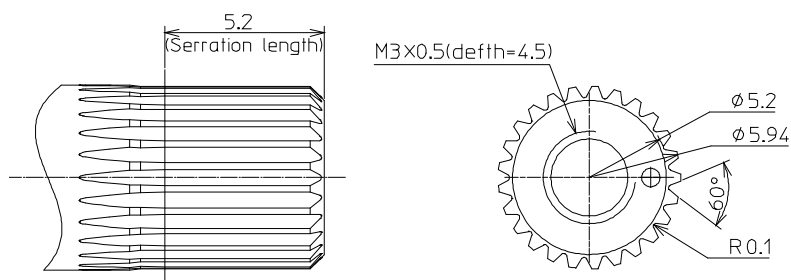
**All Specifications are subject to change without prior notice.**

**Outer Dimension (unit:mm)**

**BLA21-06U-A02**



**OUTPUT SHAFT**



**Sarretion Size**

Standard Diameter	: Φ6
Angle	: 60°
Tooth	: 25

**■ Caution**

- This product **SHOULD NOT** be used for the devices that is directly related to human life.
- Keep the servo away from an object which produces a strong magnetic field.
- There is a possibility of malfunction if the servo is affected by a strong magnetic field.