

BLA1HD21/ BLA1HD22 Technical Specification

Update Number

(THIS DATA IS JUST A REFERENCE. IT IS NOT A GUARANTEED DATA.)

181108-01

Item		Specification				Remark	
1	Communication Interface	PWM				Signal Voltage:V	HIGH : min. 2.0V max. Vcc
							LOW : min. 0.0V max. 0.45V
						Frame Rate:T	3.0~30ms (Default 14.25ms)
						Left/Center/Right:Td	2120/1520/920μs (Resolution recommends less than 1μs.)
		S.BUS				Futaba Serial Protocol (Please ask us for more information.)	
2	Rated Voltage	6.0~7.4V DC				-	
3	Operating Voltage	4.0~8.4V DC				-	
4	Standby Current	≤ 45mA				at 6.0~7.4V	
5	Consumption Current*	LL	Me	UL	unit	at 7.4V , No-Load	
		145	225	305	mA	LL : Low Limit Me : Medium Value UL : Upper Limit	
6	Max. Torque*	LL	Me	UL	unit	at 7.4V	
		5.4	7.6	9.8	kgf-cm		
		0.53	0.75	0.96	N-m		
		75.0	105.5	136.1	ozf-in		
7	Rated Torque*	LL	Me	UL	unit	at 7.4V 20% of Max. Torque	
		1.1	1.5	2.0	kgf-cm		
		0.11	0.15	0.19	N-m		
		15.0	21.1	27.2	ozf-in		
8	No Load Speed*	LL	Me	UL	unit	at 7.4V	
		0.07	0.1	0.13	sec/60°		
		461.5	600.0	857.1	°/sec		
		76.9	100.0	142.9	rpm		
9	Default Travel Angle	CW 60° (920us) CCW 60° (2120us)				-	
10	Max Travel Angle	CW 90° (920us) CCW 90° (2120us)				Programing tool (CIU-2/-3, S-Link) required.	
11	BackLash*	≤ 0.5°				-	
12	Operating Temperature Range	-10~+45°C (14~113°F)				-	
13	Storage Temperature Range	-20~+60°C (-4~140°F)				-	
14	Outer Dimension	1.30 x 0.59 x 1.07 inch (33.0 x 15.0 x 27.1mm)				-	
15	Weight	BLA1HD21 : 0.99oz (28g) BLA1HD22 : 0.85oz (24g)				-	
16	Case Material	Upper : Resin / Middle : Resin / Bottom : Resin				-	
17	Gear Set Material	1st ,2nd,3rd,4th,5th(Final) : Metal				-	
18	Cable	Non-Shielded Cable				Please refer to Outer Dimension.	
19	Connector	Manufacture	J.A.M Co., LTD.				
		Type	FC25-03HG				
		Mating	FC25-03M etc.				
		Pin Assignment	1	White	S.BUS / PWM		
		2	Red	Vcc			
		3	Black	GND			
20	MTTF	100h (Calculated by Weibull analysis.)				Test Condition • Test voltage : 7.4V • Load : 20% of Max. Torque • Operating Condition : 0.5Hz sweep (±60°) • Input Pluse : PWM 	
21	Vibration Resistance *	Operating time ≥ 50h (at 7.4V)				Test Condition	
						Frequency range	80 to 400Hz
						Acceleration	30G (294m/s ²)
						Sweep rate	1.2 min / single-sweep
						Vibration axis	X , Y , Z

* Initial Performance Data at 23±5°C

All Specifications are subject to change without prior notice.

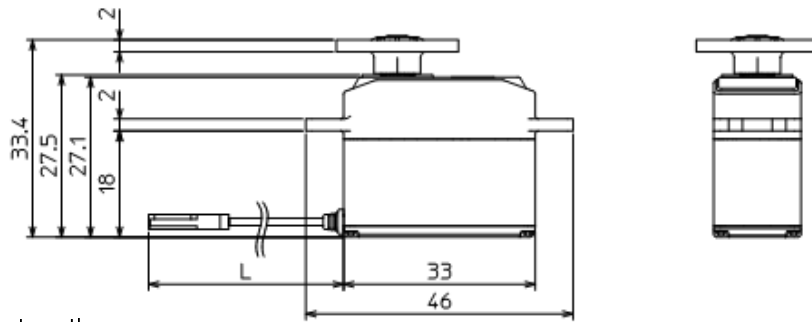
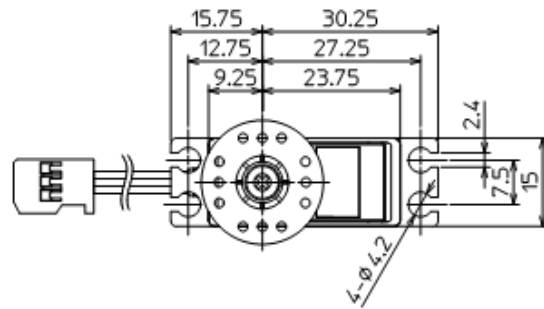
■ Caution

This product SHOULD NOT be used for the devices that is directly related to human life and/or harmful devices for human body such as below applications.

- (1)Medical Devices
- (2)Aerospace/Aviation Related Devices
- (3)Nuclear Related Devices e.t.c.

Outer Dimension

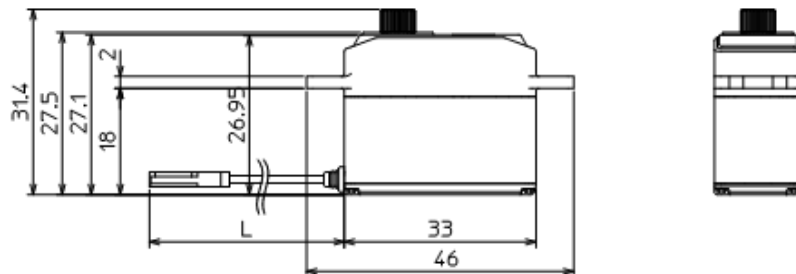
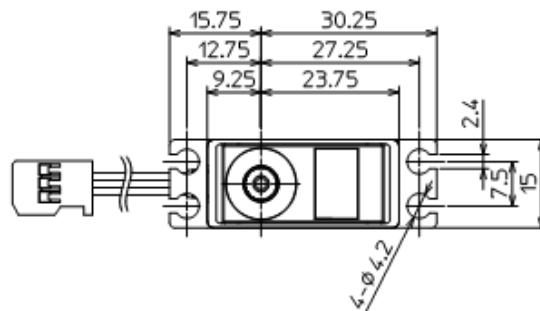
BLA1HD21



Cable Length
BLA1HD21 300mm

(Unit mm)

BLA1HD22



Cable Length
BLA1HD22 150mm

(Unit mm)