

# AJ9DA51/53(Torque Type) Technical Specification

Update Number

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

160419-08

Item		Specification				Remark		
1	Communication Interface	PWM				Signal Voltage:V	HIGH : min. 3.0V max. 16.8V	
							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.)		
		RS485				Command control (Half-duplex communication,Baud Rate 9.6~460.8kbps) (Please ask us for more information.)		
2	Rated Voltage	24V DC				-		
3	Operating Voltage	20~30V DC				-		
4	Standby Current	≤ 60mA				at 24V		
5	Consumption Current*	LL	Me	UL	unit	at 24V , No-Load		
		60	120	180	mA	LL : Low Limit Me : Medium Value UL : Upper Limit		
6	Max. Torque*	LL	Me	UL	unit	at 24V		
		77.0	110.0	143.0	kgf-cm			
		7.55	10.79	14.02	N-m			
7	Rated Torque*	LL	Me	UL	unit	at 24V		
		15.4	22.0	28.6	kgf-cm	20% of Max. Torque		
		1.51	2.16	2.80	N-m			
8	No Load Speed*	LL	Me	UL	unit	at 24V		
		0.16	0.20	0.24	sec/60°			
		250.0	300.0	375.0	°/sec			
9	Default Travel Angle	CW 60° (920μs)				-		
		CCW 60° (2120μs)						
10	Max Travel Angle	CW 90° (920μs) CCW 90° (2120μs)				Programing tool (CIU-2,S-Link) required.		
11	BackLash*	≤ 0.5°				-		
12	Operating Temperature Range	-30~+70°C (-22~158°F)				-		
13	Storage Temperature Range	-40~+80°C (-40~176°F)				-		
14	Outer Dimension	2.53 x 1.34 x 2.90 inch (64.2 x 34.0 x 73.7mm)				-		
15	Weight	11.89oz (337g) 12.52oz (355g) / Receptacle Type				-		
16	Case Material	Upper : AL / Middle : AL / Bottom : AL				-		
17	Gear Set Material	1st,2nd,3rd,4th(Final) : Metal				-		
18	Cable	Shielded Cable				Cable Length : 15.75 inch (400mm)		
19	Connector	Manufacture	J.S.T. Mfg. Co., Ltd					
		Type	08T-JWPF-VSLE-D					
		Mating	08R-JWPF-VSLE-D etc.					
		Pin Assignment	1	Brown	Position Feedback+			
			2	Yellow	Position Feedback-			
			3	Green	RS485 A(D+)			
			4	Blue	RS485 B(D-)			
			5	white	PWM / S.BUS			
6	Red	Battery(+)						
7	Black	Battery(-)						
8	Gray	Case Shield Line						
20	MTT(B)F*	220h (Calculated by Weibull analysis.)				Test Condition at 24V / Load : 20% of Max. Torque / 0.5Hz sweep (±60°)		
21	Vibration Resistance *	Operating time ≥ 20h (at 24V)				Test Condition		
						Frequency range	11 to 500Hz	
						Sweep Rate	15 min / single-sweep	
						Acceleration	10G (98m/s <sup>2</sup> )	
					Vibration axis X , Y , Z			

\* Initial Performance Data at 23±5°C

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

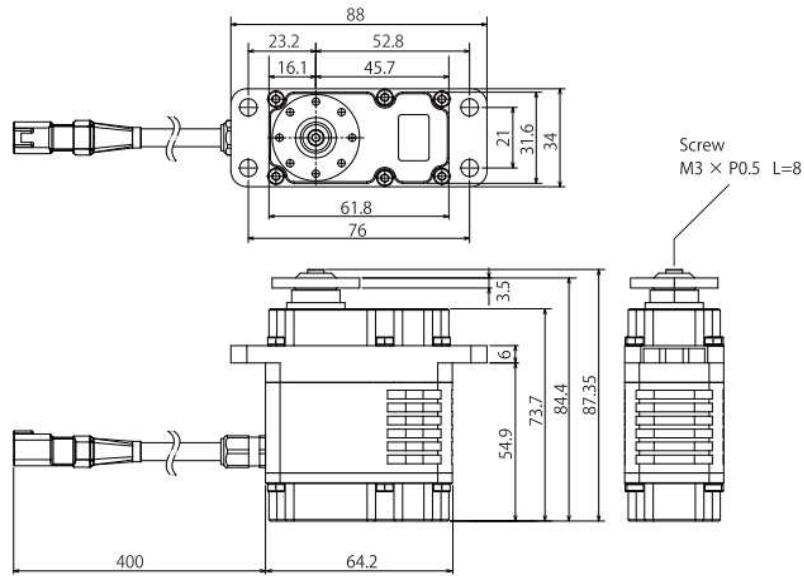
**Caution**

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.

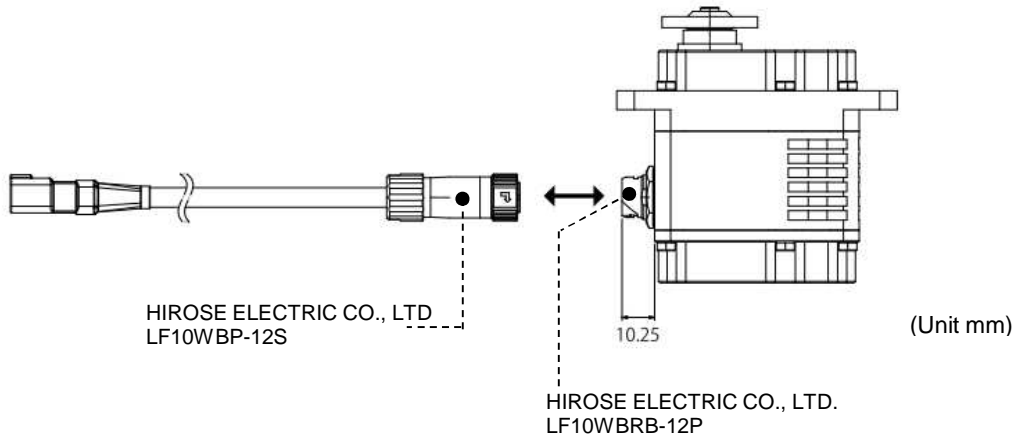
- (1)Medical Devices
- (2)Aerospace/Aviation Related Devices
- (3)Nuclear Related Devices e.t.c.

**Outer Dimension**

**AJ9DA51**



**AJ9DA53(ReceptacleType)**



**Position Feedback**

