

Stepping servo motor specification <DRAFT>

1. 1. Motor Specification

Spec. Item	Unit	(2stack)	3stack	(4stack)	5stack
Rated output	W	(0.8)	(1.3)	(1.7)	(2.1)
Rated torque	mN·m	(2.7)	(4.0)	(5.3)	(6.7)
Rapid Max. torque	mN·m	(8.0)	12.0	(16.0)	20.0
Rated Current	Arms	(0.354)	(0.354)	(0.354)	(0.354)
Rapid Max. Current	A	(1.5)	1.5	(3.0)	3.0
Rated Speed	r/min	(3000)	(3000)	(3000)	(3000)
Max. rated speed	r/min	(4500)	4500	(4500)	4500
Rotor inertia	$\times 10^{-7} \text{kg} \cdot \text{m}^2$	(0.14)	0.36	(0.59)	0.74
Wire resistance	Ω /phase	(7.0)	10.5	(7.0 : 2ph)	7.0 : 2ph
	Ω /phase	-	-	(7.0 : 2ph)	10.5 : 3ph
Inductance	MH/phase	(2.2)	3.3	(2.2 : 2ph)	2.2 : 2ph
	MH/phase			(2.2 : 2pe)	3.3 : 3ph
Weight	g	Approx.34	Approx.51	Approx.68	Approx.85

※ () shows reference data

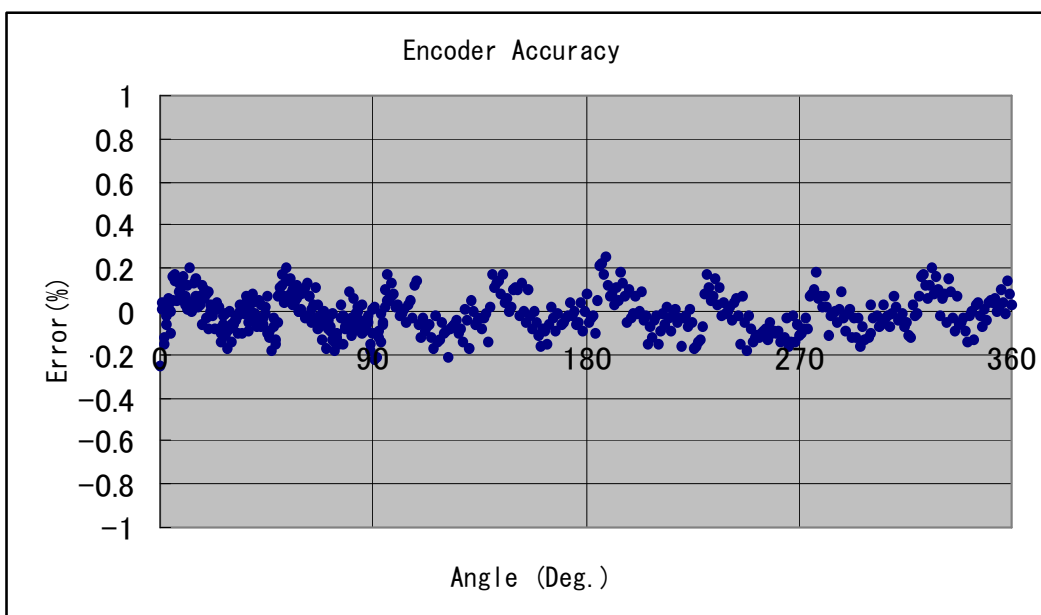
※Continuous Rated drive condition is to be evaluated under determind radiate condition.

1. 2. Encoder specification (2 , 3 , 4 , 5 joint motors)

Spec. Item	Unit	Specification
Voltage	V	5.0
Interface	—	Clock Synchronous Serial Interface
Resorusion	Puls/Revolution	5120
Count Direction	—	CCW(from output axis) count increment
Max. Temp.	°C	85

(Encoder accuracy: exhample)

Error between mounted encorder and master encorder. (mechanical 1 turn)



1. 3. Environment

Spec. Item	Unit	Specification
Operating temp.	°C	0~40
Operating Humidity	%RH	30~90
Storage Temp.	°C	0~85
Storage Humidity	%RH	30~90

1. 4. Connector

1. 4. 1. Motor Power Connector (by J S T : SM08B-SRSS-TB)

Fitting Connector (注) Housing : JST#SHR-08V-S-B

Contact : JST#SSH-003T-P0.2-H

Pin #	Name	内容	Note
1	/B2	/B phase2	No use in case 2,3 jointed
2	A2	A phase2	No use in case 2,3 jointed
3	/B1	/B phase1	
4	A1	A phase1	
5	/A1	/A phase1	
6	B1	B phase1	
7	/A2	/A phase2	No use in case 2,3 jointed
8	B2	B phase2	No use in case 2,3 jointed

1. 4. 2. Encoder Connector (molex : 501331-0507)

Fitting Connecotr (注 1) Contact : molex#501334

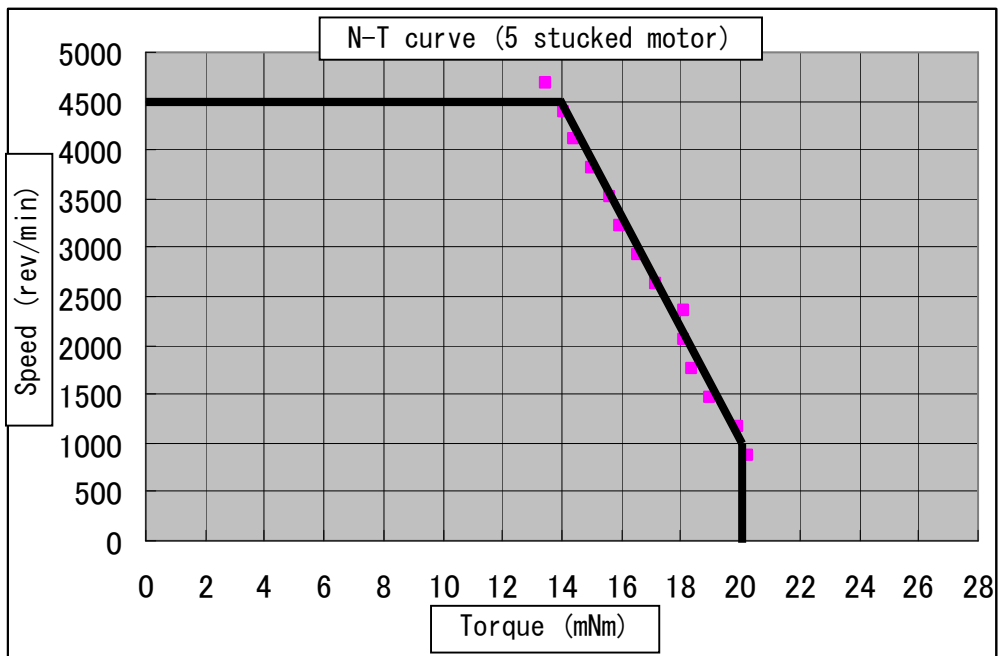
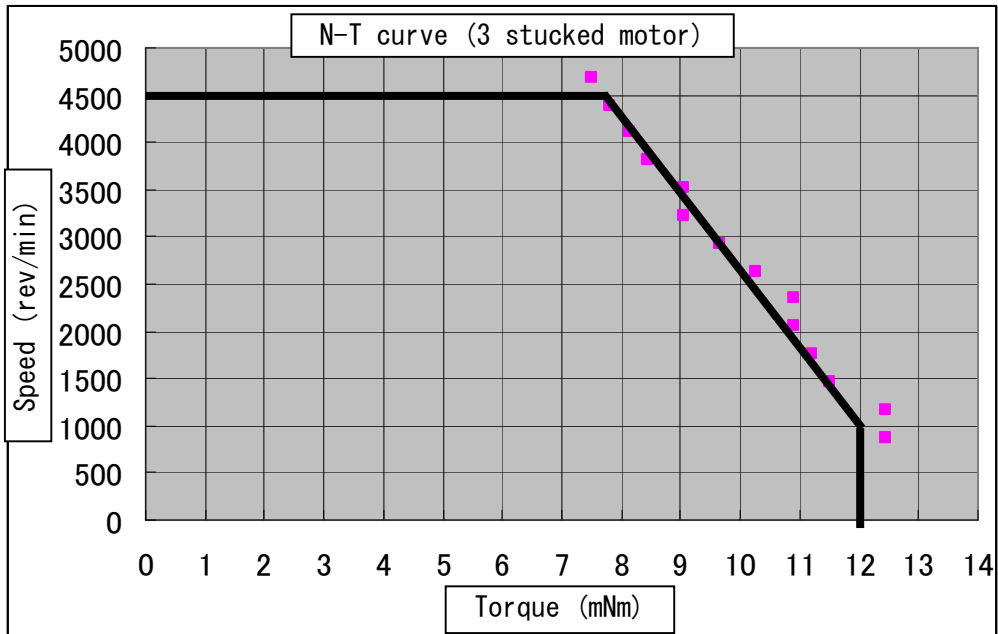
Housing : molex#501330-0500

Pin #	Name	Contents	Note
1	5.0V	+5.0V Input	
2	GND	Control/Drive Power GND	
3	REQ	Serial data request Input	
4	SPI_CLK	Serial clock output	
5	SPI_DAT	Serial clock output	

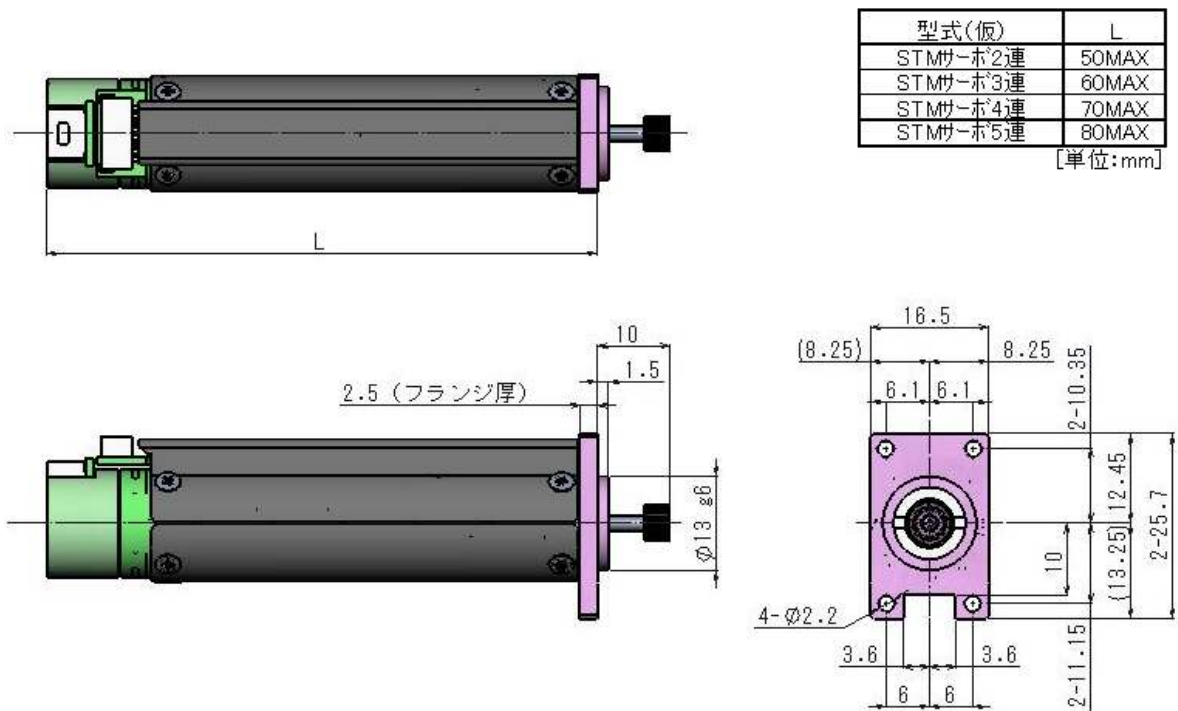
1. 5. Torque—Turn characteristic

Rapid Max. torque at Max. current 1.5A, by using Nidec-Sankyo STM servo driver.

Note:Contineous operation is to be evaluated under determind radiation condition.



1. 6. Motor Dimensions

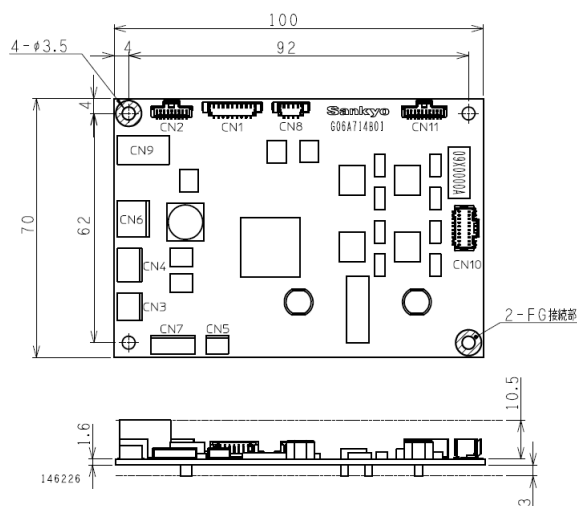


1. 7. Driver Function

- Power Voltage : 24[V]±5%
- Motor Drive Current Max. 3.0A (1.5A+1.5A)
- Operating Temp : 0~40°C
- Operation Humid : 30~90%RH
- Storage Temp. : 0~85°C
- Storate Humid : 30~90%RH

<Features>

- Positioning control by using feedback encoder value of STM servo motor.
- To use CAN for comunication interface with STM servo driver.
- By setting parameters (speed, accelrate, decellation), so that to move by generated trapesoidal speed waveform.



Out side drawing (for reference)