

## General Specifications

Dielectric strength : 1000VAC

Insulation resistance : 100M ( 500VDC )

Insulation type : B type

Allowable radial load : 220N

Allowable thrust load : 60N

\* The load point is 1/3 from the axis end



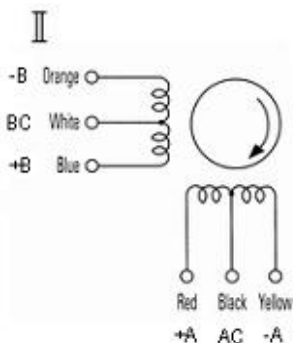
## Specifications (unipolar windings)

Model	Axis	Basic step angle (°)	Voltage	Current (A/phase)	Resistance ( /phase)	Inductance (mH/phase)	Holding torque N.m(kgf.cm)	Rotor inertia ( × 10 <sup>-4</sup> kg.m <sup>2</sup> )	Mass (Kg)	Connection Cord
103H8221-5041(5011)	One axis (both axes)	1.8	4.6	2	2.3	14	2.75(28)	1.45	1.5	
103H8221-5141(5111)			2.4	4	0.6	3.5				
103H8221-5241			1.8	6	0.3	1.65				
103H8222-5041(5011)			5.4	2	2.7	23	4.9(50)	2.9	2.9	
103H8222-5141(5111)			2.8	4	0.7	5.7				
103H8222-5241			2.28	6	0.38	2.7				
103H8223-5041(5011)			7.2	2	3.6	32.5	6.85(70)	4.4	4.4	
103H8223-5141(5111)			3.6	4	0.9	8.1				
103H8223-5241			2.7	6	0.45	3.4				

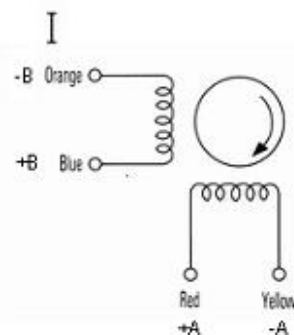
## Specifications (bipolar windings)

Model	Axis	Basic step angle (°)	Voltage	Current (A/phase)	Resistance ( /phase)	Inductance (mH/phase)	Holding torque N.m(kgf.cm)	Rotor inertia ( × 10 <sup>-4</sup> kg.m <sup>2</sup> )	Mass (Kg)	Connection Cord
103H8221-0941	One axis (both axes)	1.8	2.48	4	0.62	1.8	2.15	1.45	1.5	
103H8222-0941			3.88	4	0.97	3.6	4.13	2.9	2.5	

## Motor inner connections and rotation direction (as viewed from the outting base)

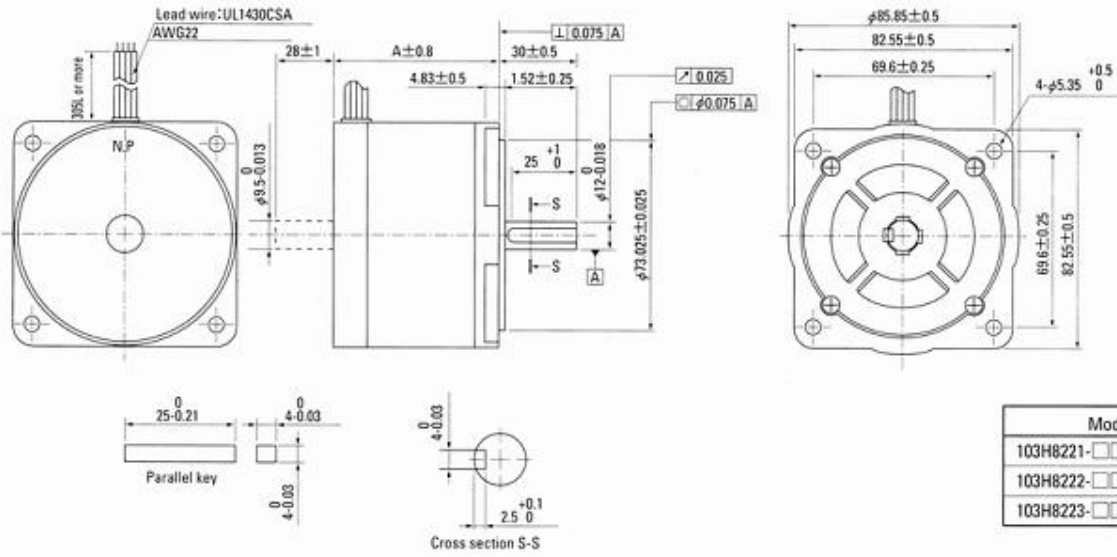


		Color of lead				
		Black and white	Red	Blue	Yellow	Orange
Step	1	⊕	⊖	⊖		
	2	⊕		⊖	⊖	
	3	⊕			⊖	⊖
	4	⊕	⊖			⊖

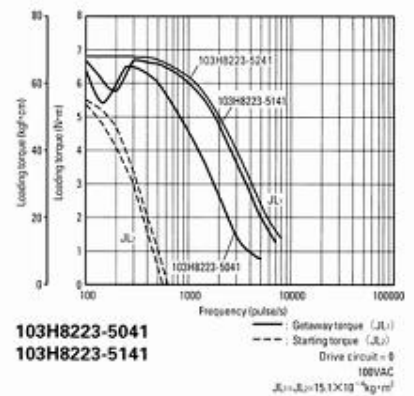
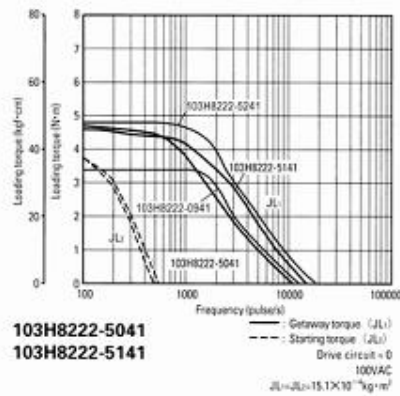
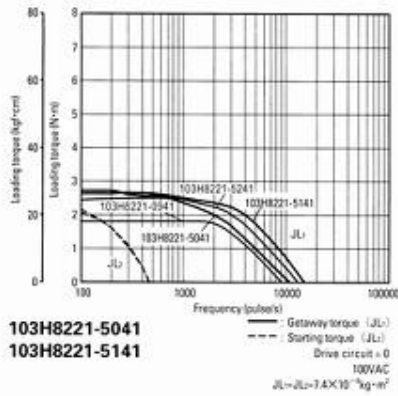


		Color of lead			
		Red	Blue	Yellow	Orange
Step	1	⊖	⊖	⊕	⊕
	2	⊕	⊖	⊖	⊕
	3	⊕	⊕	⊖	⊖
	4	⊖	⊕	⊕	⊖

■ Dimension (bipolar windings) [unit:mm]



■ Frequency-torque characteristics (2-phase excitation drive)



\*The measured current is based on the specification.