

# Stepping motor with gear reduction mechanism

## MP24S・MP24Z

### ● Features

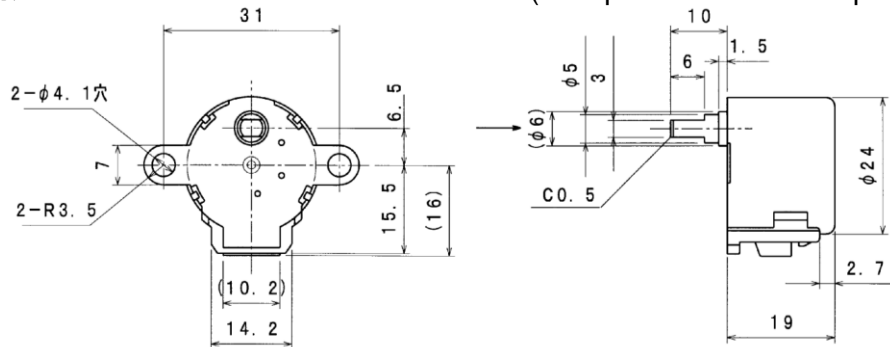
- Small (24mm outer diameter) for high torque
  - Low Noise
  - low vibration
  - Built-in connector
  - Seniority
- Realized with our proprietary technology.

### ● Product repertoire

Connector correspondence	MP24Ztype	MP24S type
	※ Refer to detailed terminal type	
Reduction ratio	1/16, 1/37, 1/64	
Driving	Unipolar, Bipolar	
Excitation mode	1-2Phase Excitation, 2Phase Excitation	

### ● shape

※Both MP24Z and MP24S are common. (Except connector insert part type)



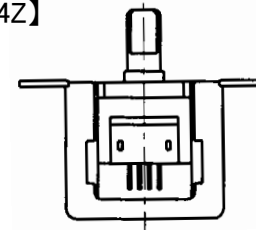
### ● output shaft speed

Item	Pattern1	Pattern2	Pattern3	Pattern4
Reduction Ratio	1/64	1/64	1/16	1/37
Driving	Unipolar Driving	Unipolar Driving	Biipolar Driving	Biipolar Driving
Excitation mode	1-2phase excitation	2phase excitation	1-2phase excitation	2phase excitation
1step degree	5.625°/64	11.25°/64	5.625°/16	11.25°/37
Pulse	4096 Pulse	2048 Pulse	1024 Pulse	1184 Pulse
rpm	1.46	2.93	5.86	5.07
	※100PPS	※100PPS	※100PPS	※100PPS

### ● Terminal type

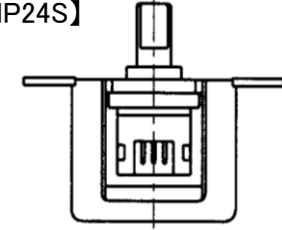
MP24Z and MP24S have different terminal types as shown below.

【MP24Z】



Applied Connector: ZHR-5(1.5mmpitch)  
Japan Squeeze Terminal  
Manufacturing Co., Ltd

【MP24S】



Applied Connector: PHR-5(2.0mmpitch)  
Japan Squeeze Terminal  
Manufacturing Co., Ltd

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## ● Pattern1&2

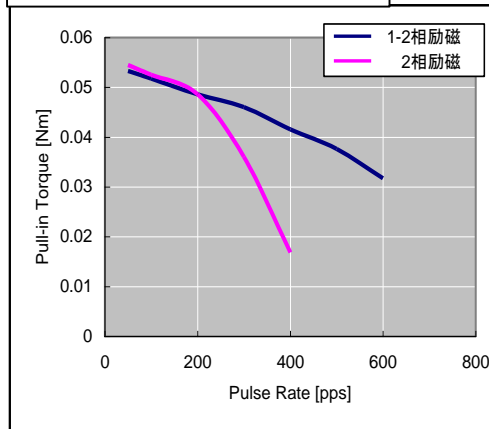
Item	Pattern1	Pattern2
Phase	4phase	
Driving Method	1-2phase excitation	2phase excitation
	Unipolar Driving	
Shaft 1 step degree	5.625°/64	11.25°/64
	(deduction ratio1/64)	
voltage	12VDC	

## ● General characteristics

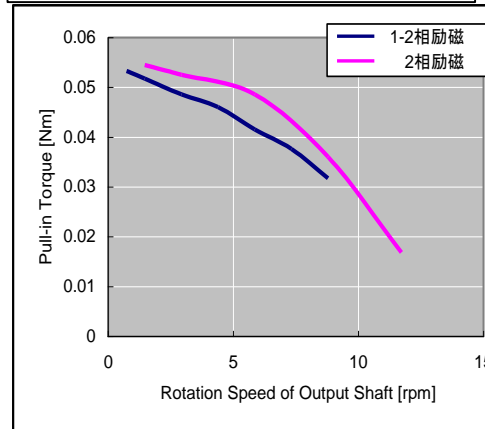
Item	Spec	Pattern1	Pattern2
Winding resistance[Ω]	25°C	300	
Pull-in Torque [N.m]	12VDC,100pps	0.05	0.05
Maximum magnetic frequency [pps]	12VDC	950	500
Insulation Resistance [MΩ]	DC500V Mega	≥10	
Torque [N.m]	No excitation	0.04	

\* The data is a measured value, not a guaranteed value

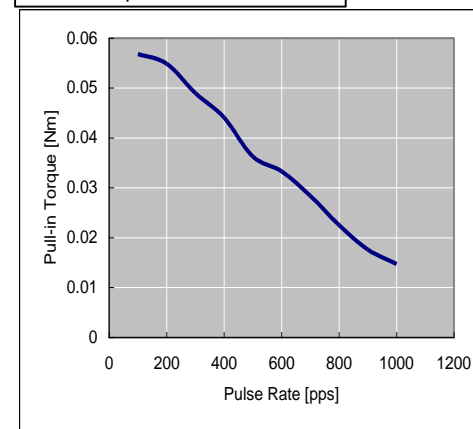
Pulse torque characteristics



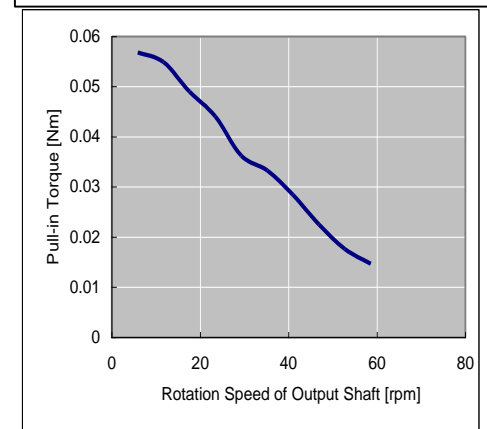
Output shaft speed Torque characteristic



Pulse torque characteristics



Output shaft speed Torque characteristic



## ● Pattern3

Item	Pattern3
Phase	2Phase
Driving Method	1-2Phase Excitation
	Biipolar Driving
Shaft 1 step degree	5.625°/16
	(Reduction ratio1/16)
voltage	8VDC

## ● General characteristics

Item	Spec	Pattern3
Winding Resistance [Ω]	25°C	63
Pull-in Torque [N.m]	8VDC,1000pps	0.02
Maximum magnetic frequency [pps]	8VDC	1500
Maximum response frequency [pps]	8VDC	≥1500
Insulation Resistance [MΩ]	DC500V Mega	≥10
Torque [N.m]	No excitation	0.02

\* The above data are measured values, not guaranteed values