

MOONS'

STEPPING MOTOR SPECIFICATION

MOONS' MODEL
42PM096L8-00701 ⚠
4611120001803

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REV	DESCRIPTION	DATE
A	FIRST ISSUED	2016.11.28
B	Cover and P/N changed ⚠	2019.04.15
C	ELECTRICAL CHARACTERISTICS ⚠	2019.05.31

SHANGHAI MOONS' ELECTRIC CO., LTD.

North Minhang Industrial Park District
168 Mingjia Rd.
Shanghai, China

1. RATED CHARACTERISTICS AND CONDITIONS

NO.	ITEM	SPECIFICATION	REMARK
1.1	Rated Voltage	24 V DC	
1.2	Constant Current	0.55 A/Phase	Chopper Drive IC
1.3	Phase Number	Two (2)	Phases A&B
1.4	Step Angle	3.75°	Full-Step
1.5	Excitation Method	Bipolar Full-Step	
1.6	Insulation Class	Class B	

2. ELECTRICAL CHARACTERISTICS ⚠

NO.	ITEM	SPECIFICATION	REMARK
2.1	Resistance per Phase	7.0 Ω ±10%	@ 25°C
2.2	Inductance per Phase	12.1 mH ±20%	1 kHz 1V rms
2.3	Holding Torque	785gcm min.	Two-Phase On
2.4	Detent Torque	120gcm max.	
2.5	Dynamic Pull-in Torque	575gcm min.	500 pps Full-Step
2.6	Dynamic Pull-out Torque	530gcm min.	800 pps Full-Step
2.7	Pull-in Pulse Rate	1000 pps min.	No Load Full-Step
2.8	Step Angle Accuracy	3.75° ±7%	@1 pps Full-Step
2.9	Insulation Resistance	100 MΩ min.	Case-lead DC500V
2.10	Dielectric Strength	Leak Current 3mA max.	Case-lead AC600V 1 sec.
2.11	Temperature Rise	80K max. Two phase on	On 126x126x2T Plate
2.12	Direction of Rotation	CW & CCW	Seen from Flange Side

3. MECHANICAL CHARACTERISTICS

NO.	ITEM	SPECIFICATION	REMARK
3.1	Radial Shaft Loading	7.5N Max.	
3.2	Axial Shaft Loading	1N Max.	
3.3	Radial Shaft Play	0.05 mm Max.	@500g
3.4	Axial Shaft Play	0.6 mm Max.	@500g
3.5	Mass	Approximate 120g	
3.6	Rotor Inertia	Approximate 11.57gcm ²	

4. OPERATING CONDITIONS

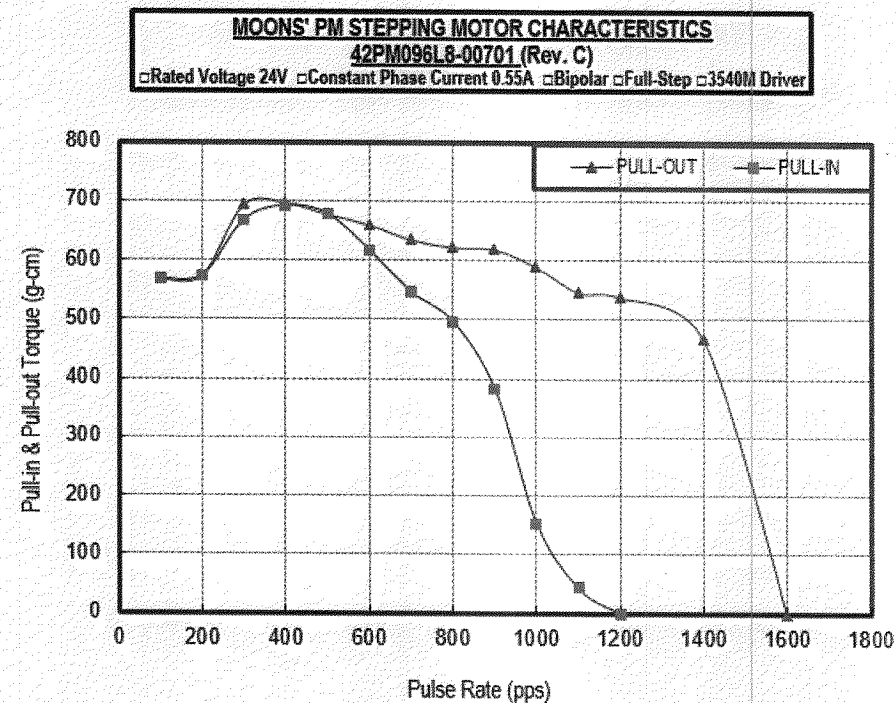
NO.	ITEM	SPECIFICATION	REMARK
4.1	Ambient Temperature	-20°C ~ +50°C	
4.2	Ambient Humidity	15% ~85% RH	No Condensation
4.3	Storage Temperature	-30°C ~ +70°C	
4.4	Storage Humidity	15% ~ 85% RH	No Condensation

5. RELIABILITY AND WARRANTY

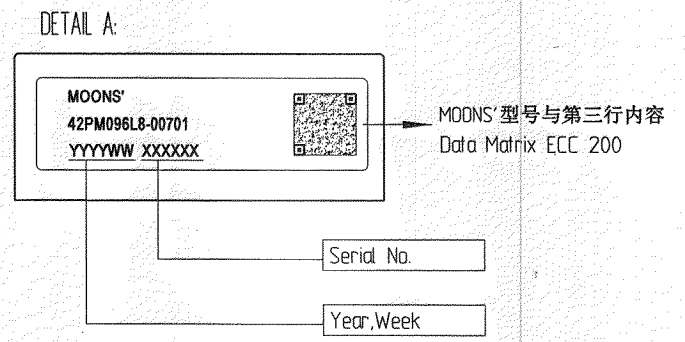
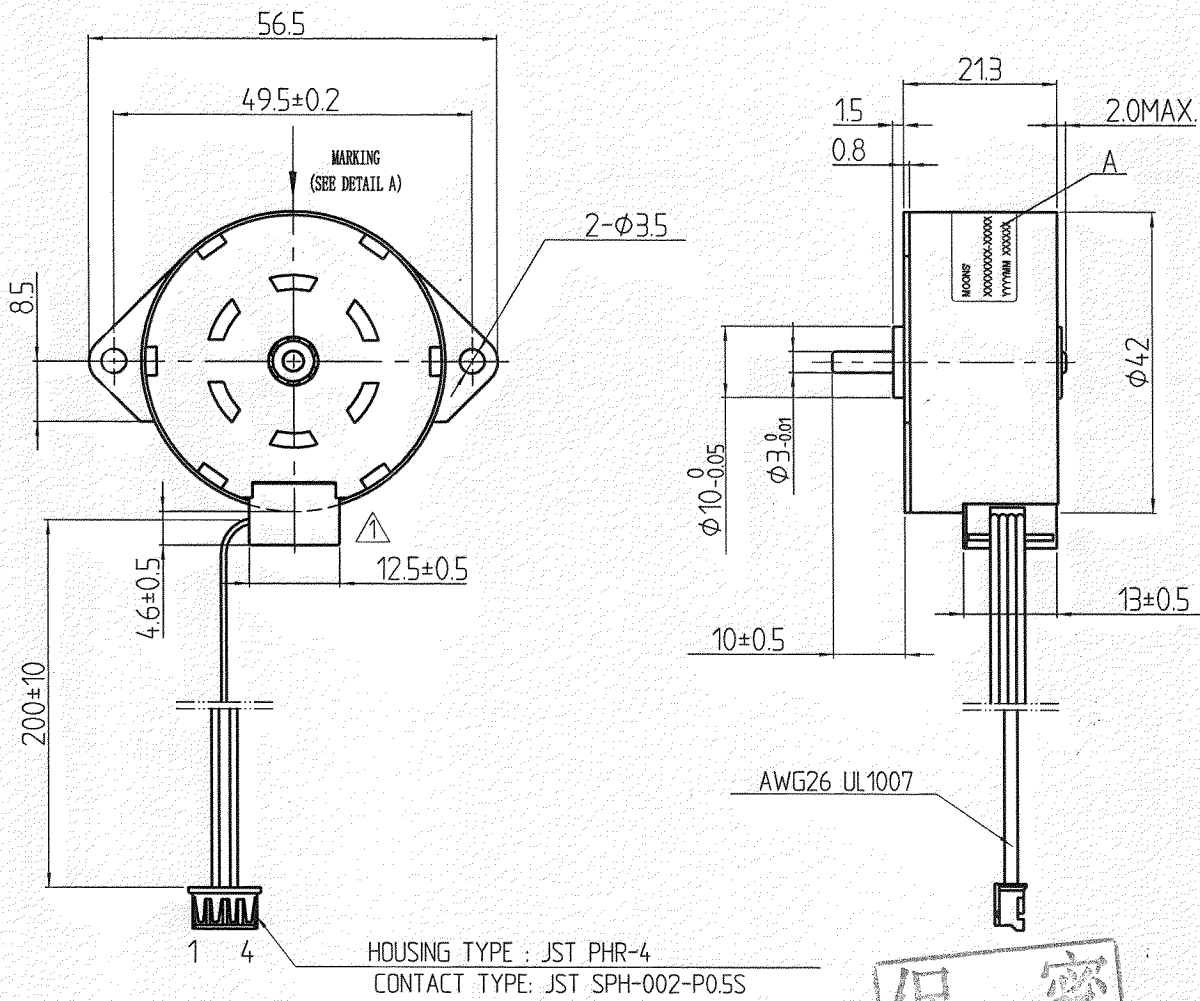
NO.	SPECIFICATION	REMARKS
5.1	3,000 Hours min.	<ol style="list-style-type: none"> Normal Operating Conditions Full-Step @200 pps, CW, No Load No Unusual Vibration & Noise Satisfactory Electrical & Mechanical Characteristics
5.2	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> Vibration Test at Motor 0 ~ 100 Hz Sweep for 5 Minutes 1.5 mm, 3 Directional Amplitude for 30 Minutes
5.3	Satisfactory Electrical & Mechanical Characteristics	<ol style="list-style-type: none"> Shock Test at Package 30 G, 3 Directions each for 1 time
5.4	Repair or Replacement within One Year	<ol style="list-style-type: none"> Upon Delivery of the Motor If Failure Occurs due to Manufacturing Defect

6. REMARKS

6.1	An abnormal operation may extremely shorten the performance or service life.
6.2	Do not hold the motor by lead wire or PCB.
6.3	The motor is subject to change for improving the performance within the range satisfying its specification.

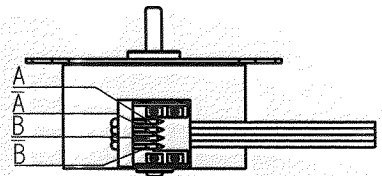


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CONNECTOR PIN LOCATION						
PIN NO.	COLOR	CCW ← → CW (SEEN FROM FLANGE SIDE)			PHASE	
		ON	ON	ON		
1	BLACK	ON		ON	A	
2	BROWN		ON	ON	\bar{A}	
3	ORANGE	ON	ON		B	
4	YELLOW			ON	\bar{B}	

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电机接线图
备注 Remarks

Rev.	更改记录 Record for Changing	Date	UNLESS OTHERWISE SPECIFIED	TYPE	42PM096L8-00701
C	ELECTRICAL CHARACTERISTICS CHANGED	2019.05.31	单位 Unit: 毫米 mm 比例 Scale: 1:1 第一角画法 First angle method 未注线性与角度尺寸公差 Tolerances for linear and angular dimensions without individual tolerance indications GB/T 1804-m eqv ISO 2768-1:m 未注形状与位置尺寸公差 Geometrical tolerance for features without individual tolerance indications GB/T 1184-K eqv ISO 2768-2:K	Approve	
B	Cover and P/N changed	2019.04.15		Standard	
A	原始版本Original revision	2016.11.28		Technology	
				Check	
			Design	韩展	2019.05.31