

直流无刷无齿槽电机规格书
SLOTLESS BRUSHLESS DC MOTOR SPECIFICATIONS

受 控 文 件

鸣志电器(太仓)有限公司

规格 Specifications		Values	Tolerance	Unit
1. 定额 Rating				
1.1	额定电压 Nominal voltage	24		V dc
1.2	电机极数 Number of poles	4		
1.3	相数 Number of phases	3		
1.4	转子惯量 Rotor inertia	10.5	Typical	gcm ²
1.5	绝缘等级 Insulation class	F (155°C)		
1.6	使用温度范围 Ambient temperatue	-40~+100		°C

2. 固有特性 Intrinsic parameters				
2.1	速度常数 Speed constant	440	±10%	rpm/V
2.2	转矩常数 Torque constant	21.7	Typical	mNm/A
2.3	速度/转矩斜率 Speed/torque gradient	13.68	Typical	rpm/mNm
2.4	机械时间常数 Mechanical time constant	1.5	Typical	ms
2.5	机壳-环境热阻 Thermal resistance housing-ambient	11.9	Typical	K/W
2.6	绕组-机壳热阻 Thermal resistance winding-housing	1.19	Typical	K/W
2.7	电机热时间常数 Thermal time constant motor	615	Typical	s
2.8	绕组热时间常数 Thermal time constant winding	7	Typical	s

3. 机械参数 Mechanical data				
3.1	轴承类型 Bearings type	Ball bearing		
3.2	最大允许转速 Max. speed	15000		rpm
3.3	轴向间隙 Axial play	0~0.14		mm
3.4	径向间隙 Radial play	preload		
3.5	最大轴向负载 Max. axial load (dynamic)	4		N
3.6	最大允许安装力 Max. force for press fits (static) (静态, 轴支撑 static, shaft supported)	110		N
3.7	最大径向负载 Max. radial load [mm from flange]	29 [5]		N

规格 Specifications		Values	Tolerance	Unit
4. 常规特性 General Date				
4.1	空载转速 No load speed	10600	±10%	rpm
4.2	空载电流 No load current	401	±50%	mA
4.3	最大连续转矩 Max. continiuous torque	54.24	Typical	mNm
4.4	最大连续电流 Max. continiuous current	2.9	Typical	A
4.5	名义转速 Nominal speed	9855	Typical	rpm
4.6	额定转矩 Rated torque	45	Typical	mNm
4.7	额定电流 Rated current	1.89	±10%	A
4.8	额定转速 Rated speed	8768	±10%	rpm
4.9	最大效率 Maximun efficiency	89.1	Typical	%
4.10	堵转转矩 Stall torque	771.7	Typical	mNm
4.11	堵转电流 Stall current	35.6	Typical	A
4.12	相间电阻 Terminal resistance phase to phase	0.675	±8%	Ω
4.13	相间电感 Terminal inductance phase to phase	47.75	Typical	μH
4.14	电机质量 Weight	140	±5%	g

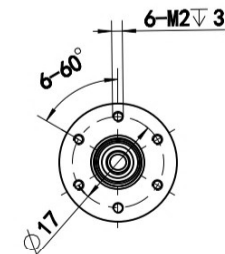
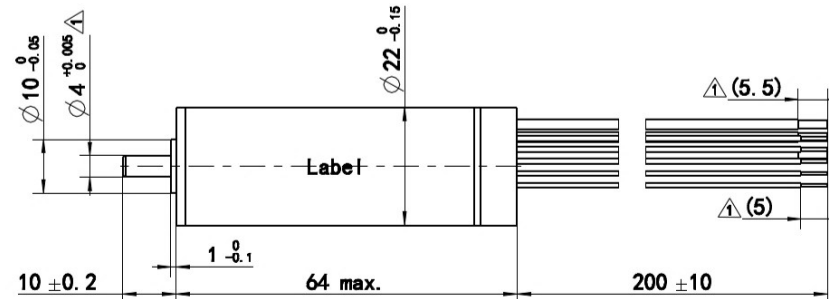
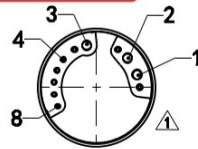
5. 其他 Others				
5.1				
5.2				
5.3				
5.4				

备注 Notes:

- 所有参数均在20°C给定。大部分参数随温度变化。
All parameters are given at 20°C. Most of parameters will vary with temperature.
- 当电机固定在导热支架上时, 热阻通常可降低50%。
The thermal resistance can be typically decreased of 50% when motor is fixed on a thermally conductive support.
- 电机电气安全标准符合<GB/T 21418中6.6介电性能>的要求。
The electrical safety standard of the motor shall meet the requirements of <GB/T21418 6.6 Dielectric properties>.

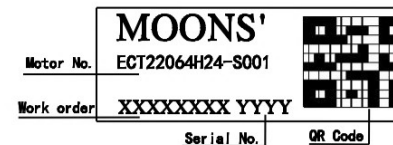
			Unit:mm 第一角画法 First angle method	批准 Approve			MOONS' <i>moving in better ways</i> This document is released for information only. Its reproduction in whole or in part or its dissemination to third parties is prohibited. All trademarks and registered trademarks appearing on this document are the property of their respective owners.			
			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	标准化 Standardize						
			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	工艺 Process Review						
				审核 Check						
A1	变更详情参考EC:23-476; ⚠	2023. 6. 1		设计 Design						
A0	原始版本 Original revision	2022. 12. 20								
REV.	版本记录 REVISION RECORD	DATE	UNLESS OTHERWISE SPECIFIED	NAMES	SIGNATURE	DATE	Drawing No: 4611180000625	Rev. A1	SCALE: 1:1	Sheet 1 of 2

鸣志电器(太仓)有限公司



铭牌 Label Detail

Cable No.	信号/Signal	颜色/Color	线规/wire gage
1	U	红/Red	18AWG
2	V	黑/Black	
3	W	白/White	
4	VCC 4.5~5.5Vdc	橙/Orange	26AWG
5	GND	蓝/Blue	
6	Hall 1	黄/Yellow	
7	Hall 2	棕/Brown	
8	Hall 3	灰/Gray	

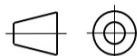


备注/Note:
1. 铭牌用激光标刻在电机机壳表面, 目视水平居中;
The label is laser engraved on the motor housing in middle.
2. 二维码为含整机型号、生产工单号和序列号。
The QR code includes motor model No., work order and serial No.

Unit:mm

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 inc

GB/T 1804-m eqv ISO

未注形状与位置尺寸公差

Geometrical tolerance for feature

individual tolerance indications

批准 Approve

标准化 Standardize

8 工艺 Process Review

审核 Check

设计 Design

SIGNATURE

DATE _____

DATE _____

Drawing No: 4611180000625

Rev. A1

SCALE: 1:1

Sheet 2 of 2

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