

受 控 文 件

上海鸣志电器股份有限公司

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

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	2		
1.3	相数 Number of phases	3		
1.4	转子惯量 Rotor inertia	0.854	Typical	gcm ²
1.5	绝缘等级 Insulation class	F (155℃)		
1.6	使用温度范围 Ambient temperatue	-40~+100		℃

2. 固有特性 Intrinsic parameters				
2.1	速度常数 Speed constant	643	±10%	rpm/V
2.2	转矩常数 Torque constant	14.85	Typical	mNm/A
2.3	速度/转矩斜率 Speed/torque gradient	137	Typical	rpm/mNm
2.4	机械时间常数 Mechanical time constant	1.22	Typical	ms
2.5	机壳-环境热阻 Thermal resistance housing-ambient	17.6	Typical	K/W
2.6	绕组-机壳热阻 Thermal resistance winding-housing	1.8	Typical	K/W
2.7	电机热时间常数 Thermal time constant motor	600	Typical	s
2.8	绕组热时间常数 Thermal time constant winding	3.12	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	30000		rpm
3.3	轴向间隙 Axial play	preload		
3.4	径向间隙 Radial play	preload		
3.5	最大轴向负载 Max. axial load (dynamic)	2		N
3.6	最大允许安装力 Max. force for press fits (static) (静态, 轴支撑 static, shaft supported)	22		N
3.7	最大径向负载 Max. radial load [mm from flange]	9.5[5]		N

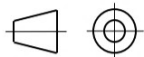
规格 Specifications		Values	Tolerance	Unit
4. 常规特性 General Date				
4.1	空载转速 No load speed	15900	±10%	rpm
4.2	空载电流 No load current	150	±50%	mA
4.3	最大连续转矩 Max. continious torque	15.5	Typical	mNm
4.4	最大连续电流 Max. continious current	1.19	Typical	A
4.5	名义转速 Nominal speed	13779	Typical	rpm
4.6	额定转矩 Rated torque	10.5	Typical	mNm
4.7	额定电流 Rated current	0.68	±10%	A
4.8	额定转速 Rated speed	13400	±10%	rpm
4.9	最大效率 Maximun efficiency	82	Typical	%
4.10	堵转转矩 Stall torque	112	Typical	mNm
4.11	堵转电流 Stall current	7.6	Typical	A
4.12	相间电阻 Terminal resistance phase to phase	3.16	±8%	Ω
4.13	相间电感 Terminal inductance phase to phase	253	Typical	μH
4.14	电机质量 Weight	65	±5%	g

5. 其他 Others				
5.1				
5.2				
5.3				
5.4				

备注 Notes:

- 所有参数均在20℃给定。大部分参数随温度变化。
All parameters are given at 20℃. 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
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



批准 Approve

标准化 Standardize

工艺 Process Review

审核 Check

设计 Design

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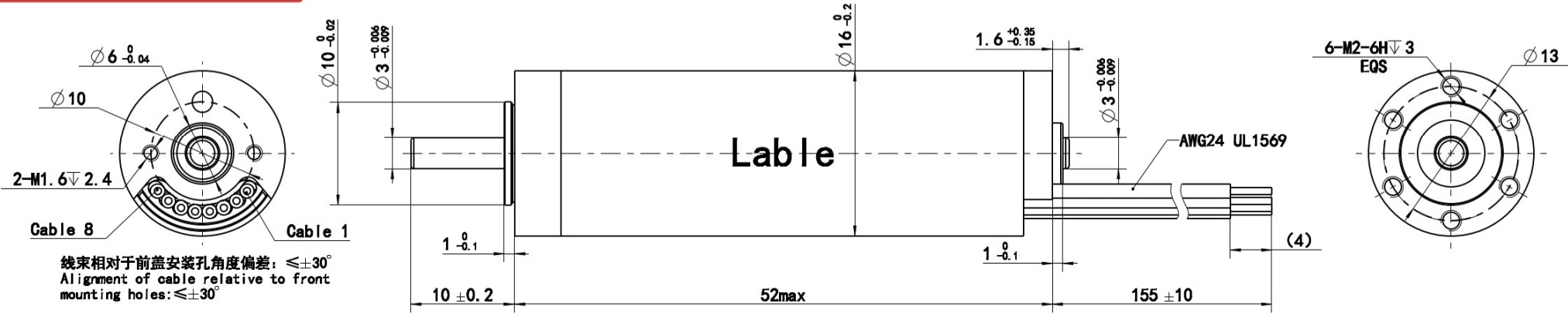
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REV.	版本记录 REVISION RECORD	DATE	

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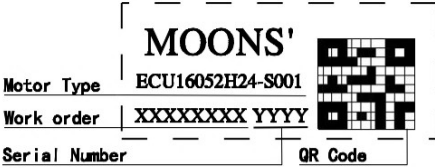
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Connection

Cable No.	信号/Signal	颜色/Color
1	U	棕/brown
2	V	红/red
3	W	橙/orange
4	V _{hall} 3~24 VDC	黄/yellow
5	GND	绿/green
6	Hall 1	蓝/blue
7	Hall 2	紫/voilet
8	Hall 3	灰/grey

铭牌 Label Detail



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 attached to the center of the motor housing.
2. 二维码为含电机型号、生产工单号和序列号。
The QR code includes motor model No., work order No. and serial number.

Unit:mm
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First angle method
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