



**深圳市驰海电机有限公司**  
**Chi Hai Motor(shenzhen)Co.,Ltd**

## 客户产品规格书

### CUSTOMER SPECIFICATION

客户名称/Customer:

产品名称/Item: 直流铁芯驱动编码减速电机/DC Core Driving Gear Motor

产品型号/Model: CHF-GM12-N20VA-50-12V+ABHL

规格书编号/SPECIFICATION NO: CH-20200818-01

版本/REVISION NO.: A/1.3

页码/Page:1/7

日期/DATE: 2020年08月18日

我司确认:

Our Confirmed

批准 APPROVAL	审核 CHECK	制作 DESIGN
郭仕海	黄辉明	曾键东
2020/08/18	2020/08/18	2020/08/18

确 认:  
Confirmed by

核 准:  
Approved by

型号/MODEL <b>CHF-GM12-N20VA-50-12V+ABHL</b>	规格书 <b>SPECIFICATION</b>	页码/PAGE: 2/8
		版本/REVISION NO.:A/1.3
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变更记录/REVISION RECORD

版本 REV.NO.	更改原因 REVISION DESCRIPTION	制作 DESIGN	批准 APPROVAL	日期 DATE

CAUTIONS:注意事项

- 1) Please use the motor in this technology index range for the performance of the motor is affected by environmental temperature seriously.  
环境温度条件对马达表现有极大影响，请在本技术指标范围内使用马达。
- 2) It is not allowed to operate in the high temperature with high humidity, and not allowed to contact with corrosive liquid and corrosive gas, should not to be stored and without running Continuously for more than six months.  
避免在高温，高湿，及与腐蚀性液体、气体接触，连续存放不应超过 6 个月
- 3) Do not lock the motor shaft while the electric is on. The motor will be burnt out after the motor shaft was locked for more then 1 minute.  
请不要在马达运行时锁定电机轴.若持续锁定超过 1 分钟，马达将发热甚至烧毁.
- 4) Do not hit the motor directly.  
尽量避免直接碰撞马达.
- 5) Please ensure that the motor can satisfy the requirements of your application.  
请确保马达能满足贵司产品要求.

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1、CHARACTERISTICS 特性参数

The test is made in principle of a temperature between 10°C and 30°C, and at relative humidity between 30% and 95%. If the test result is questionable, it shall be judged from the test made at 20°C ± 2°C, 65% ± 5% RH and initial stage after 30 seconds run-in.

测试环境温度 (10°C-30°C)、相对湿度 30%~95%；如对测试结果有疑问，可在温度 20°C ± 2°C、湿度 65% ± 5% 的条件下和电机初始运转 30 秒钟后再做判定。

NO.	Items/项目	TEST CONDITIONS 测试条件	Specifcation/规格
1-1	Rated voltage 额定电压	(12.0) V DC	
1-2	No load current 空载电流	Rated voltage and no load 额定电压、无负载	≤ (70) mA
1-3	No load speed 空载转速	Rated voltage and no load 额定电压、无负载	(430) rpm ± 12%
1-4	No load starting voltage 空载起动电压	NO load 无负载	≤ (3.0) V
1-5	Holzer signal 霍尔信号线数	MOTOR 1r/min 电机每转一圈	7 PPR
1-6	Stall Current 堵转电流	At rated voltage(must be stable) 额定电压 (马达两端电压必须保持稳定 12.0V)	≤ (0.50) A
1-7	Insulation Resistance 绝缘电阻	Measured between motor terminal and motor metal housing with 100VDC megameter 使用 DC 100 V 兆欧表, 测量电机接线端子与机壳之间的电阻	≥ (1.0) MΩ
1-8	Load characteristics 负载特性	Load Torque 400 g.cm	220rpm ± 12% ≤ (250) mA
1-9	Mechanical Noise 机械杂音	Rated voltage and no load operation. Background noise: ≤ 35 dB 额定电压、空载, 环境噪音: ≤ 35 dB 	≤ (52) dB
1-10	Current waveform 电流波形	Rated voltage and no load 额定电压、无负载	Free from off point 无死点
1-11	Maximum axial load 最大轴向受力	Direction of static load and support of load as shown below 支撑点及受力如下图所示: 	10 N (max)

1[g.cm]=0.098[mN.m], 1[mN.m]=10.197[g.cm]

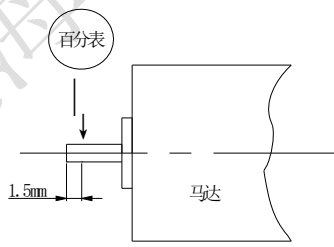
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2、Encoder parameter data 编码器参数资料

NO.	Items 项目	Specifcation/规格
2-1	Application 用途	DC Motor
2-2	Speed fbk sel 编码器类型	AB 双相磁性霍尔编码器
2-3	Rated Voltage 额定电压	(3.3/5.0) V DC
2-4	Pole count 磁性材料极对数	7 对共 14 极
2-5	Output waveform type 输出波形类型	AB 相方波
2-6	With pull-up resistor 上拉电阻	3K3 Ω
2-7	Rotating Direction 旋转方向	(CW/CCW)
2-8	Operating Direction 固定方位	配合电机端子及后轴固定
2-9	Grounding Polarity 接地极性	NO polarity 无接地点
2-10	Operating Voltage 电压使用范围	(3.3~12.0) VDC
2-11	Operating Load 负载范围	无
2-12	Operating Temperature 工作温度范围	0°C~50°C
2-13	Storage Temperature 存放温度范围	0°C~50°C

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3、ELECTRICAL CHARACTERISTICS: 电气性能

NO.	Items/项目	TEST CONDITIONS/测试条件	SPECIFICATION/规格
3-1	Appearance 外观	Visual 目视	No remarkable deformation or superficial defects to be observed by visual check. 无明显表面缺陷
3-2	Dimension 外形尺寸	Measured by caliper 卡尺	Refer to construction drawing. 符合图纸要求
3-3	Mass 重量	Measured by scale 天平	Approximation: (12) g 约 (12) g
3-4	Radial run-out Deflection of Shaft 轴径向跳动	1.5mm from shaft top by dial gauge 轴针顶部对入 1.5mm 处 	$\leq (0.03) \text{ mm}$
3-5	axial clearance 轴向间隙	Measured by dial gauge 百分表	$(0.05) \sim (0.50) \text{ mm}$

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4、RELLABILITY SPECLAL IEST 可靠性、特殊试验

NO.	Items/项目	Condition-Remark/条件-备注	acceptance/判定基准																
4-1	LIFE TEST 寿命测试	<p>Motor test conditions are listed as below. Motor life is judged as end when either of the criteria described met.</p> <p>如果满足下列项目中任何一项时，认为电机的寿命结束。</p> <p>1、Rated load speed varies more than <math>\pm 30\%</math> against the initial figure. 电机的负载转速、相对初始值超过<math>\pm 30\%</math>;</p> <p>2、Rated load current varies move than <math>+90\%</math>.against the initial figure. 电机的负载电流、相对初始值超过<math>+90\%</math>;</p> <p>3、Motor is confirmed to be unusable. 确认电机不可使用;</p> <p>空载运行连续运转寿命<math>\geq 150H</math></p>																	
4-2	Vibration test 耐振动试验	<p>Motor subjected to the sine wave of 2mm amplitude and 100/10Hz vibration in the X,Y and Z directions for 30 minutes each.</p> <p>在 XYZ 方向承受振 2mm，振幅频率 100/10Hz 的正弦波振动各 30 分钟。</p>	<p>●Rated load speed varies within <math>&lt; \pm 30\%</math> from the initial 额定负载转速变化：<math>&lt; \pm 30\%</math></p>																
4-3	Shock test 跌落试验	<p>Smallest packing dropped on wooden block of 10mm thickness from 200mm height, once for each 6 faces of the packing.</p> <p>把马达放进小包装中，在高度 200mm 处自然跌落在 10mm 厚的木板上。</p>	<p>●Rated load current varies within <math>&lt; \pm 30\%</math> from the initial 额定负载电流变化：<math>&lt; \pm 30\%</math></p>																
4-4	Storage test 环境放置试验	<p>Measurement shall be made after the motor is returned in 20 °C for 24h.Each storage test is independent.</p> <p>按下表各温度、湿度环境下放置试验，再在常温、常湿中放置 24hrs 后测定参数。</p> <table border="1" data-bbox="434 1756 1062 1928"> <thead> <tr> <th></th> <th>Temperature 温度</th> <th>Humidity 湿度</th> <th>Time 时间</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>+85 °C</td> <td>30%</td> <td>96h</td> </tr> <tr> <td>2</td> <td>+40 °C</td> <td>90%</td> <td>96h</td> </tr> <tr> <td>3</td> <td>-30 °C</td> <td></td> <td>96h</td> </tr> </tbody> </table>		Temperature 温度	Humidity 湿度	Time 时间	1	+85 °C	30%	96h	2	+40 °C	90%	96h	3	-30 °C		96h	<p>●Rated load speed varies within <math>\pm 30\%</math> from the initial.额定负载转速相对初始值变化：<math>&lt; 30\%</math></p> <p>●Rated load current varies within <math>\pm 30\%</math>from the initial 额定负载电流相对初始值变化：<math>&lt; 30\%</math></p>
	Temperature 温度	Humidity 湿度	Time 时间																
1	+85 °C	30%	96h																
2	+40 °C	90%	96h																
3	-30 °C		96h																

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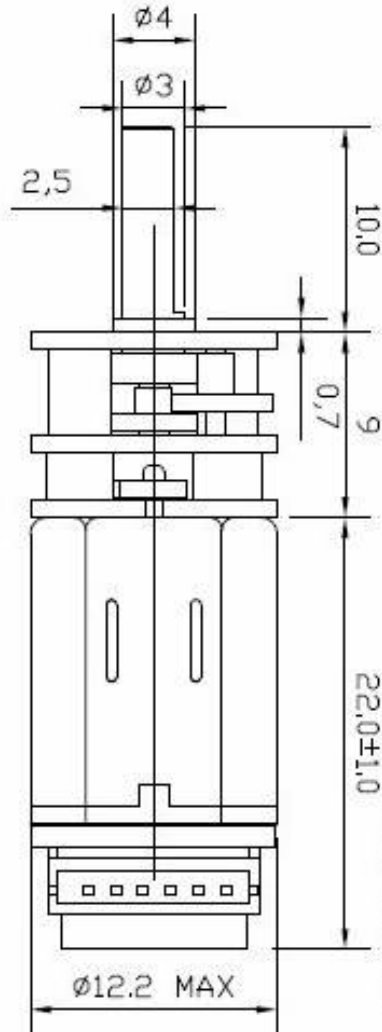
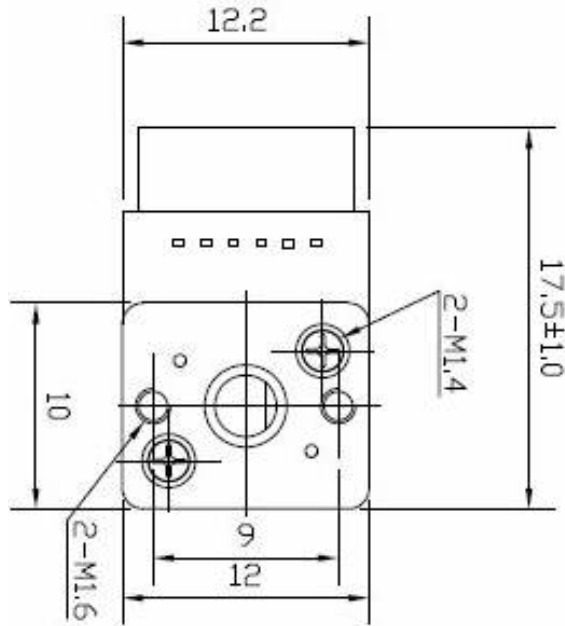
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Motors Dimension 电机尺寸

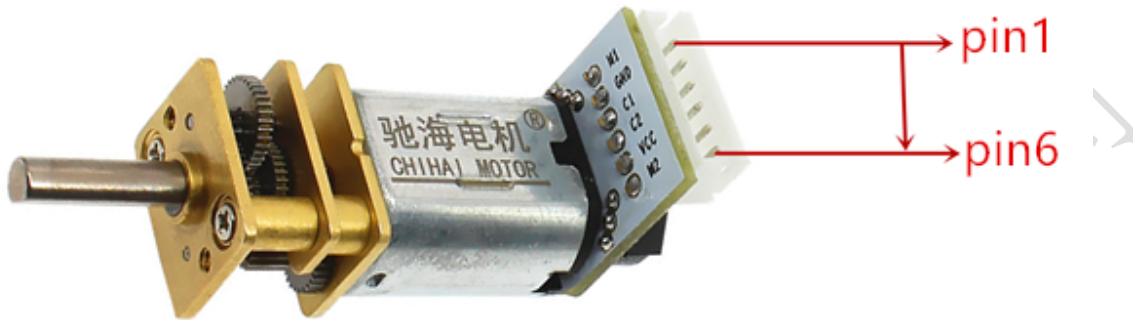


UNIT: Millimeters

驰海电机  
CHIHAI MOTOR

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Wiring sequence 电机接线顺序



Pin NO. :	接线端口定义
<u>P1</u>	电机输入电源负极 MOTOR POWER INPUT M1
<u>P2</u>	霍尔输入电源电压 (5.0V/3.3V) 负极 GND HOLZER POWER INPUT-(5.0V/3.3V)
<u>P3</u>	C2 编码器信号 B 相 B PHASE OF C1 ENCODER SIGNAL
<u>P4</u>	C1 编码器信号 A 相 A PHASE OF C2 ENCODER SIGNAL
<u>P5</u>	霍尔输入电源电压 (5.0V/3.3V) 正极 VCC HOLZER POWER INPUT+(5.0V/3.3V)
<u>P6</u>	电机输入电源正极 MOTOR POWER INPUT M2

Schematic diagram 编码器原理图

