



三相异步电动机
(适用于高海拔环境)

THREE PHASE ASYNCHRONOUS MOTOR
(HIGH ALTITUDE ENVIRONMENT)

使用说明书

Operation Manual

安徽皖南电机股份有限公司
Anhui Wannan Electric Machine Co.,Ltd

衷心感谢您选购、使用皖南电机。

在使用电动机之前，请扫码仔细阅读本说明书，以便您正确的使用和维护。



警示：搬运电动机时，应小心谨慎，强烈的摔、碰、震会严重损坏轴承。吊运时一定要将电动机吊攀旋紧后方可吊运。

1. 产品概述

电动机适用于高海拔环境，根据不同的海拔高度，其高原代号种类分别为 G1、G2、G3、G4、G5，表示电动机适用于不同高度的海拔环境，详见下表：

海拔范围	高原标注代号	型号举例说明
1000 ~ 1999 米	G1	Y2-112M-4-G1
2000 ~ 2999 米	G2	Y2-112M-4-G2
3000 ~ 3999 米	G3	Y2-112M-4-G3
4000 ~ 4999 米	G4	Y2-112M-4-G4
5000 ~ 5999 米	G5	Y2-112M-4-G5

2. 检查

2.1. 仔细检查电动机外观是否损伤，核对电动机铭牌数据，如型号、额定功率、电压、频率等与实际要求是否相符。

2.2. 轻轻转动电机转轴，转动应轻快、灵活（注：装有骨架式橡胶油封的 IP55 电动机，转动时，相对较紧）。

2.3. 检查零部件的装配应良好，紧固件应无松动。

2.4. 打开接线盒，用 500V 兆欧表测量电动机绕组的绝缘电阻，所测值应不低于 5 兆欧。对有防露要求的电动机，在运行前应对加热带通以额定电压并保持 30 分钟，以确保电机内无凝露。

注意 检查过程中，若有疑问，应向专业技术人员请教或与我们联系。

3. 安装

3.1 电动机的安装应由技术人员来完成，对带底脚的电动机，安装平面应坚固，并保证底脚在一个平面上。如果底脚要加垫片，应保证在电动机底脚安装紧固过程中不被挤出。电动机允许采用联轴器、正齿轮及皮带轮传动。

3.2 联接电动机的电源线不宜过细、过长（否则，电源线压降过大，使电动机起动困难）。按接线图，将电源线与电动机牢固联接，同时接好接地线，在接通电源前，还应测量输入电压是否正确，然后接通电源，检查旋转转速、旋转方向是否正确。

警告!



1. 电源电压的波动不得超过额定电压的 95% ~ 105%。
2. 严格按图接线。
3. 必须接好接地线。
4. 在通电前应取下轴伸上的轴套和平键，保持身体、衣物远离电动机运转部分。
5. 空载运行足够长的时间（一般在 30 ~ 40 分钟），以确保不会产生异常情况。

4. 运行与维护

4.1. 电动机使用的环境最高温度为 40℃，最低温度为 -15℃。

4.2. 电动机使用的海拔高度不超过____米。

注：根据 GB755 的规定，设高于海拔 1000m 的环温必须补偿量为每高出 100m 降低 1% 温升限值，因此对该电机通过加大设计裕量，降低温升限值，可满足高海拔使用环境要求。

4.3. 电动机允许满压或降压起动，但应注意，满压起动时起动电流为额定电流的 3.3 ~ 7.5 倍。降压起动时，因转矩与电压的平方成正比，电压下降时转矩也随之降低。故当静负荷相当大时只能用满压起动。

4.4. 电动机不得用于含有易燃性气体、化学腐蚀性气体或其它有害气体的环境中（特殊环境用电动机除外）。

4.5. 电动机必须保持清洁，进风口及风道必须畅通无阻。

4.6. 电动机在运行中若发现异常，如怪声、过热、焦味或轴承发热等，应立即停机检查，待故障排除后方可使用。

4.7. 电动机在运行过程中应保证润滑良好，一般在电机运行 5000 小时左右，即应更换润滑脂（封闭轴承在使用寿命期内不必更换润滑脂）。在运行中若发现轴承过热时，应停机检查轴承润滑脂是否太多。油脂添加量以加到轴承容腔的 1/3~1/2 左右为宜。润滑脂推荐采用 ZL3 锂基润滑脂小型电动机专用润滑脂。

4.8. 为保证电动机的正常运行，应根据实际使用情况对电动机进行定期检查，并需每年检修一次。

4.9. 电动机在仓库中搁置不用时，应妥善包装、存放，并保持通风干燥，以免电机受潮，锈蚀。如果贮存的环境中有冷凝现象，应定期排水，且在重新使用前对加热带通以额定电压并保持 30 分钟。

注意：不要在电动机运行时添加润滑脂。过多的润滑脂会溢出，并可能附着到定子绕组上，使其绝缘寿命降低，同时使轴承工作温度升高（轴承工作温度不超过 90℃）。

警告!



1. 严禁缺相运行。
2. 反复多次起动会导致电机过热，甚至烧毁电机（特别是连续带负载直接起动）。
3. 防止过载，过载会导致过热，过热将缩短绝缘寿命，降低电动机的可靠性。

We are truly grateful for your purchasing of Wannan Motors. Before using the motor, please scan the QR code to read the manual so as to use and maintain the motor in a right way.



Warning! Be careful when carry the motor, otherwise strong falling, impact or vibration will cause the bearing severe damaged. Fasten onto the lifting hook tightly as the motor is moved by the crane.

1. Summary

This motor can be used in the circumstance of high altitude. The plateau code G1, G2, G3, G4, G5 can be sorted according to the applicable altitude of the motor:

Altitude Range	Plateau Code	Reference Model
1000 ~ 1999m	G1	Y2-112M-4-G1
2000 ~ 2999m	G2	Y2-112M-4-G2
3000 ~ 3999m	G3	Y2-112M-4-G3
4000 ~ 4999m	G4	Y2-112M-4-G4
5000 ~ 5999m	G5	Y2-112M-4-G5

2. Inspection

2.1 Check the appearance of the motor to see if there is outer damage or not and check nameplate data like model, rated voltage, frequency etc. to see whether all is conform to actual requirement.

2.2 Rotate the motor shaft by hands to see whether the rotation is flexible and smooth (Tip: The IP55 motors with frame style rubber oil seal rotate a little harder.)

2.3 Ensure that all parts in the motor are tightly and in good assembling.

2.4 Remove the terminal box cover, and measure the insulation resistance of the motor winding with 500V Meg-ohmmeter. The value should be not less than $5M\Omega$. For the motor which has the requirement of preventing dew, the user should keep the power at rated voltage passing through heat for 30 minutes before the motor get start to operate, with the aim to ensure that there is no dew inside.

Notice: Any question during inspection please contact us or consult the technician.

3. Installation

3.1 The motor should be installed by technicians. For the motor with feet, all the feet should be fixed to the same plane that is sound and flat. If spacer must be added to the feet, these spacers should be guaranteed not to be forced out during the installation and fastening. Coupling, gear, belt pulley can be used for transmission.

3.2 Power wires should be neither too thin nor too long (otherwise it will cause large voltage drop and thus increase difficulty on motor start.) Connect the power wire and motor strictly in accordance with wiring diagram, and ensure that grounding line is also connected. Before power on, input voltage should be measured and checked, and then switch the motor on to inspect the rotating speed, rotating direction.

Warning!



1. Supply voltage fluctuation should not go beyond the range 95% ~105% of the rated voltage.
2. Connect the wires strictly in accordance with diagram.
3. Ground wire must be connected.
4. Take the shaft sleeve and flat keys away from shaft extension before power on, and keep the person and clothes far from rotation part.
5. Make the motor no-load running for sufficient time (usually 30~40 minutes).

4. Operation and maintenance

4.1 The highest ambient temperature for application is 40°C ,and the lowest is -15°C

4.2 Operational altitude should not exceed _____m.

Caution: According to the rule of GB755, the environment compensation dosage is 1% lower of temperature rise limit with each 100m in altitude increasing in case that the altitude is over 1000m. This kind of motor, which can meet the requirement of operating in high altitude, lowers its temperature rise limit by expanding design margin.

4.3 The motor allows reduced voltage starting and full voltage starting, but the current is 3.3~7.5 times rated current when the motor start with full voltage. If the motor starts with reduced voltage, the torque also will be lower, since torque is proportional to the square of voltage. So the motor can only adopt direct on-line start when with large dead load.

4.4 Motor should not be applied in the environment where contains inflammable gases, corrosive gases and other harmful gases. (Except for the motor designed for the special circumstance).

4.5 Keep the motor clean and in good ventilation.

4.6 If the abnormal issues, such as strange sound, overheating, burning smell or bearing heating etc. occur in operation, the motor should be stopped to have a check immediately. Restart the motor till all faults have been removed.

4.7 Keep the motor in good lubrication. Grease should be changed every 5000 hours operation (Grease may not be renewed in life cycle of sealed bearing). If the bearing is found to be overheating, people should stop the motor and check to see whether there is too much grease or not. It's proper to fill 1/3~1/2 capacity of the bearing chamber with lubrication grease. ZL3 lithium-base grease is recommended.

4.8 The motor should be inspected regularly according to its actual condition and need overhaul annually.

4.9 If the motor need to be laid up, it should be well packed and stored. Keep air dry and protect

the motor from dampness as well as corrosion. Bleed periodically if there is condensation in the storage environment. Keep the current passing through the motor heat with rated voltage for 30 minutes when restarted.

Note: Don't add grease when the motor is in operation. Avoid excessive grease, since it may spill over onto the stator winding, reduce insulation lifetime and increase working temperature of bearing(Running temperature of bearing should be no higher than 90°C).



Warning!

1. Non-full phase operation is strictly prohibited.
2. Repeated starting will cause the motor overheating or even burning(especially the continuous direct on-line start with load)
3. Avoid overload, since it may cause overheating, yet overheating will affect insulation lifetime and motor reliability.

敬告用户：

请您按照本使用说明书的规定，正确地使用和储存电动机，我们将为您提供优质、快捷的服务。

在电动机使用过程中，您如有什么疑惑请与我们联系，我们将及时给予您满意的解答；您有什么良好的建议请向我们提出，以便我们改进，为您提供优质、快捷的服务。

安徽皖南电机股份有限公司对本使用说明书保留最终解释权。

请勿在未事先获得安徽皖南电机股份有限公司书面许可的情况下向第三方复制、公布或者使用本使用说明书内容。

Dear user,

Please use and store the motor right following the instruction of the manual. We will make our effort to provide you with high-quality and prompt service. Contact us if you had any questions in application, and we will offer you timely and effective resolution; let us know if you had any advices or suggestions, with which we can improve ourselves and make service better. Anhui Wannan Motor Co., Ltd. reserves the right of final interpretation of the user manual. No copy, disclosing or using of the content of this user manual to third parties prior to written permission from Anhui Wannan Motor Co., Ltd.

安徽皖南电机股份有限公司

Anhui Wannan Electric Machine Co.,Ltd

地址：安徽省泾县泾川镇南华路 86 号

Address: No.86 Nanhua Road Jingxian County Anhui Province P.R.C

销售处 **Sales department:** 400-111-0563 0563-5031908 5031988

客户服务中心 **Customer service center:** 0563-5031953

企业管理处 **Enterprises management department:** 0563-5031954

质量检验处 **Quality inspection department:** 0563-5031910 5031985

传真 **Fax:** (0563) 5029999 5023698

网址 **Website:** <http://www.wnmotor.com>

E-mail: wndjc@wnmotor.com

邮编 **Postal code:** 242500

本说明书内容如有变动，恕不另行通知。

Content in the manual may be changed without prior notice.