



蓄电池交流三相异步电动机

Low-voltage Series Three-phase Asynchronous Motor Battery Exchange

无锡新大力电机有限公司

WUXI NEW GREAT POWER ELECTRICAL MACHINE CO.,LTD



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交通路线: 中央车站乘601公交至无锡桥站下后, 向前30米左转即到。



公司简介 Introduction

无锡新大力电机有限公司座落于太湖之滨，无锡惠山经济开发区内，是国内起重及冶金用三相异步电动机和起重用隔爆型三相异步电动机行业的资深企业、全国旋转电机标准化技术委员会起重冶金电机分标委员会委员、中国重机协会起重机专业分会理事单位、上海电机行业协会会员、中国船舶标准化工作促进会副主任委员。公司先后荣获“无锡市名牌产品”、“江苏省名牌产品”、“江苏省著名商标”、“无锡质量信得过企业”、“劳动保障诚信单位”、“国家高新技术企业”等荣誉称号，资信等级AAA级企业。

公司占地面积36000平方米，员工总数300人，专业技术人员占员工总数20%以上，并拥有多名专业设计制造专家，年生产电机120万千瓦。先进的专业生产设备及检测仪器、较强的工艺保障能力和检测水平，确保了产品质量的稳定性。依靠雄厚的技术力量和科学的管理模式，使企业在行业内位居前列。

公司的所有产品均按最新国家标准，消化吸收国内外先进技术、独立研发、精心制造。目前主导产品有起重及冶金用三相异步电动机、起重用隔爆型三相异步电动机、船用电机和车辆用蓄电池交流三相异步电动机四个大类，共20多个系列。其产品结构合理、性能可靠、品质优良、规格齐全，并已形成企业的产品优势和强大的生产能力。产品广泛应用于起重、冶金、造船、港口、军工、水利、建筑、化工等行业，用户遍布全国大部分省、市及自治区，并远销欧洲、东南亚等国家和地区，并且我公司生产的起重用隔爆型三相异步电动机已成功地运用于军工领域和航天事业。

公司具有完整的质量管理体系，1997年已通过ISO9001质量体系认证，ISO9001：2008质量管理体系持续有效运行，使企业生产制造全过程处于监控之中，为产品的优质可靠提供了科学保证。

公司一贯奉行“团结拼搏、求实创新”的企业宗旨。

公司追求的目标是：紧跟世界先进技术，专注做好现有产品，不断推出一流精品，最大限度地满足客户的要求。



Wuxi New Great Power Electrical Machine Co., Ltd. is located in wuxi taihu lake, no XiHui mountain economic development zone, is the domestic metallurgical and lifting three-phase asynchronous motor and the reuse of flameproof three-phase asynchronous motor industry veteran enterprises, the rotating motor standardization technical committee lifting metallurgy case professional committee, China association of Chongji crane branch governing units, the Shanghai electrical industry association, deputy director of the China council for the promotion of standardization work of the committee. Company has won the 'Brand-name products in wuxi city', 'Brand-name products in Jiangsu province', 'Famous trademark in Jiangsu province', 'Wuxi quality trustworthy enterprise', 'Labor safeguard integrity unit', 'National high-tech enterprise' honorary title, such as credit grade AAA enterprise.

The company covers an area of 36000 square meters, employs 300 people, accounted for over 20% of the total number of employees, professional and technical personnel, and has more than professional design and manufacturing experts, annual production of 1.2 million kw. Advanced professional production equipment and testing instruments, strong technology support ability and the level of detection, ensure the stability of product quality. Relying on the abundant technical force and scientific management mode, make the enterprise in the industry forefront.

All the products of our company are well manufactured by absorbing foreign and domestic advanced technologies and according to the latest national standards. Currently the company's main products include four families: twenty series three-phase asynchronous motor for hoisting and metallurgical uses, crane flameproof three-phase asynchronous motor, marine motor, storage battery three-phase AC motor for cars, etc. Our company's products feature complete assortments, reasonable structure, perfect performances and reliable quality. With its own product superiority and strong production capacity, the company has promoted its products to be widely used in the industries of crane, metallurgy, marine, port, military, irrigation, construction, chemistry, etc. Our products are well sold in most areas of China as well as far to Europe, Southeast Asia countries and regions. The explosion-proof three-phase hoisting asynchronous motor has been successfully applied in military industry and space industry of our company.

The company has complete quality management system, which passed certification of ISO9001 quality system in 1997 and ISO9001:2008 quality system continued effective. The effective quality management system keeps the whole manufacturing process under control and supervision, which guarantee the reliable quality of our products.

We consistently adhere to the concept of "Untie and Strive, Being Realistic and Innovative".

The target of our company is to keep pace with world advanced technology, to focus on the current products, to constantly develop the first-rate products, to offer maximum services for satisfying our customers' requirements.

以人为本
诚实守信
务实创新
追求卓越



1、概述

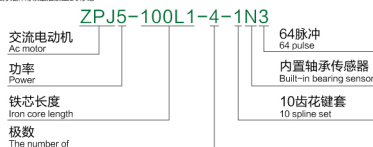
蓄电池交流三相异步电动机（以下简称电动机）主要应用于电动叉车、电动搬运车、电动牵引车、高尔夫球车、旅游观光车、电动汽车等由蓄电池提供动力的各种车辆，包括牵引电动机、泵用电机和动力转向电动机。该系列电动机具有调速范围宽、过载能力大、机械强度高、运行稳定等诸多优点，是新一代高效节能环保型产品。可以满足车辆重载启动、满载爬坡及平路高速行驶等多种工况。

- 电动机在下列条件下使用能正常运行：
 - 1.1 环境温度不超过45℃；
 - 1.2 相对湿度不大于90%（20℃）；
 - 1.3 海拔不超过1000m。
- 电动机可使用的蓄电池电压为24V、48V、72V。交流额定电压和额定频率可根据需要进行设计。
- 电动机的基准工作制为S2-30min或S2-60min。

4.型号说明 (Model description):

系列代号 Series code	功率 (kW) Power	中心高 Centre for high	铁心长 Core length	极数 number of poles	制动器 Brake	齿数 Number of teeth	传感器型式 Sensor type	传感器脉冲数 Sensor pulse number
ZPJ	0.75	—	90	S	—	4	O (管脚)	—
	1.5		100	M	E	1	轴套连接式	1 32
	2		112	L1		2	W-外置盒式	2 48
	2.5		132	L2		3	Z-基座柱式	3 64
	3		160			4		
	4							
	5							
	7							
	7.5							
	9.0							
	12							

备注：90°式电机在打靶牌时候最后加上B3标记



1.Summary

The battery AC three-phase asynchronous motor (hereinafter referred to as the motor) is mainly used in electric forklifts, electric pallet truck, electric tractor, golf cart, sightseeing car, electric cars powered by the battery of the vehicle, including traction motors, pumps motors and power steering motor. The series motor has a wide speed range, large overload capacity, high mechanical strength, stable operation, and many other advantages, a new generation of energy efficient environmentally friendly products. Heavy vehicles to meet the start-up, full of climbing and flat road run at high speed and other conditions.

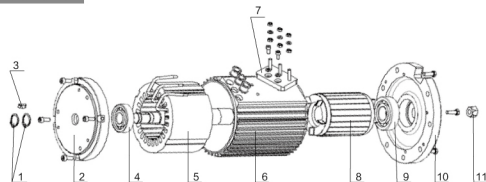
1. under the following conditions using the motor run correctly:

- 1.1 ambient air temperature does not exceed 45℃;
- 1.2 Relative humidity less than 90% (20℃);
- 1.3 Altitude less than 1000m

2. The battery voltage motors can be used as 24V, 48V, 72V. AC rated voltage and rated frequency can be designed according to needs.

3. motor basic duty S2-30min, or S2-60min.

2、结构



1. 卡簧
2. 后端盖
3. 键
4. 轴承
5. 定子
6. 机壳
7. 接线板
8. 转子
9. 轴承
10. 前机盖
11. 轴头螺母

1. 防护等级
电动机的防护等级为IP20(开启式)或IP44(封闭式)。
2. 冷却方式
电动机的冷却方式为IC410(自然冷却)或IC411(自扇冷却)。
3. 结构及安装型式
电动机可以立式或卧式安装，轴伸型式为圆柱形、圆锥形、内花键、外花键均可提供。
4. 绝缘等级
电动机采用H级绝缘耐温，有效地提高了电机的使用寿命。
5. 定子采用VPI真空压力浸漆工艺，提高了整体绝缘能力和机械强度。
6. 转子采用特殊设计，提高了效率和转矩。
7. 传感器选用轴承内置式、外置盒式、柱式传感器。
8. 测温元件选用KTY84系列产品。
9. 可以根据需要配置制动器。

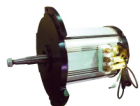
2. Structure

1. Degree of protection
Motor protection rating of IP20 (open type) or IP44 (enclosed).
2. Cooling
Motor cooling method is IC410 (natural cooling) or IC411 (fan-cooled).
3. Structure and mounting
Motor can be vertical or horizontal installation, shaft type is cylindrical, conical, internal splines, external splines are available.
4. Insulation
Motor adopts class H insulation and heat-resistant, effectively improve the life of the motor.
5. Stator VPI vacuum pressure impregnation process, improving overall insulation capacity and mechanical strength.
6. Specially designed rotor, improved efficiency and torque.
7. Sensors use built-in and built-out bearing plate, column type sensor.
8. Temperature measurement components choose KTY84 series products.
9. Can be configured according to need brakes.



3、部分产品

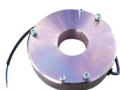
Some products



ZPJ1.5-90L1-4-N2 (大)



ZPJ1.5-90L1-4-N2 (加长前盖)



制动器



编码器轴承



ZPJ1.5-90L1-4-N2



ZPJ0.75-90S-4-N2B3



ZPJ1.5-90M-4-N2B3



ZPJ1.5-90L1-4-Z2



ZPJ5-100L1-4-2N3



ZPJ5-100L1-4-3N3 (带散热盘)



ZPJ5-100L1-4-3N3



ZPJ7-112L1-4-4N3



ZPJ5-100L1-4E-1W1

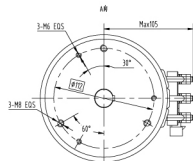
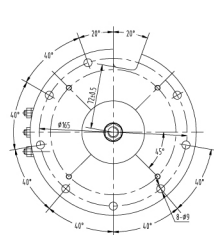
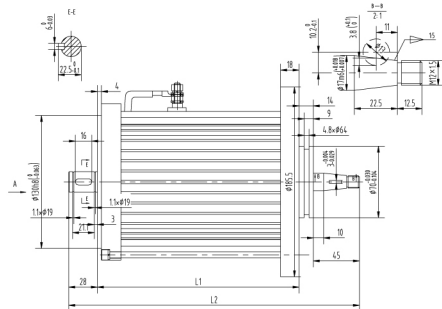
4、技术数据

Technical Data

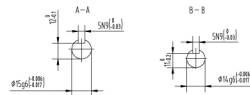
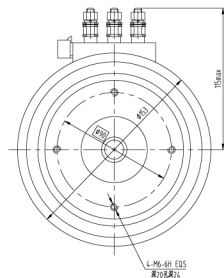
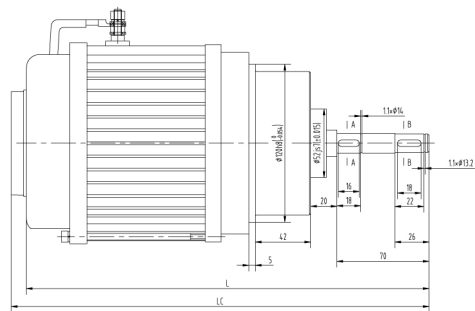
型 号 Model	功率 (KW) Power	电 压 Voltage	电 流 Current	功率因数 Power Factor	频 率 Frequency	转 速 Speed	额定转矩 Rated torque	最大转矩 Maximum torque	效 率 Efficiency	噪 音 Noise	重 量 (kg) Weight	传感器 脉冲 Sensor Pulse
ZPJ0.75-90S-4-	0.75	16	43	0.75	90.0	2600	2.75	34.2	79.7	60.0	10	48/32
ZPJ1.2-90M-4-	1.2	23	65	0.81	85.0	2250	5.05	48.3	79.7	80.0	13	48/32
ZPJ1.5-90L1-4-	1.5	16	78	0.83	90.0	2590	5.53	20.9	81.1	61.0	16	48/32
ZPJ2.0-90L2-4-	2.0	16	100	0.82	115.0	3362	5.68	27.2	80.4	61.5	16	32
ZPJ2.5-90L2-4-	2.5	16	120	0.85	115.0	3352	7.12	29.3	80.7	61.5	19	32
ZPJ3.0-100S-4-	3.0	33	73	0.81	90.0	2638	10.86	69.3	92.5	61.0	24	64/32
ZPJ4.0-100S-4-	4.0	33	94	0.77	90.0	2580	14.81	58.5	89.2	60.5	24	64/32
ZPJ4.0-100L1-4-	4.0	51	57	0.79	125.0	3680	10.38	77.6	89.2	60.5	24	64/32
ZPJ5.0-100L1-4-	5.0	51	78	0.81	115.0	3332	14.33	78.9	89.4	61.0	28	64
ZPJ5.0-100L1-4-	5.0	33	113	0.87	120.0	3520	13.57	54.3	89.0	61.5	28	64
ZPJ4.0-112S-4-	4.0	33	95	0.88	60.0	1710	22.34	118.2	84.1	60.0	40	64/32
ZPJ7.0-112L1-4-	7.0	51	102	0.89	105.0	3065	21.81	110.5	85.4	63.2	45	64
ZPJ7.5-112L2-4-	7.5	33	157.8	0.89	115.0	3317	21.60	65.0	85.2	64.0	55	64/32
ZPJ9.0-132L1-4-	9.0	51	135	0.88	50.0	1444	59.52	140.5	84.0	64.3	75	32
ZPJ11-132L2-4-	11	51	158	0.89	80.0	2237	46.96	158.0	82.4	68.1	85	32
ZPJ12-132L2-4-	12	51	175	0.89	60.0	1750	65.40	195.0	85.0	68.5	85	32
ZPJ13-160S-4-	13	51	175	0.88	80.0	2308	53.80	172.4	86.0	69.2	135	32
ZPJ15-160L-4-	15	51	192	0.89	85.0	2450	56.20	190.5	87.0	69.8	150	32



5、外形及安装尺寸图 Outline and installation dimensions



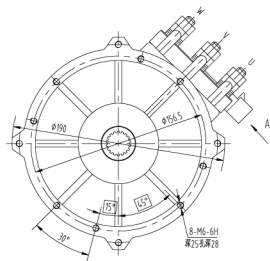
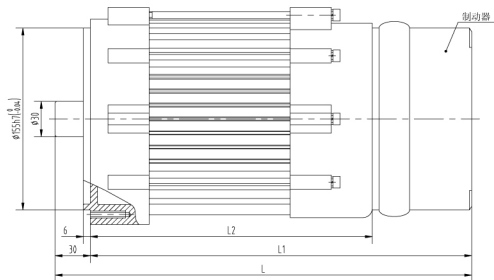
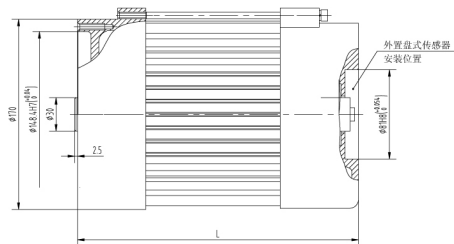
产品型号	L1	L2	备注
ZPJ1.5-90L1-4~	197	284	
ZPJ2.5-90L2-4~	237	324	



产品型号	L1	LC	备注
ZPJ0.75-90S-4~	258	270	LC为带外
ZPJ1.5-90M-4~	298	310	置鼠式传
ZPJ1.5-90L1-4~	320	332	感器

ZPJ90立式电机

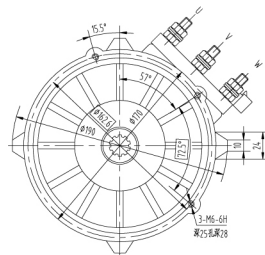
ZPJ90卧式电机



产品型号	L	备注
ZPJ3-100S-4~	260	工作电压 不同
ZPJ4-100S-4~	260	
ZPJ4-100L1-4~	275	
ZPJ5-100L1-4~	275	

内齿套参数

精度等级	GB/T1144-87	
键 数	N	10
小 径	d	$16^{+0.48}_{-0.38}$
大 径	D	$19^{+0.20}_{-0.12}$
键 宽	B	2.942-2.98



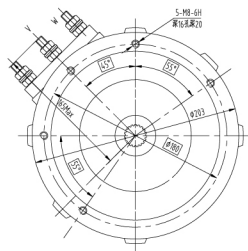
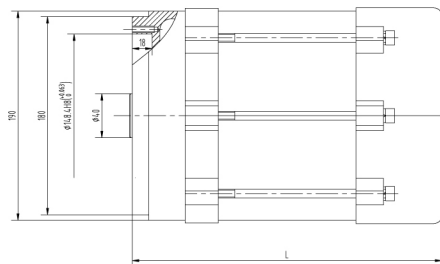
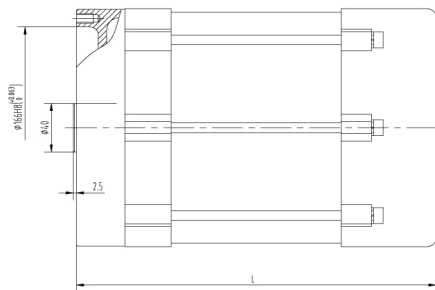
产品型号	L2	L1	L	备注
ZPJ3-100S-4~	240	340	370	工作电压不 同, L2为不带 制动器的尺寸
ZPJ4-100S-4~	240	340	370	
ZPJ4-100L1-4~	255	355	385	
ZPJ5-100L1-4~	255	355	385	

内齿套参数

名 称	代 号	数 值
齿 数	Z	18
模 数	m	1
压力角	α	20°
分度圆直径	df	18
大径直径	D	20.3
小径直径	d	18

ZPJ100内止口电机

ZPJ100外止口电机

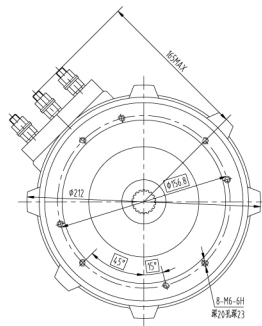


产品型号	L	备注
ZPJ4-112S-4~	290	
ZPJ7-100S-4~	305	可配套 10、18、19、24 齿套
ZPJ7.5-112L2-4~	355	

内齿套参数

标准	ANSIB92.1	齿根型式	平齿根
齿数	19	节距	24
压力角	45°	公差级别	5级
基圆直径			14.216
分度圆直径			20.107
大径直径			21.59~21.82
渐开线起始圆直径			21.21
小径直径			19.48~19.61
齿槽宽实际值			1.941
齿槽宽有效值			1.875

ZPJ112标准接口

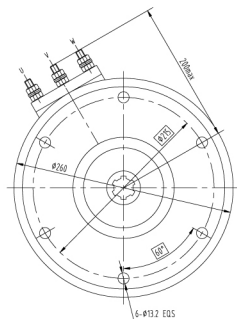
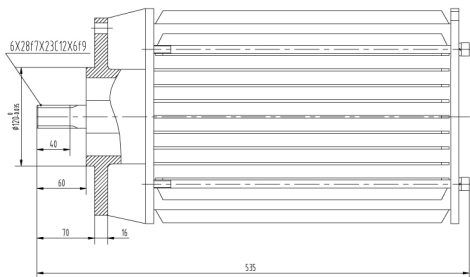


产品型号	L	备注
ZPJ4-112S-4~	290	
ZPJ7-112L1-4~	305	可配套 10、18、19、24 齿套
ZPJ7.5-112L2-4~	355	

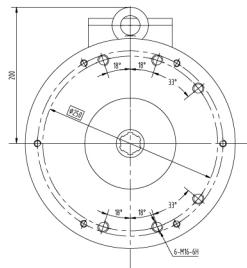
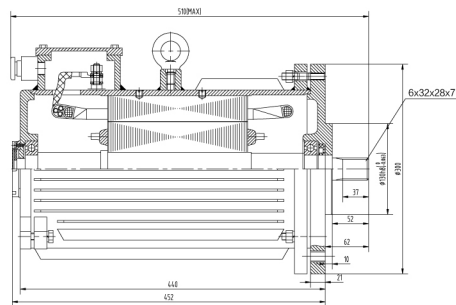
内齿套参数

精度等级	H6-GB10095	
齿根型式	平齿根	
法向模数	m	1
齿 数	Z	24
压力角	α	30°
变位系数	X	0.0263
分度圆直径	D	24
花键大径	Dei	25.4
花键小径	Dii	23 ^{+0.021 0}

ZPJ112小法兰接口



ZPJ9-132L1-4外形尺寸图

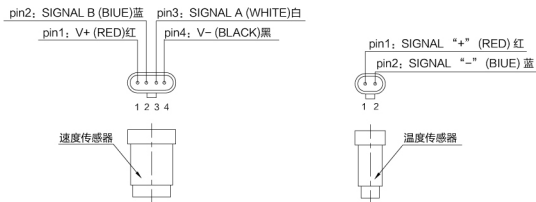


ZPJ12-132L2-4外形尺寸图



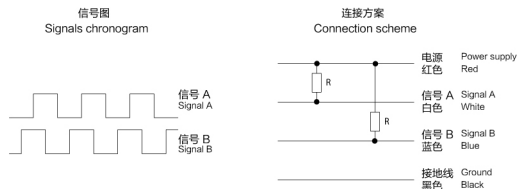
6、接线指示

Wiring instructions



7、轴承传感器串联阻值及接线方式

Bearing sensor series resistance and connection mode



电压	建议电阻值 (电源与信号间)
V	Ω
5	270
9	470
12	680
24	1500

7、产品设备

Product equipment



①	②
③	④
⑤	

- 1、J76-300型双点高速精密压力机
J76-300 type double point of high-speed precision press
- 2、数控加工机床
CNC machine
- 3、VMC850E型立式加工中心
VMC850E type vertical machining center
- 4、立体货架库一角
A three-dimensional shelf library
- 5、轴加工车间
Shaft processing workshop



8、应用领域

Applications



①	②	③
④	⑤	⑥
	⑦	⑧
⑨	⑩	⑪

- | | | | |
|---------|-------------------|----------|-------------|
| 1、托盘车 | Pallet truck | 7、旅游观光车 | Tourist car |
| 2、高空作业车 | Altitude vehicles | 8、沙滩车 | Beach car |
| 3、山地车 | Hill car | 9、扫地车 | Clean car |
| 4、电动叉车 | Electric forklift | 10、高尔夫球车 | Golf cart |
| 5、巡逻车 | Hunting car | 11、家用汽车 | Family Car |
| 6、看房车 | House car | | |

订货须知

订货时必须说明产品特征，如：电池电压、额定电压、额定转矩、额定转速、最大转矩、最大转速、防护等级、绝缘等级、安装方式、工作制、调速范围及在此范围内的运行特性等。

如有特殊要求，经双方商定后，可提供不同于本样本范围内的产品。

NOTICE FOR ORDERING

Order must describe the product features, such as: battery voltage, the rated voltage, rated torque, rated speed, maximum torque, maximum speed, protection, insulation levels, installation, working system, speed range and in this range operating characteristics.

For special requirements, agreed upon by both parties, can provide a different range of products in this sample.

随着产品的技术进步和国内外相关标准的修订，样本内技术参数如有变动，恕不另行通知。