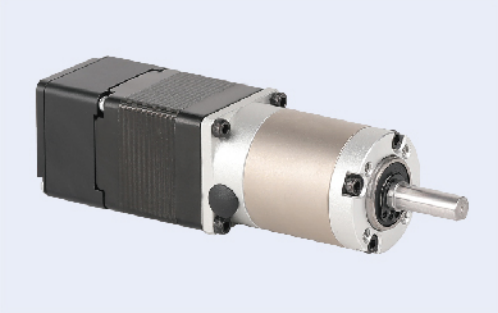
28HS 1.8°闭环一体式精密行星减速步进电机

NEMA 11 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR



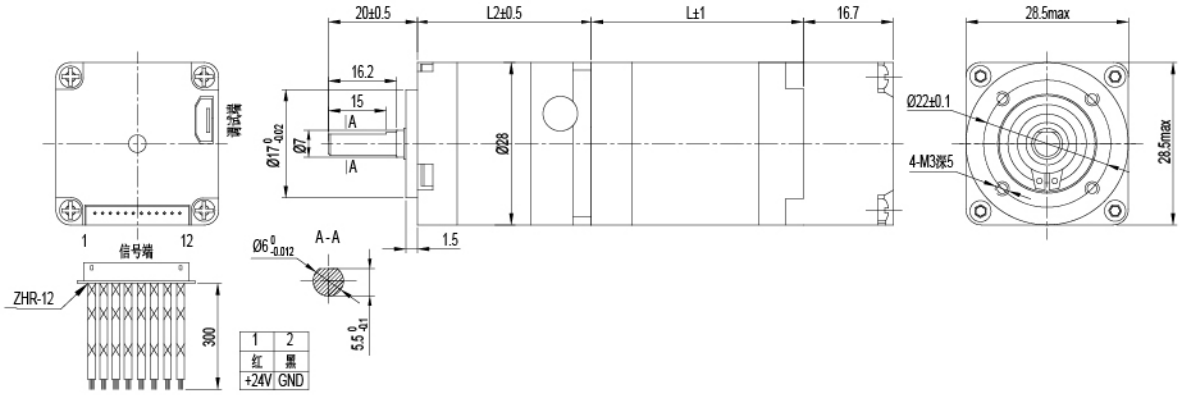
电气性能参数
ELECTRICAL SPECIFICATIONS

步矩角精度 Step Accuracy	±5%(整步无负载, full step, no load)
温升 Temperature	50K Max
工作环境温度 Ambient Temperature	-20°C~+50°C
绝缘电阻 Insulation Resistance	100MΩMin 500VC DC
介电强度 Dielectric Strength	600VAC/1S
绝缘等级 Insulation Class	B,130°C

常规指标及参数
COMMON RATINGS & SPECIFICATIONS

电机型号 Model	机身长 Length L mm	相电流 Phase Current A	相电阻 Phase Resistance Ω	相电感 Phase Inductance mH	静转矩 Holding Torque N.m	转子惯量 Rotor Inertia g.cm²	引线数 Lead Wire NO.	重量 Weight Kg
28HSIP30-1004A-001 28HSIC30-1004A-001	30	1.0	2.8	2.0	0.07	8.5	4	0.12
28HSIP40-1004A-001 28HSIC40-1004A-001	40	1.0	2.7	1.9	0.10	9.3	4	0.15
28HSIP50-1004A-001 28HSIC50-1004A-001	50	1.0	2.8	2.4	0.12	13.5	4	0.25

电机机械尺寸
DIMENSIONS UNIT=MM



我们可以根据客户要求定制电机的电气参数、电机输出轴尺寸等形状，也可以增配带轮、偏心减速箱和行星减速箱、编码器等，查看更多产品信息请浏览公司网站：www.zz-motor.com
We can customize the motor electrical parameters, output shaft size and other shapes according to customer requirements. We can also add planetary reducers, encoders, etc. For more product information, please visit our company website: en.zz-motor.com
注意事项：电机安装时务必使用安装止口定位，严格保证电机输出轴与负载的同心度，电机正常工作时表面温度不允许超过85°C
Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.

28HS 1.8°闭环一体式精密行星减速步进电机

NEMA 11 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR

电机接线图
WIRING DIAGRAM

IP 脉冲型：

控制信号定义（Control Signal Definition）												
引脚	1	2	3	4	5	6	7	8	9	10	11	12
功能	VCC	GND	PUL+	PUL-	DIR+	DIR-	ENA+	ENA-	ALM+	ALM-	NC	NC
线色	红	黑	紫	灰	棕	橙	白	蓝	绿	黄	黑	红

IC 总线型：（485/CAN）

控制信号定义（Control Signal Definition）												
引脚	1	2	3	4	5	6	7	8	9	10	11	12
功能	VCC	GND	485A	485B	CANH	CANL	X0	X1	X2	Y0	Y1	GND
线色	红	黑	紫	灰	棕	橙	白	蓝	绿	黄	黑	红

特点
FEATURE

- 驱控一体、体积小、易安装、省空间；
- 输入 IO、脉冲、PWM 占空比、CAN 总线、RS485 总线多种控制方式；
- 全系产品均采用 15 位单圈绝对值磁编码器+FOC 算法，实现高精度、高效、高性能控制；
- 采用 CANopen 标准伺服通信协议，支持位置控制、速度控制、原点回零控制；
- 具有过压、欠压、过温、过流等保护功能；
- 配套功能齐全且简单易用的上位机，方便快速上手及调试电机；
- 配套专属 CAN 卡+动态链接库实现简单高效稳定的应用开发；

- Integrated drive and control design, compact size, easy to install and space-efficient.
- Multiple control methods are available: IO input, pulse, PWM duty cycle, CAN bus and RS485 bus.
- All products adopt 15-bit single-turn absolute magnetic encoders combined with FOC algorithm, achieving high precision, high efficiency and excellent control performance.
- Compliant with CANopen standard servo communication protocol, supporting position control, speed control and homing function.
- Integrated protection against overvoltage, undervoltage, overheating and overcurrent.
- Comes with fully functional and user-friendly upper computer software for quick operation and motor commissioning.
- Matched with dedicated CAN card and dynamic link library (DLL) to realize simple, efficient and stable application development.

HPR28行星减速机技术参数
PLANETARY GEAR ELECTRICAL SPECIFICATIONS

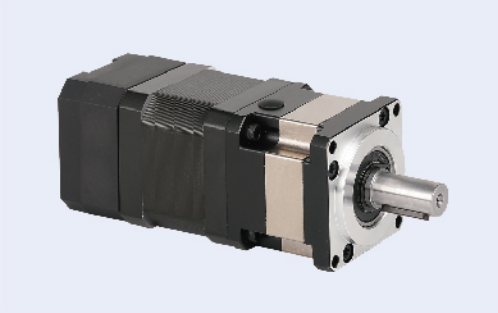
减速级数 Number of gear trains		1级				2级								3级						
减速比 Reduction ratio		4	5	7	10	16	20	25	28	35	40	50	70	64	80	100	125	140	175	200
减速机长度（L1）Reducer length（L1）	mm	33				41.5								50						
额定输出扭矩 Rated output torque	N.m	2	2	2	1	4	4	4	4	4	3	3	3	6	6	6	6	6	6	6
瞬时转矩 Torque moment	N.m	2倍于额定允许负载																		
传动效率 Transmission efficiency	%	96				94								90						
噪音 Noise	db	≤55																		
重量 Weight	g	96				130								160						

我们可以根据客户要求定制电机的电气参数、电机输出轴尺寸等形状，也可以增配带轮、偏心减速箱和行星减速箱、编码器等，查看更多产品信息请浏览公司网站：www.zz-motor.com
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注意事项：电机安装时务必使用安装止口定位，严格保证电机输出轴与负载的同心度，电机正常工作时表面温度不允许超过85°C
Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.

42HS 1.8°闭环一体式精密行星减速步进电机

NEMA 17 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR



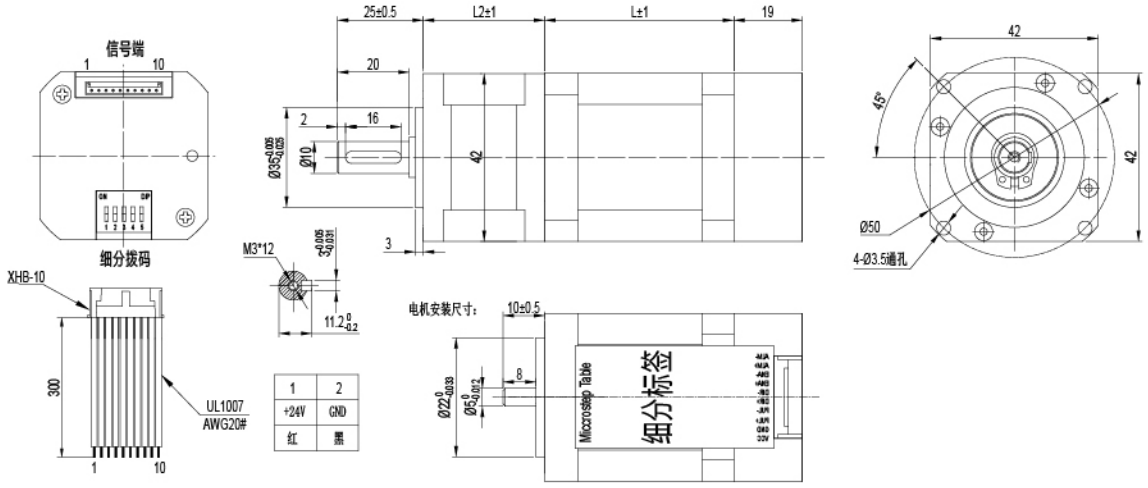
电气性能参数
ELECTRICAL SPECIFICATIONS

步矩角精度 Step Accuracy	±5%(整步无负载, full step, no load)
温升 Temperature	50K Max
工作环境温度 Ambient Temperature	-20°C~+50°C
绝缘电阻 Insulation Resistance	100MΩMin 500VC DC
介电强度 Dielectric Strength	600VAC/1S
绝缘等级 Insulation Class	B,130°C

常规指标及参数
COMMON RATINGS & SPECIFICATIONS

电机型号 Model	机身长 Length L mm	相电流 Phase Current A	相电阻 Phase Resistance Ω	相电感 Phase Inductance mH	静转矩 Holding Torque N.m	转子惯量 Rotor Inertia g.cm²	引线数 Lead Wire NO.	重量 Weight Kg
42HSIP34-1704A-001 42HSIC34-1704A-001	34	1.7	0.55	0.7	0.15	42	4	0.22
42HSIP40-2504A-001 42HSIC40-2504A-001	40	2.5	0.6	1.1	0.35	58.5	4	0.3
42HSIP48-2004A-001 42HSIC48-2004A-001	48	2.0	0.8	1.4	0.45	79.5	4	0.35
42HSIP60-2504A-001 42HSIC60-2504A-001	60	2.5	1.25	3.3	0.7	116	4	0.5

电机机械尺寸
DIMENSIONS UNIT=MM



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注意事项：电机安装时务必使用安装止口定位，严格保证电机输出轴与负载的同心度，电机正常工作时表面温度不允许超过85°C
Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.

42HS 1.8°闭环一体式精密行星减速步进电机

NEMA 17 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR

电机接线图
Wiring Diagram

IP 脉冲型：

控制信号定义（Control Signal Definition）										
引脚	1	2	3	4	5	6	7	8	9	10
功能	VCC	GND	PUL+	PUL-	DIR+	DIR-	ENA+	ENA-	ALM+	ALM-
颜色	红	黑	黄	蓝	白	绿	棕	灰	紫	橙

IC 总线型：（485/CAN）

控制信号定义（Control Signal Definition）										
引脚	1	2	3	4	5	6	7	8	9	10
功能	VCC	GND	X0+	X0-	X1+	X1-	485A	485B	CANH	CANL
颜色	红	黑	黄	蓝	白	绿	棕	灰	紫	橙

特点
FEATURE

- 驱控一体、体积小、易安装、省空间；
- 输入 IO、脉冲、PWM 占空比、CAN 总线、RS485 总线多种控制方式；
- 全系产品均采用 15 位单圈绝对值磁编码器+FOC 算法，实现高精度、高效、高性能控制；
- 采用 CANopen 标准伺服通信协议，支持位置控制、速度控制、原点回零控制；
- 具有过压、欠压、过温、过流等保护功能；
- 配套功能齐全且简单易用的上位机，方便快速上手及调试电机；
- 配套专属 CAN 卡+动态链接库实现简单高效稳定的应用开发；

- Integrated drive and control design, compact size, easy to install and space-efficient.
- Multiple control methods are available: IO input, pulse, PWM duty cycle, CAN bus and RS485 bus.
- All products adopt 15-bit single-turn absolute magnetic encoders combined with FOC algorithm, achieving high precision, high efficiency and excellent control performance.
- Compliant with CANopen standard servo communication protocol, supporting position control, speed control and homing function.
- Integrated protection against overvoltage, undervoltage, overheating and overcurrent.
- Comes with fully functional and user-friendly upper computer software for quick operation and motor commissioning.
- Matched with dedicated CAN card and dynamic link library (DLL) to realize simple, efficient and stable application development.

HP42行星减速机技术参数
PLANETARY GEAR ELECTRICAL SPECIFICATIONS

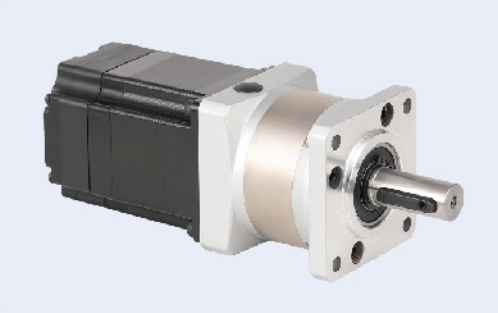
减速级数 Number of gear trains		1级					2级									
减速比 Reduction ratio		3	4	5	7	10	16	20	25	28	30	35	40	50	70	100
减速机长度（L1）Reducer length（L1）	mm	方35/圆40					方46/圆51									
额定输出扭矩 Rated output torque	N.m	8	9	9	5	5	10	12	12	10	10	10	10	10	10	5
瞬时转矩 Torque moment	N.m	2倍于额定允许负载														
传动效率 Transmission efficiency	%	96					94									
噪音 Noise	db	≤55														
重量 Weight	g	250					360									

我们可以根据客户要求定制电机的电气参数、电机输出轴尺寸等形状，也可以增配带轮、偏心减速箱和行星减速箱、编码器等，查看更多产品信息请浏览公司网站：www.zz-motor.com
We can customize the motor electrical parameters, output shaft size and other shapes according to customer requirements. We can also add planetary reducers, encoders, etc. For more product information, please visit our company website: en.zz-motor.com
注意事项：电机安装时务必使用安装止口定位，严格保证电机输出轴与负载的同心度，电机正常工作时表面温度不允许超过85°C
Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.

57HS 1.8°闭环一体式精密行星减速步进电机

NEMA 23 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR



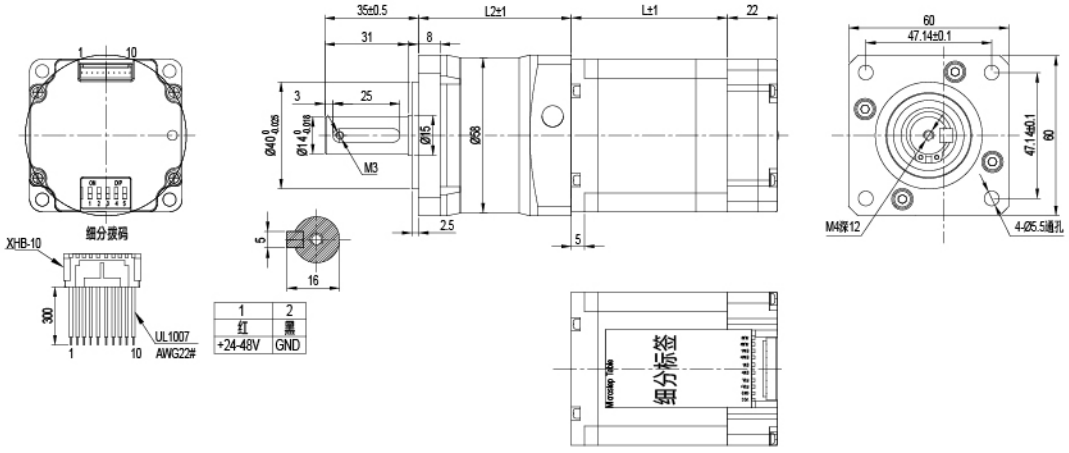
电气性能参数
ELECTRICAL SPECIFICATIONS

步矩角精度 Step Accuracy	±5%(整步无负载, full step, no load)
温升 Temperature	50K Max
工作环境温度 Ambient Temperature	-20°C~+50°C
绝缘电阻 Insulation Resistance	100MΩMin 500VC DC
介电强度 Dielectric Strength	600VAC/1S
绝缘等级 Insulation Class	B,130°C

常规指标及参数
COMMON RATINGS & SPECIFICATIONS

电机型号 Model	机身长 Length L mm	相电流 Phase Current A	相电阻 Phase Resistance Ω	相电感 Phase Inductance mH	静转矩 Holding Torque N.m	转子惯量 Rotor Inertia g.cm²	引线数 Lead Wire NO.	重量 Weight Kg
57HSIP41-2504A-001 57HSIC41-2504A-001	41	2.5	1.1	2.4	0.55	174	4	0.5
57HSIP51-2004A-001 57HSIC51-2004A-001	51	2.0	1.4	4.4	0.8	257	4	0.7
57HSIP56-4004A-001 57HSIC56-4004A-001	56	4.0	0.4	1.3	1.0	300	4	0.75
57HSIP76-4004A-001 57HSIC76-4004A-001	76	4.0	0.35	1.55	1.6	514	4	1.1
57HSIP84-4204A-001 57HSIC84-4204A-001	84	4.2	0.7	2.6	2.0	578	4	1.2
57HSIP100-4204A-001 57HSIC100-4204A-001	100	4.2	0.75	3.4	2.4	758	4	1.3
57HSIP115-4204A-001 57HSIC115-4204A-001	112	4.2	0.9	3.8	2.4	856	4	1.45

电机机械尺寸
DIMENSIONS UNIT=MM



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Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.

57HS 1.8°闭环一体式精密行星减速步进电机

NEMA 23 1.8° CLOSED-LOOP STEPPER MOTOR WITH INTEGRATED DRIVER & PRECISION PLANETARY GEARBOX

ZZMOTOR

电机接线图
Wiring Diagram

IP 脉冲型：

控制信号定义（Control Signal Definition）										
引脚	1	2	3	4	5	6	7	8	9	10
功能	VCC	GND	PUL+	PUL-	DIR+	DIR-	ENA+	ENA-	ALM+	ALM-
颜色	红	黑	黄	蓝	白	绿	棕	灰	紫	橙

IC 总线型：（485/CAN）

控制信号定义（Control Signal Definition）										
引脚	1	2	3	4	5	6	7	8	9	10
功能	VCC	GND	X0+	X0-	X1+	X1-	485A	485B	CANH	CANL
颜色	红	黑	黄	蓝	白	绿	棕	灰	紫	橙

特点
FEATURE

- 驱控一体、体积小、易安装、省空间；
- 输入 IO、脉冲、PWM 占空比、CAN 总线、RS485 总线多种控制方式；
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- Integrated protection against overvoltage, undervoltage, overheating and overcurrent.
- Comes with fully functional and user-friendly upper computer software for quick operation and motor commissioning.
- Matched with dedicated CAN card and dynamic link library (DLL) to realize simple, efficient and stable application development.

HPS60 行星减速机技术参数
PLANETARY GEAR ELECTRICAL SPECIFICATIONS

减速级数 Number of gear trains		1级					2级								
减速比 Reduction ratio		3	4	5	7	10	16	20	25	28	35	40	50	70	100
减速机长度（L1）Reducer length（L1）	mm	57					73								
额定输出扭矩 Rated output torque	N.m	16	25	28	20	10	30	30	32	30	30	25	25	20	10
瞬时转矩 Torque moment	N.m	2倍于额定允许负载													
传动效率 Transmission efficiency	%	96					94								
噪音 Noise	db	≤55													
重量 Weight	g	750					960								

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Notes: When installing the motor, position it via the mounting spigot. Ensure strict concentricity between the motor output shaft and the load. The surface temperature of the motor shall not exceed 85°C during normal operation.