

无刷直流减速电机 BLDC GEAR MOTOR

15W 60mm



60电机参数 60 MOTOR DATA

电机型号 Type	电压 Voltage	额定功率 Power	额定扭矩 Rated Torque	空载转速 No load Speed	空载电流 No load Current	负载转速 Rated Speed	负载电流 Rated Current	有否 Hall(Y/N)	电机寿命 Life(Hours)	机身长度 Length	内驱 Internal Drive	电机重量 Weight
	V	W	N.m	r/min	A	r/min	A	/	H	mm	/	g
2B15-12GN-20S	12	15	0.072	2800	< 0.8	2000	1.56	Both	> 5000	59	YES	800
2B15-24GN-20S	24	15	0.072	2800	< 0.5	2000	0.78	Both	> 5000	59	YES	800
2B15-48GN-20S	310	15	0.072	2700	< 0.25	2000	0.39	Both	> 5000	59	YES	800

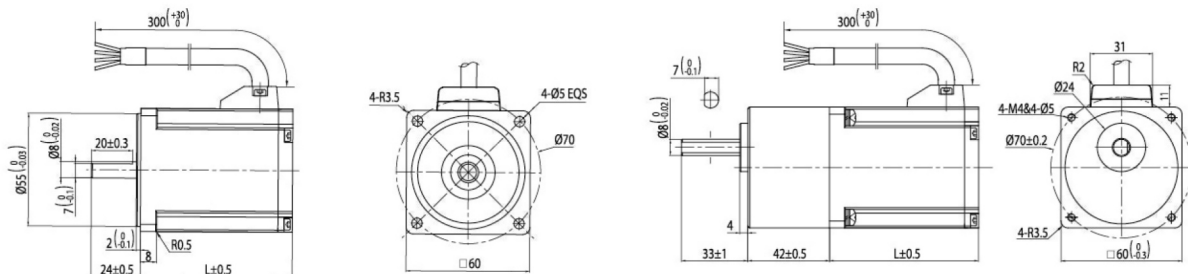
60齿轮箱 60 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200
输出轴转速 r/min Output speed	667	556	400	333	267	222	160	133	111	80	67	56	40	33	27	22	20	17	13	11	10
允许力矩 N.m Allowance Torque	0.19	0.23	0.32	0.39	0.48	0.58	0.81	0.97	1.16	1.45	1.74	2.09	2.63	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中 色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



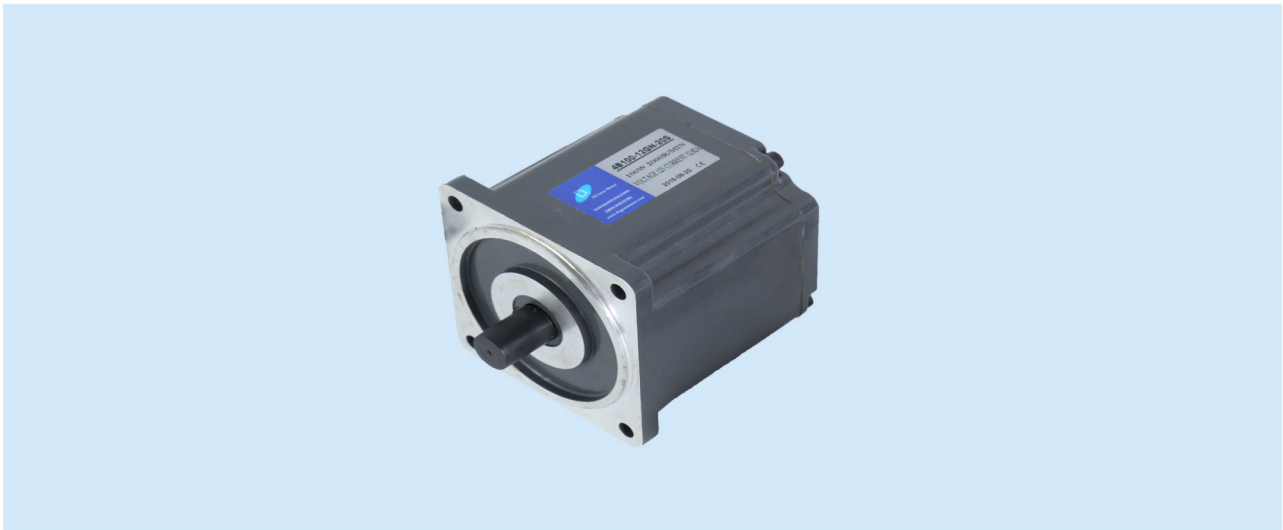
线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line				细线 Thin Line			
14#1569				26#1569			

无刷直流减速电机 BLDC GEAR MOTOR

30W 70mm

无刷直流减速电机
BLDC GEAR MOTOR



70电机参数 70 MOTOR DATA

电机型号 Type	电压 Voltage V	额定功率 Power W	额定扭矩 Rated Torque N.m	空载转速 No load Speed r/min	空载电流 No load Current A	负载转速 Rated Speed r/min	负载电流 Rated Current A	有否 Hall(Y/N)	电机寿命 Life(Hours) H	机身长度 Length mm	内驱 Internal Drive /	电机重量 Weight g
3B30-12GN-20S	12	30	0.143	2800	< 0.9	2000	3.13	Both	> 5000	64	YES	900
3B30-24GN-20S	24	30	0.143	2800	< 0.5	2000	1.56	Both	> 5000	64	YES	900
3B30-48GN-20S	310	30	0.143	2700	< 0.25	2000	0.78	Both	> 5000	64	YES	900

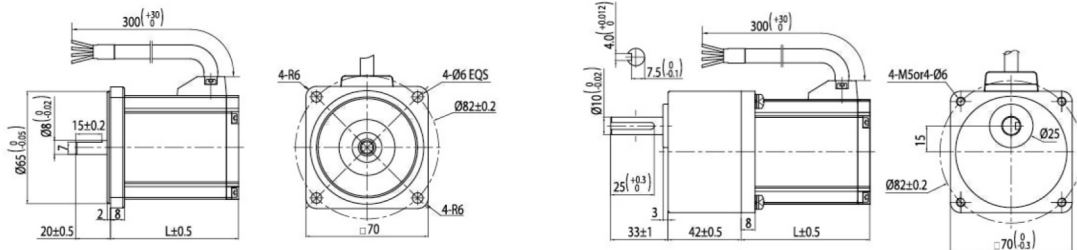
70齿轮箱 70 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200
输出轴转速 r/min Output speed	667	556	400	333	267	222	320	160	133	111	100	80	67	56	50	40	33	27	22	20	17	13	11	10
允许力矩 N.m Allowance Torque	0.34	0.41	0.58	0.69	0.86	1.04	1.16	1.45	1.74	1.88	2.08	2.61	3.13	3.75	4.17	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中 色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line				细线 Thin Line			
14# 1569				26# 1569			

无刷直流减速电机 BLDC GEAR MOTOR

80W 80mm



80电机参数 80 MOTOR DATA

电机型号 Type	电压 Voltage	额定功率 Power	额定扭矩 Rated Torque	空载转速 No load Speed	空载电流 No load Current	负载转速 Rated Speed	负载电流 Rated Current	有否 Hall(Y/N)	电机寿命 Life(Hours)	机身长度 Length	内驱 Internal Drive	电机重量 Weight
	V	W	N.m	r/min	A	r/min	A	/	H	mm	/	g
4B80-24GN-20S	24	80	0.382	2700	< 0.8	2000	4.5	Both	> 5000	70	NO	1600
4B80-48GN-20S	310	80	0.382	2600	< 0.4	2000	2.4	Both	> 5000	70	NO	1600

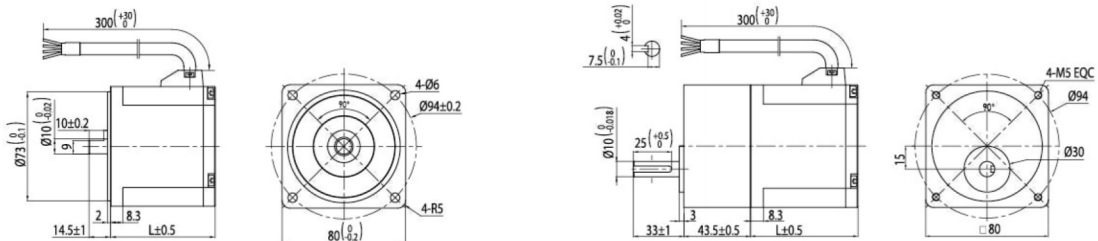
80齿轮箱 80 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200
输出轴转速 r/min Output speed	667	556	400	333	267	222	160	133	111	80	67	56	50	33	27	22	20	17	13	11	10
允许力矩 N.m Allowance Torque	0.92	1.11	1.54	1.85	2.32	2.78	3.16	4.64	5.56	6.69	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



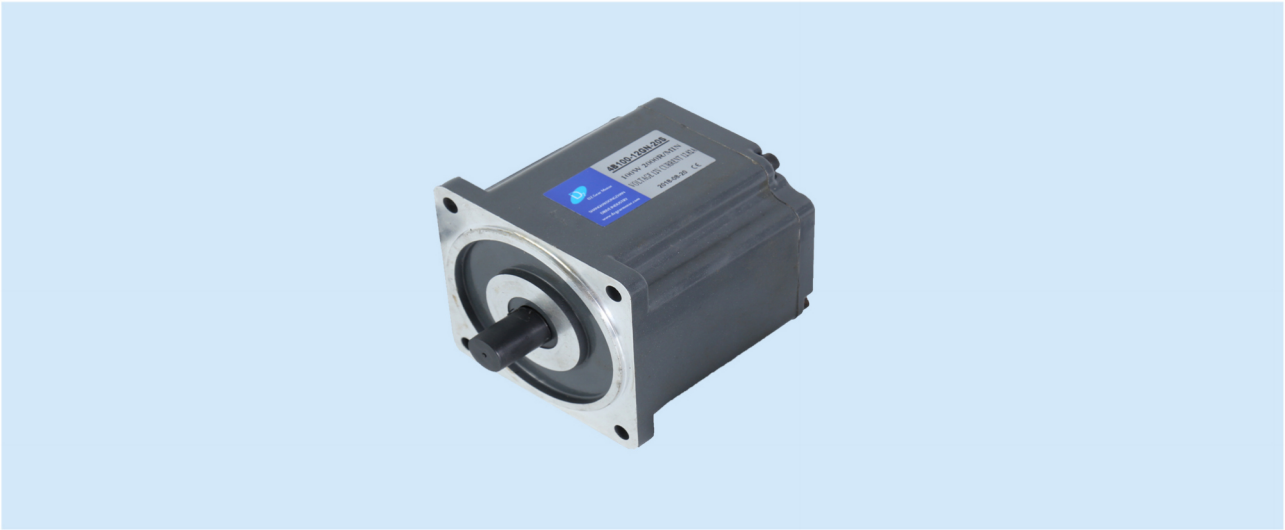
线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line 14#1569				细线 Thin Line 26#1569			

无刷直流减速电机 BLDC GEAR MOTOR

120W 90mm

无刷直流减速电机
BLDC GEAR MOTOR



90电机参数 90 MOTOR DATA

电机型号 Type	电压 Voltage	额定功率 Power	额定扭矩 Rated Torque	空载转速 No load Speed	空载电流 No load Current	负载转速 Rated Speed	负载电流 Rated Current	有否 Hall(Y/N)	电机寿命 Life(Hours)	机身长度 Length	内驱 Internal Drive	电机重量 Weight
	V	W	N.m	r/min	A	r/min	A	/	H	mm	/	g
5B120-24GN-20S	24	120	0.573	2700	< 0.8	2000	6.25	Both	> 5000	75	NO	1700
5B120-48GN-20S	310	120	0.573	2600	< 0.4	2000	3.10	Both	> 5000	75	NO	1700

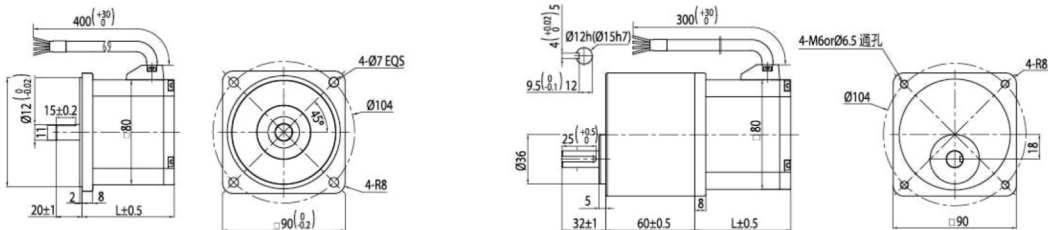
90齿轮箱 90 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200
输出轴转速 r/min Output speed	667	556	400	333	267	222	160	133	111	80	67	56	40	33	27	22	20	17	13	11	10
允许力矩 N.m Allowance Torque	1.39	1.67	2.32	2.78	3.48	4.17	5.80	6.96	7.51	10.44	12.53	15.03	18.79	20	20	20	20	20	20	20	20

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中 色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line 14# 1569				细线 Thin Line 26# 1569			

无刷直流减速电机 BLDC GEAR MOTOR

200W 90mm



90电机参数 90 MOTOR DATA

电机型号 Type	电压 Voltage	额定功率 Power	额定扭矩 Rated Torque	空载转速 No load Speed	空载电流 No load Current	负载转速 Rated Speed	负载电流 Rated Current	有否 Hall(Y/N)	电机寿命 Life(Hours)	机身长度 Length	内驱 Internal Drive	电机重量 Weight
	V	W	N.m	r/min	A	r/min	A	/	H	mm	/	g
55B200-24GN-20S	24	200	0.955	2600	< 1.0	2000	10.42	Both	> 5000	90	NO	2100
55B200-48GN-20S	310	200	0.955	2600	< 0.5	2000	5.20	Both	> 5000	90	NO	2100

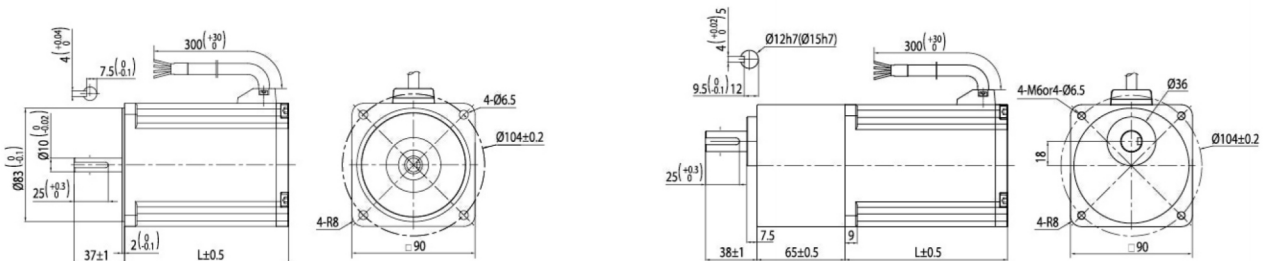
90齿轮箱 90 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	25	30	36	50	60	75	90	100	120	150	180	200
输出轴转速 r/min Output speed	667	556	400	333	267	222	200	160	133	111	80	67	56	40	33	27	22	20	17	13	11	10
允许力矩 N.m Allowance Torque	2.32	2.78	3.86	4.64	5.80	6.96	7.01	8.96	10.44	12.53	15.66	18.79	20	20	20	20	20	20	20	20	20	20

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中 色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line 14#1569				细线 Thin Line 26#1569			

无刷直流减速电机 BLDC GEAR MOTOR

300W 104mm

无刷直流减速电机
BLDC GEAR MOTOR



104电机参数 104 MOTOR DATA

电机型号 Type	电压 Voltage	额定功率 Power	额定扭矩 Rated Torque	空载转速 No load Speed	空载电流 No load Current	负载转速 Rated Speed	负载电流 Rated Current	有否 Hall(Y/N)	电机寿命 Life(Hours)	机身长度 Length	内驱 Internal Drive	电机重量 Weight
	V	W	N.m	r/min	A	r/min	A	/	H	mm	/	g
6B300-24GN-20S	24	300	1.430	2700	< 1.2	2000	15.60	Both	> 5000	90	NO	2100
6B300-48GN-20S	310	300	1.430	2600	< 0.6	2000	7.80	Both	> 5000	90	NO	2100

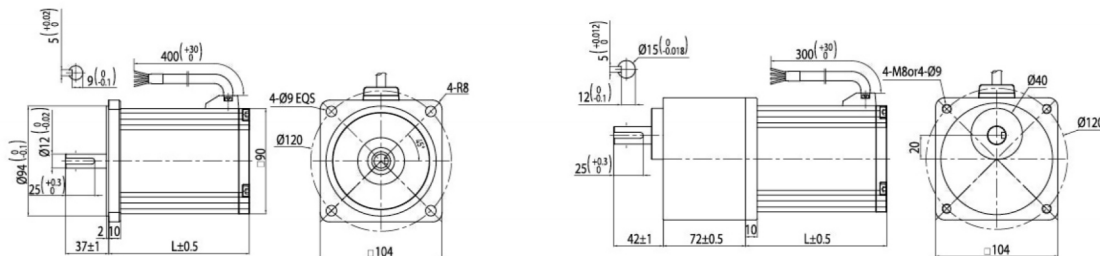
104齿轮箱 104 GEAR BOX

容许力矩单位 Allowance Torque Unit: N.m

减速比 Gear Ratio	3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	36	40	50	60	75	90	100	120	150
输出轴转速 r/min Output speed	667	556	400	333	267	222	200	160	133	111	100	80	67	56	50	40	33	27	22	20	17	13
允许力矩 N.m Allowance Torque	2.32	2.78	3.86	4.64	5.80	6.96	7.01	8.96	10.44	12.53	13.2	15.66	18.79	22.55	25.05	31.32	37.58	40	40	40	40	40

- 表中转速是以电机的平均转速为基数除以减速比而算出的数值。实际转速将随负载大小而变化，变化范围 2-20%。
- 表中 色框表示输出轴的旋转方向与电机旋转方向相反。
- 表中转矩是以电机额定转矩 × 减速比 × 传动效率计算而得。
- In the table, the speed is calculated from the base of the motor's average speed divided by the deceleration ratio. The actual speed will vary with the load, ranging from 2% to 20%.
- The box in the table indicates that the rotation direction of the output axis is opposite to that of the motor.
- Table transfer torque is calculated from motor rated torque * deceleration ratio * transmission efficiency.

尺寸图 DIMENSIONAL DRAWING



线序图 Line Sequence Diagram

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	Vcc
Yellow	Green	Blue	Black	Green	Blue	Yellow	Red
粗线 Thick Line				细线 Thin Line			
14#1569				26#1569			

BX控制器

BX Series



● 型号说明 BA SERIES EXPLANATION

BX - 1

① ②

①	BX: 铝机壳系列控制器的编号 Driver for Aluminium housing series		
	电机安装尺寸 Assembly dimension		
②	1: 12v/24vDC 有 hall/ 无 hall 通用控制器。	最高承受电流值为 8A。	12v/24vDC hall/no hall common controller. Max current 8A.
	2: 12v/48vDC 有 hall/ 无 hall 通用控制器。	最高承受电流值为 20A。	12v/48vDC hall/no hall common controller. Max current 20A.
	3: 220vAC/110vAC 有 hall 通用控制器。	最高承受电流值为 3A。	220vAC/110vAC Common controller with hall. Max current 3A.

● 订购说明 NOTE

- BX 系列产品参考国外优秀产品外形设计，是 Dz 常规通用控制器。是小众客户适合零配的产品系列。此系列产品使用方便，结构合理紧凑。BX 系列安装方式卧式安装和直立安装。
- BX 系列的防护等级为 IP20。
- BX 系列的使用寿命为 8000 小时。此寿命的定义为在目前样本册所表述的规定电流范围内，若在实际应用中超出电流范围而造成控制器问题，Dz 将不予质保。
- BX 系列的产品颜色为黑色，黑色层是通过喷塑形成黑色裹体。包装为单个包装。设计一定的承重。在运输过程中造成产品质量问题由 Dz 负责。客户需在拿到货物七天内做出快速反应。
- BX 产品的使用均在样本册规定的范围内，客户在使用前请详细阅读使用说明。保修按国家 GB 标准定义予以保修。保修期内的产品，在规定的技术条件下使用所损坏的控制器有 Dz 负责保修。七天内正确使用且损坏的控制器，Dz 无条件更换控制器。
- BC 系列的控制器均为外置系列。
- BX series is a standard common controller of us. It comes from tens of years experience in production and research. It's easy to use and have compact structure. There're 2 ways of assembly, horizontal and vertical.
- Protection class :IP20
- The life time of BX cotroller is 8000 hours which is used under specified current in our catalog. We won't take charge of the damage if customers use it in a bigger current.
- BX is black which is plastic coated. It's single package. Dz company will take charge of damage during transport. Customer needs to response the issue in 7days after they receive it.
- Customer needs to use the product according to the manual/instruction of catalog. Please read the note there carefully before you use. We support guarantee as GB rules. Dz company will change the controller for you if it fails in 7 days in right way of use.

BX SERIES

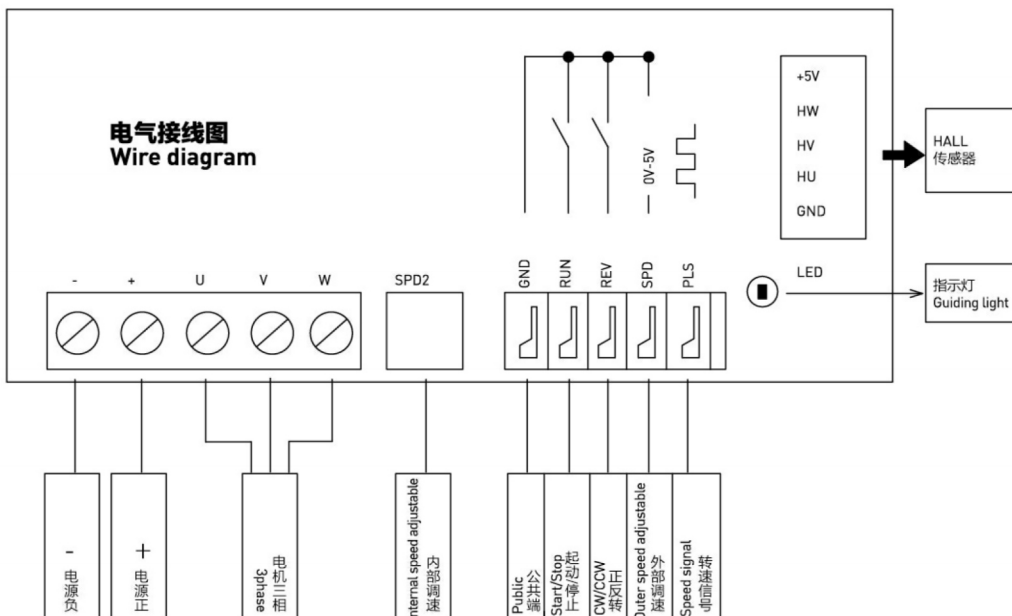
BX-1



● 12v-24vDC 8A控制板使用说明 12v-24vDC 8A CONTROL BOARD EXPLANATION

- 工作电压范围: 11V-28V。 ● 工作电流: 持续 MAX=8A (24V 供电); 过流保护值: 9A (24V 供电) ● 最高电气转速: 24 万转 (无 HALL 模式); 6 万转 (HALL 模式);
- 速度控制模式: 开环控制或闭环控制 (由板上的选择开关可设定)。 ● 调速方式 1: 内部电位器 (即 SPD2) 调速, 逆时针转动则减速, 顺时针则加速。 ● 调速方式 2: 外部电位器调速, 在 "SPD" 与 "GND" 之间加 10K-20K 的电位器; 或者在 "SPD" 端外加 0-5V 电压调速, 速度与电压值成正比。调速时, 两种方式同时起作用, 并取两者中的信号大者。若只需要调速方式 1, 则需将 "SPD" 与 "GND" 短接。若只需要调速方式 2, 则需将内部电位器逆时针转到最小。 ● 启动 / 停止: "RUN" 与 "GND" 短接即启动, 断开, 则关机。 ● 正 / 反转: "REV" 与 "GND" 短接即反转, 断开, 则正转。 ● 转速信号输出: "PLS" 为转速脉冲信号输出, 每转 (电气转速), 输出 3 个脉冲, 脉冲幅值为 +5V。(注: 转子转速与电气转速的关系: 转子转速 = 电气转速 ÷ 电机磁极对数)。 ● 保护功能: 过流保护, 过温保护, 低压或过压保护, 电机堵转保护, 启动保护等。
- Voltage: 11V-28V。 ● Current: Cont. MAX=8A (12V/24V), Current protection: 9A (12V/24V) ● Max electric speed: 240000 rpm (no HALL); 60000rpm (HALL);
- Speed control model: open loop or close loop control (switch to select) ● Speed adjustable way: 1. Internal potentiometer (spd2), reduce speed by rotating ccw and increase in CW.
- Speed adjustable way 2: Outer potentiometer. Add a potentiometer between "SPD" and "GND", or add a 0~5v power supply to adjust speed outer of "SPD". It's linear between speed and voltage. Normally, we select 1 which has a better result from above 2 ways. Please make a short circuit between "SPD" and "GND" if need way 1 only. If need way 2 only, please rotate internal potentiometer to minimum in CCW. ● Start/Stop: Start if make a short circuit between "RUN" and "GND". Stop if open. ● CW/CCW: CCW if make a short circuit between "REV" and "GND". CW if open. ● Speed signal: "PLS" is pulse output. 3 pulse 1rpm. Pulse amplitude is +5V. (Note: Rotor speed = electric speed / poles (pairs)) ● Protection function: Current protection, thermal protection, voltage protection, motor stall protection, starting protection, etc.

● 接线 Connection: EMBED AutoCAD.Drawing.16。



注：当使用 HALL 模式（适于传感器为 120° 相位）时，由于 HALL 三相的接线必须要与电机的三相接线相对应，故可先接好 HALL 的 5 根线（+5V 和地 GND 不可接错），然后接电机的三相线，若工作不正常，则更改电机线的接线组合，共用 6 种组合，总有一种组合是对的。上电时，控制器自动识别有无 HALL 模式，当检查到 HALL 线已接好，则按 HALL 模式工作，否则按无 HALL 模式工作。

Note: When use Hall model (suitable for 120° phase of sensor) You need to connect 5 wires of HALL first (don't make wrong connection of +5v and GND) and then connect 3 wires of motor, as 3 phase of Hall and 3 phase of motor must correspond to each other. If motor works abnormally, please modify connection of motor wire, 6 connections totally. When power on, controller will recognize if has a hall or not. In case Hall wire is connected, motor works in Hall model, or works without Hall.

●故障指示：当出现异常情况时，指示灯会闪烁显示，闪烁不同次数，对应不同故障，具体如下：

Failure indication: Guiding lights explanation.

指示灯闪烁次数 Flashing times	检查内容 Item failure	故障原因 Reason
1次 1	过流 Current	电机工作电流过大 Too big current
2次 2	电压异常 Voltage	电压过低或过高 Voltage is too low or too high
3次 3	MOS管过温 Temp. of MOS pipe	功率管温度超过110℃ Temperature of power tube is above 110℃
4次 4	起动失败 Start issue	电机不能正常起动 Can't start normally
5次 5	硬件故障 Hardware issue	MOS管损坏或驱动IC损坏 MOS tube is broken or IC of driver is broken
6次 6	电机缺相 Phase lost	电机三相未接好或某相断开 Connection of motor wire issue

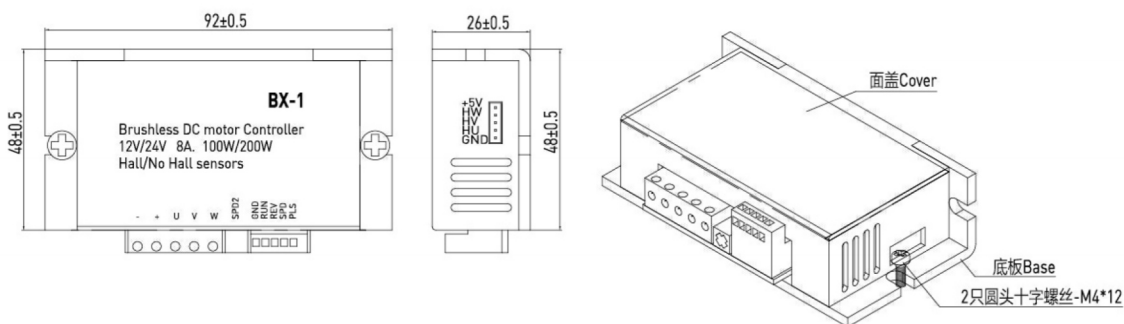
注意事项：电源正负不可接反，否则会烧控制器！

Note: Please don't cross connection of + and - wire. Or controller is burnt down.

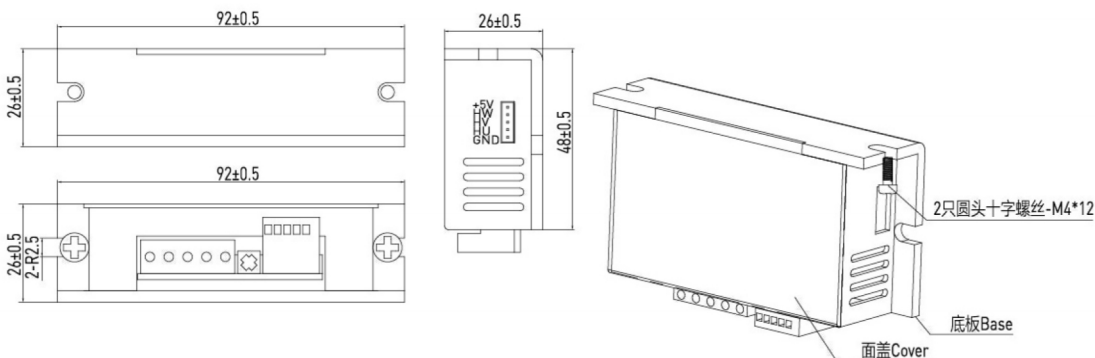
●图示说明：

Picture explanation

卧式安装：(2只圆头十字螺丝-M4*12)
Horizontal Assembly



立式安装：(2只圆头十字螺丝-M4*12)
Vertical Assembly



BX SERIES

BX-2

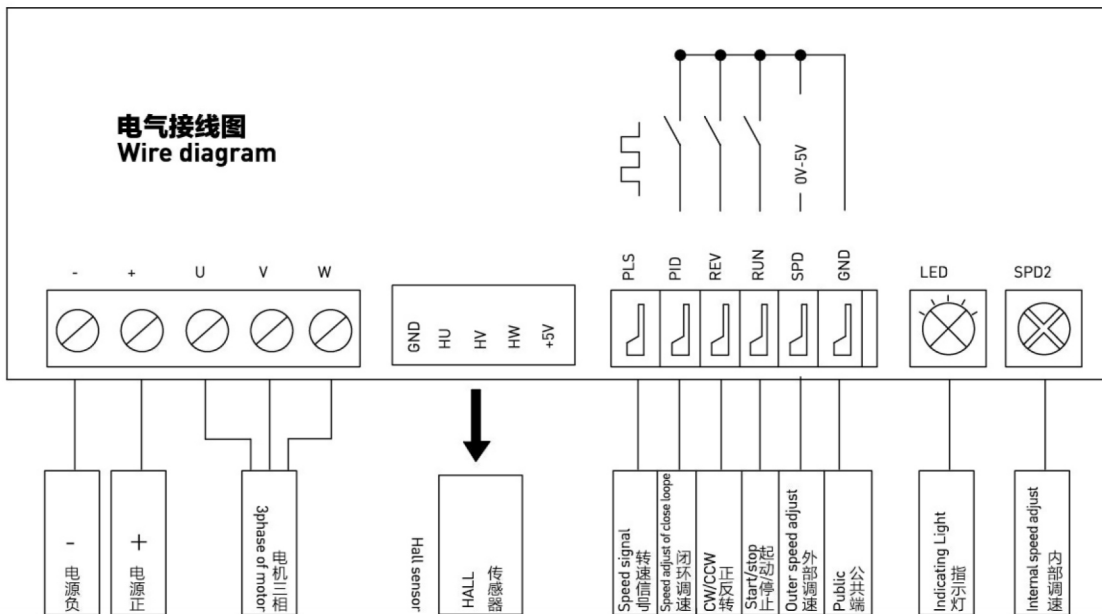


● 12v-48vDC 20A控制板使用说明 12v-48vDC 20A CONTROL BOARD EXPLANATION

● 工作电压范围：11V-55V。● 工作电流：持续 MAX=20A (24V 供电)；过流保护值：25A (24V 供电) ● 最高电气转速：24 万转 (无 HALL 模式)；6 万转 (HALL 模式)；
 ● 速度控制模式：开环控制或闭环控制 (可设定)。● 调速方式 1：内部电位器 (即 SPD2) 调速，逆时针转动则减速，顺时针则加速。● 调速方式 2：外部电位器调速，在 "SPD" 与 "GND" 之间加 10K-20K 的电位器；或者在 "SPD" 端外加 0-5V 电压调速，速度与电压值成正比。调速时，两种方式同时起作用，并取两者中的信号大者。若只需要调速方式 1，则需将 "SPD" 与 "GND" 短接。若只需要调速方式 2，则需将内部电位器逆时针转到最小。● 启动 / 停止："RUN" 与 "GND" 短接即启动，断开，则关机。● 正 / 反转："REV" 与 "GND" 短接即反转，断开，则正转。● 转速信号输出："PLS" 为转速脉冲信号输出，每转 (电气转速)，输出 3 个脉冲，脉冲幅值为 +5V。(注：转子转速与电气转速的关系：转子转速 = 电气转速 ÷ 电机磁极对数)。● 保护功能：过流保护，过温保护，低压或过压保护，电机堵转保护，启动保护等。

● Voltage: 11V-55V. ● Current: Cont. MAX=20A (24V), Current protection: 25A (24V) ● Max electric speed: 240000 rpm (no HALL); 60000rpm (HALL); ● Speed control model: open loop or close loop control(can set) ● Speed adjustable way: 1.Internal potentiometer(spdp2), reduce speed by rotating ccw and increase in CW. ● Speed adjustable way 2: Outer potentiometer. Add a potentiometer of 10K-20K between "SPD"and "GND", or add a 0~5v power supply to adjust speed outer of "SPD". It's linear between speed and voltage. Normally, we select 1 which has a better result from above 2 ways. Please make a short circuit between "SPD"and "GND" if need way 1 only. If need way 2 only, please rotate internal potentiometer to minimum in CCW. ● Start/Stop: Start if make a short circuit between "RUN" and "GND". Stop if open. ● CW/CCW: CCW if make a short circuit between "REV" and "GND". CW if open. ● Speed signal: "PLS" is pulse output. 3 pulse 1rpm. Pulse amplitude is +5V.(Note: Rotor speed = electric speed/poles(pairs)) ● Protection function: Current protection, thermal protection, voltage protection, motor stall protection,starting protection, etc.

● 接线 Connection: EMBED AutoCAD.Drawing.16。



注：当使用 HALL 模式（适于传感器为 120° 相位）时，由于 HALL 三相的接线必须要与电机的三相接线相对应，故可先接好 HALL 的 5 根线（+5V 和地 GND 不可接错），然后接电机的三相线，若工作不正常，则更改电机线的接线组合，共用 6 种组合，总有一种组合是对的。上电时，控制器自动识别有无 HALL 模式，当检测到 HALL 线已接好，则按 HALL 模式工作，否则按无 HALL 模式工作。

Note: When use Hall model (suitable for 120° phase of sensor) You need to connect 5 wires of HALL first (don't make wrong connection of +5v and GND) and then connect 3 wires of motor, as 3 phase of Hall and 3 phase of motor must correspond to each other. If motor works abnormally, please modify connection of motor wire, 6 connections totally. When power on, controller will recognize if has a hall or not. In case Hall wire is connected, motor works in Hall model, or works without Hall.

●故障指示：当出现异常情况时，指示灯会闪烁显示，闪烁不同次数，对应不同故障，具体如下：

Failure indication: Guiding lights explanation.

指示灯闪烁次数 Flashing times	检查内容 Item failure	故障原因 Reason
1次 1	过流 Current	电机工作电流过大 Too big current
2次 2	电压异常 Voltage	电压过低或过高 Voltage is too low or too high
3次 3	MOS管过温 Temp. of MOS pipe	功率管温度超过110℃ Temperature of power tube is above 110℃
4次 4	起动失败 Start issue	电机不能正常起动 Can't start normally
5次 5	硬件故障 Hardware issue	MOS管损坏或驱动IC损坏 MOS tube is broken or IC of driver is broken
6次 6	电机缺相 Phase lost	电机三相未接好或某相断开 Connection of motor wire issue

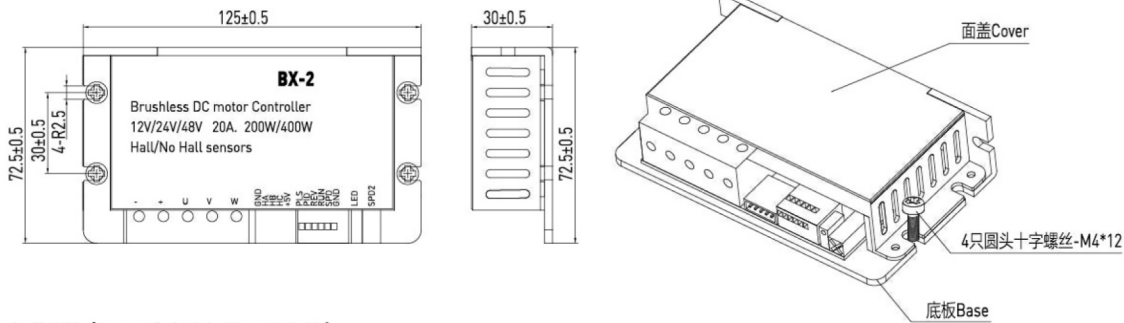
注意事项：电源正负不可接反，否则会烧控制器！

Note: Please don't cross connection of + and - wire. Or controller is burnt down.

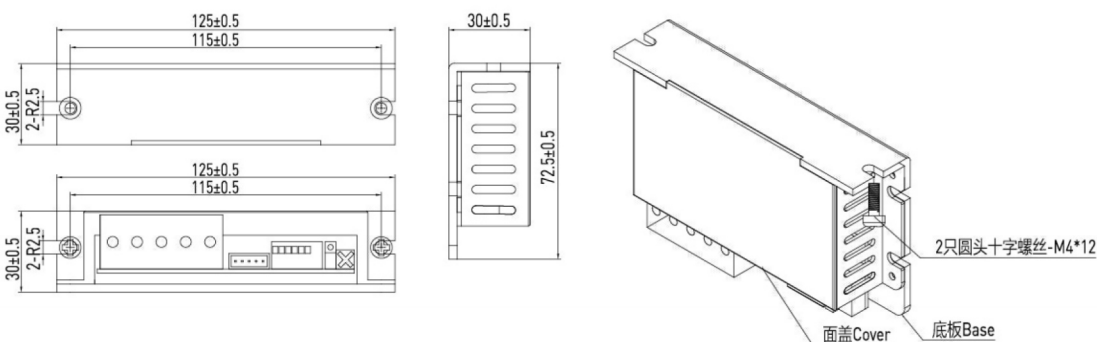
●图示说明：

Picture explanation

**卧式安装:(4只圆头十字螺丝-M4*12)
 Horizontal Assembly**



**立式安装:(2只圆头十字螺丝-M4*12)
 Vertical Assembly**



BX SERIES BX-3

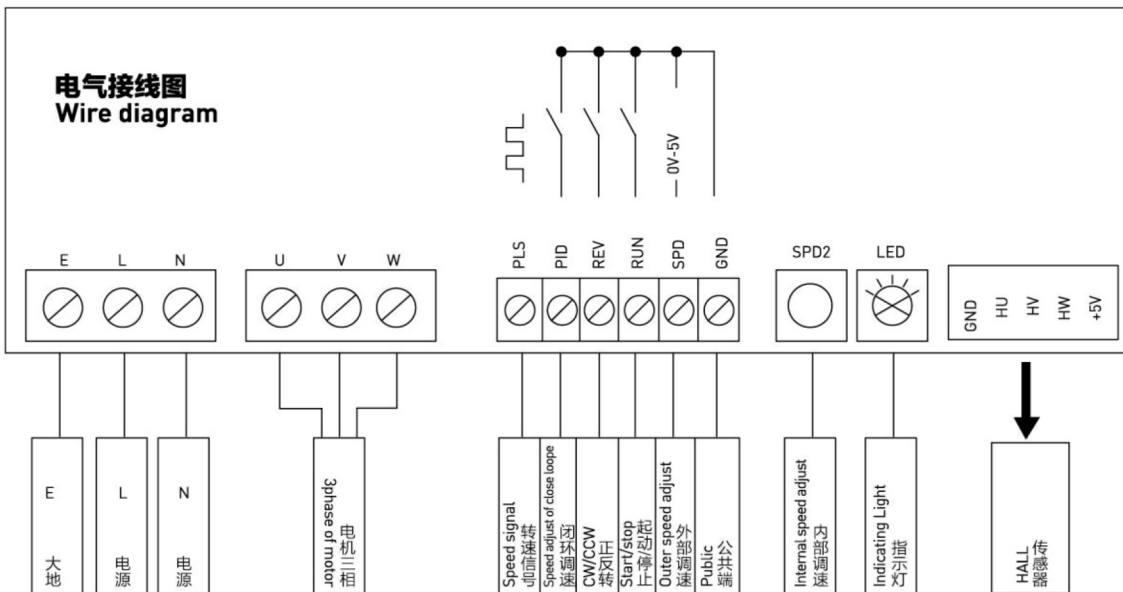


● 110-220vAC 3A控制板使用说明 110-220vAC 3A CONTROL BOARD EXPLANATION

● 工作电压范围：80VAC-230VAC，或 90VDC-320VDC。交直流通用，110VAC 兼容。● 工作电流：持续 MAX=3A（220VAC 供电）；过流保护值：3.5A（220VAC 供电）● 最高电气转速：24 万转（无 HALL 模式）；6 万转（HALL 模式）。● 速度控制模式：开环控制或闭环控制（可设定）。● 调速方式 1：板上电位器（即 SPD2）调速，逆时针转动则减速，顺时针则加速。● 调速方式 2：外部电位器调速，在“SPD”与“GND”之间加 10K-20K 的电位器；或者在“SPD”端外加 0-5V 电压调速，速度与电压值成正比。调速时，两种方式同时起作用，并取两者中的信号大者。若只需要调速方式 1，则需将“SPD”与“GND”短接。若只需要调速方式 2，则需将内部电位器逆时针转到最小。● 启动 / 停止：“RUN”与“GND”短接即启动，断开，则关机。● 正 / 反转：“REV”与“GND”短接即反转，断开，则正转。● 转速信号输出：“PLS”为转速脉冲信号输出，每转（电气转速），输出 3 个脉冲，脉冲幅值为 +5V。（注：转子转速与电气转速的关系：转子转速 = 电气转速 ÷ 电机磁极对数）。● 保护功能：过流保护，过温保护，低压或过压保护，电机堵转保护，起动保护等。

● Voltage: 80VAC-230VAC, or 90VDC-320VDC. Compatible AC110VAC ● Current: Cont. MAX=3A (220V), Current protection: 3.5A (220V) ● Max electric speed: 240000 rpm (no HALL); 60000rpm (HALL); ● Speed control model: open loop or close loop control (switch to select) ● Speed adjustable way: 1. Internal potentiometer (spd2), reduce speed by rotating ccw and increase in CW. ● Speed adjustable way 2: Outer potentiometer. Add a potentiometer which is 10K-20K between "SPD" and "GND", or add a 0~5v power supply to adjust speed outer of "SPD". It's linear between speed and voltage. Normally, we select a way which has a better result from above 2 ways. Please make a short circuit between "SPD" and "GND" if need way 1 only. If need way 2 only, please rotate internal potentiometer to minimum in CCW. ● Start/Stop: Start if make a short circuit between "RUN" and "GND". Stop if open. ● CW/CCW: CCW if make a short circuit between "REV" and "GND". CW if open. ● Speed signal output: "PLS" is pulse output. 3 pulse 1rpm (electric speed). Pulse amplitude is +5V. (Note: Rotor speed = electric speed / poles (pairs)) ● Protection function: Current protection, thermal protection, voltage protection, motor stall protection, starting protection, etc.

● 接线: Connection



注：当使用 HALL 模式（适于传感器为 120° 相位）时，由于 HALL 三相的接线必须要与电机的三相接线相对应，故可先接好 HALL 的 5 根线（+5A 和地 GND 不可接错），然后接电机的三相线，若工作不正常，则更改电机线的接线组合，共用 6 种组合，总有一种组合是对的。上电时，控制器自动识别有无 HALL 模式，当检查到 HALL 线已接好，则按 HALL 模式工作，否则按无 HALL 模式工作。

Note: When use Hall model (suitable for 120° phase of sensor) You need to connect 5 wires of HALL first (don't make wrong connection of +5v and GND) and then connect 3 wires of motor, as 3 phase of Hall and 3 phase of motor must correspond to each other. If motor works abnormally, please modify connection of motor wire, 6 connections totally. When power on, controller will recognize if has a hall or not. In case Hall wire is connected, motor works in Hall model, or works without Hall.

●故障指示，当出现异常情况时，指示灯会闪烁显示，闪烁不同次数，对应不同故障，具体如下：
 Failure indication: Guiding lights explanation.

指示灯闪烁次数 Flashing times	检查内容 Item failure	故障原因 Reason
1次 1	过流 Current	电机工作电流过大 Too big current
2次 2	电压异常 Voltage	电压过低或过高 Voltage is too low or too high
3次 3	MOS管过温 Temp. of MOS pipe	功率管温度超过110℃ Temperature of power tube is above 110℃
4次 4	起动失败 Start issue	电机不能正常起动 Can't start normally
5次 5	硬件故障 Hardware issue	MOS管损坏或驱动IC损坏 MOS tube is broken or IC of driver is broken
6次 6	电机缺相 Phase lost	电机三相未接好或某相断开 Connection of motor wire issue

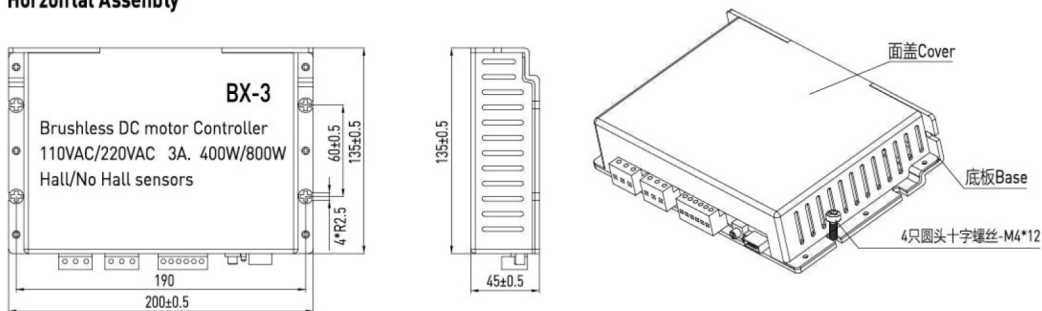
注意事项：电源正负不可接反，否则会烧控制器！

Note: Please don't cross connection of + and - wire. Or controller is burnt down.

●交流两用：电源 L、电源 N 可以接交流输入，也可以接直流输入（不分极性）
 Compatible for AC and DC: Power L and N can accept AC power and DC power (no polarity)

●安装图示说明：Assembly way

卧式安装：(4只圆头十字螺丝-M4*12)
Horizontal Assembly



立式安装：(2只圆头十字螺丝-M4*12)
Vertical Assembly

