

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	
②	电机安装尺寸 Assembly dimension	
	1: 12v/24v有hall/无hall通用控制器。最高承受电流值为8A	12v/24v hall/no hall common controller. Max current 8A.
	2: 12v/24v有hall/无hall通用控制器。最高承受电流值为20A	12v/24v 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/110v AC 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BLDC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，BLDC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BLDC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BLDC负责保修。七天内正确使用且损坏的控制器，BLDC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. BLDC 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.BLDC company will change the controller for you if it fails in 7 days in right way of use.

BX SERIES BX-1

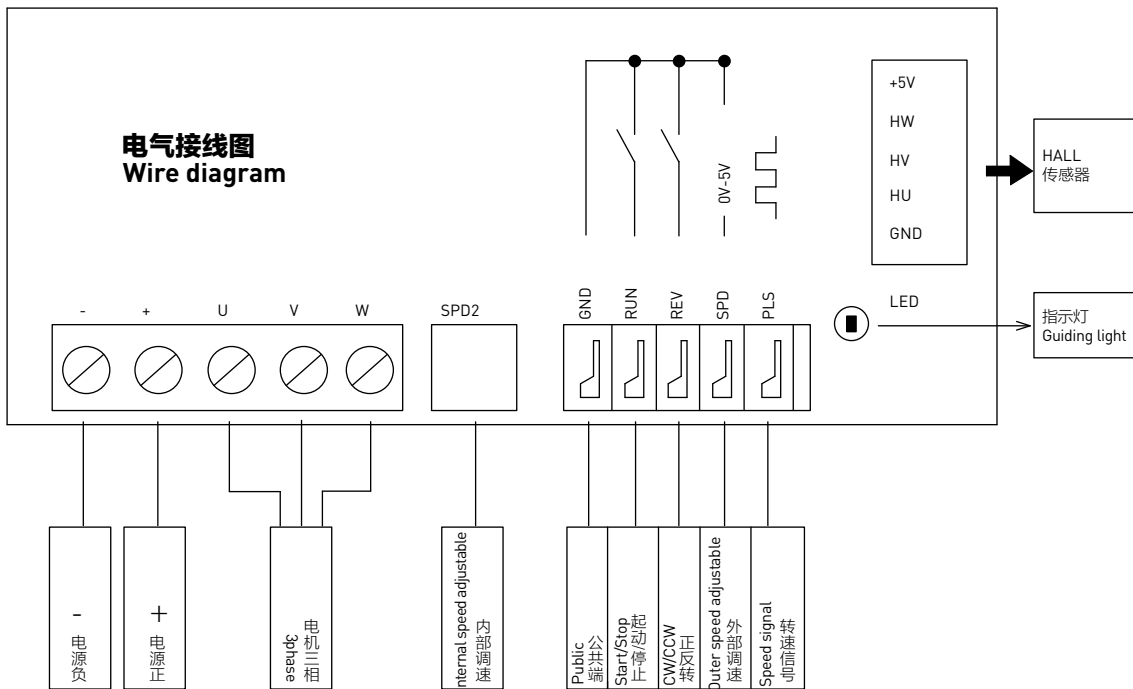


12V/24V 8A控制板使用说明 12V/24V 8A CONTROL BOARD EXPLANATION

►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	启动失败 Start issue	电机不能正常启动 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

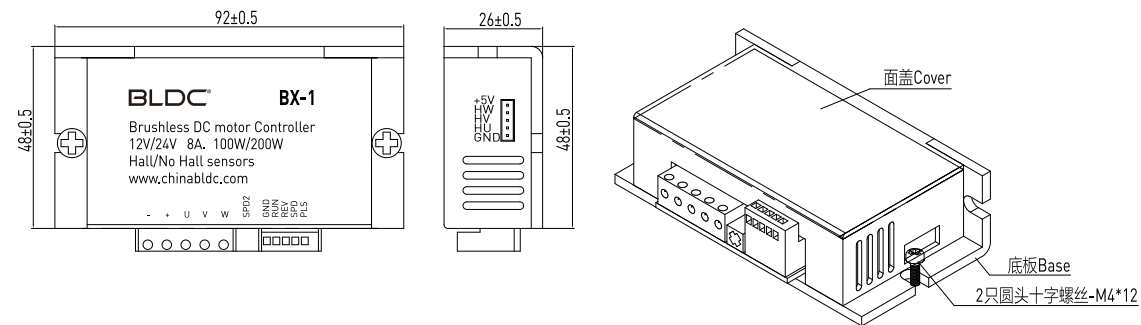
►注意事项：电源正负不可接反，否则会烧控制器！！

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

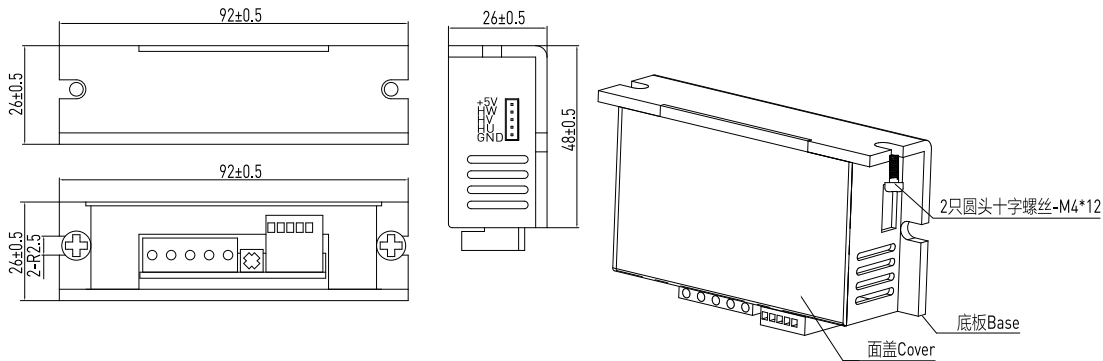
►图示说明：

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

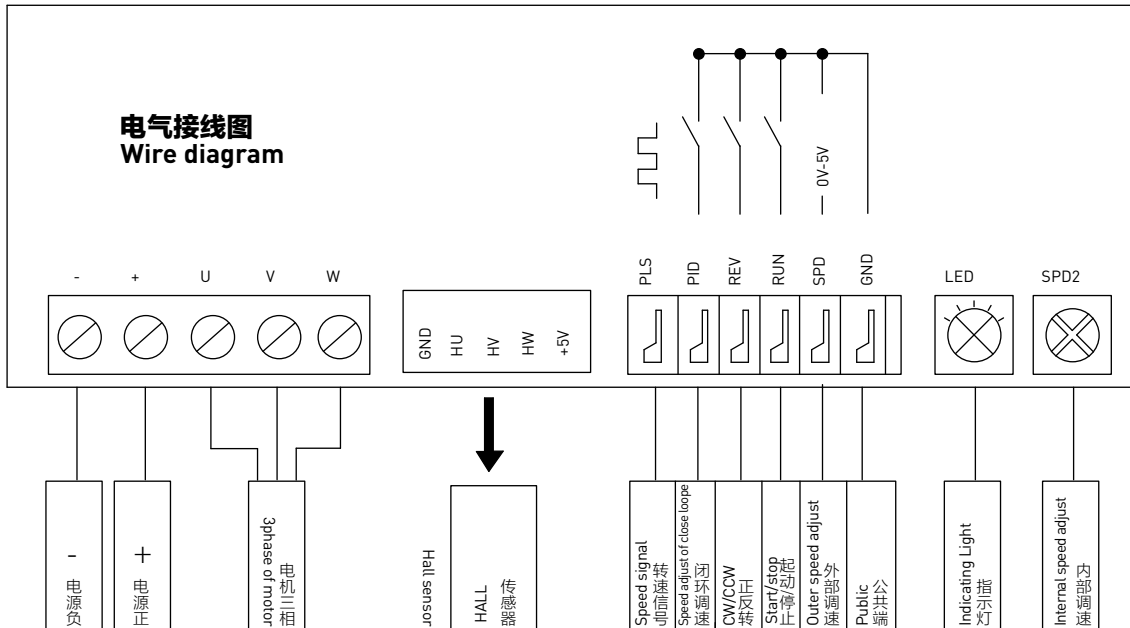


12V-48V 20A控制板使用说明 12V-48V 20A CONTROL BOARD EXPLANATION

►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(sp2), 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 3phase 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
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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

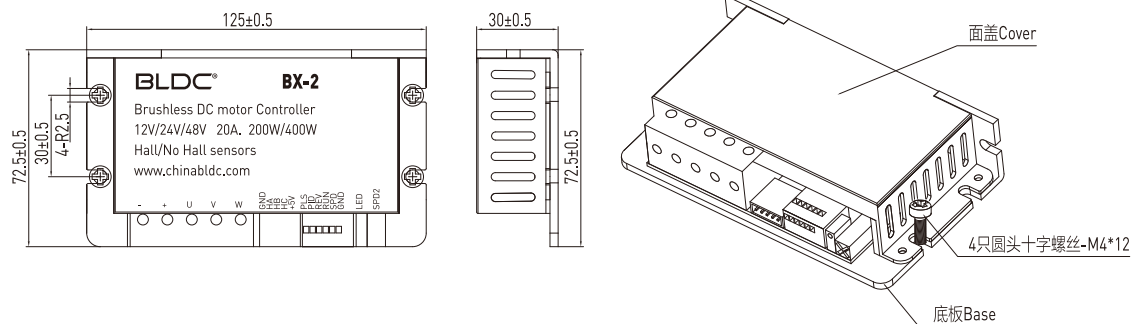
►注意事项：电源正负不可接反，否则会烧控制器！！

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

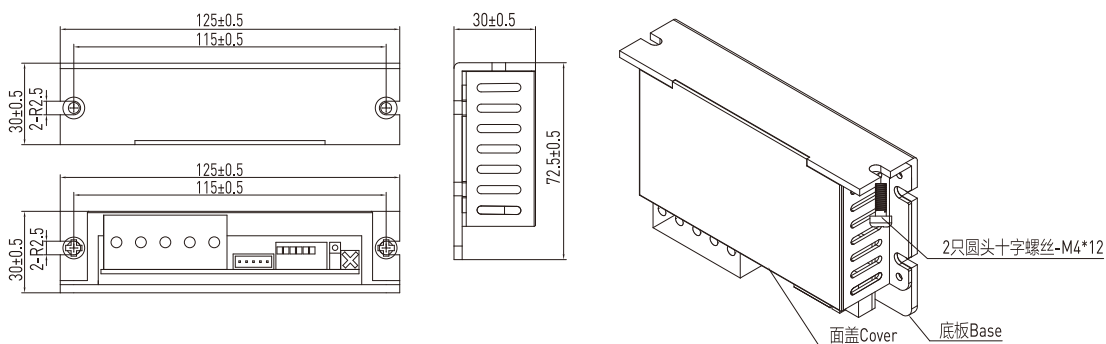
►图示说明：

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

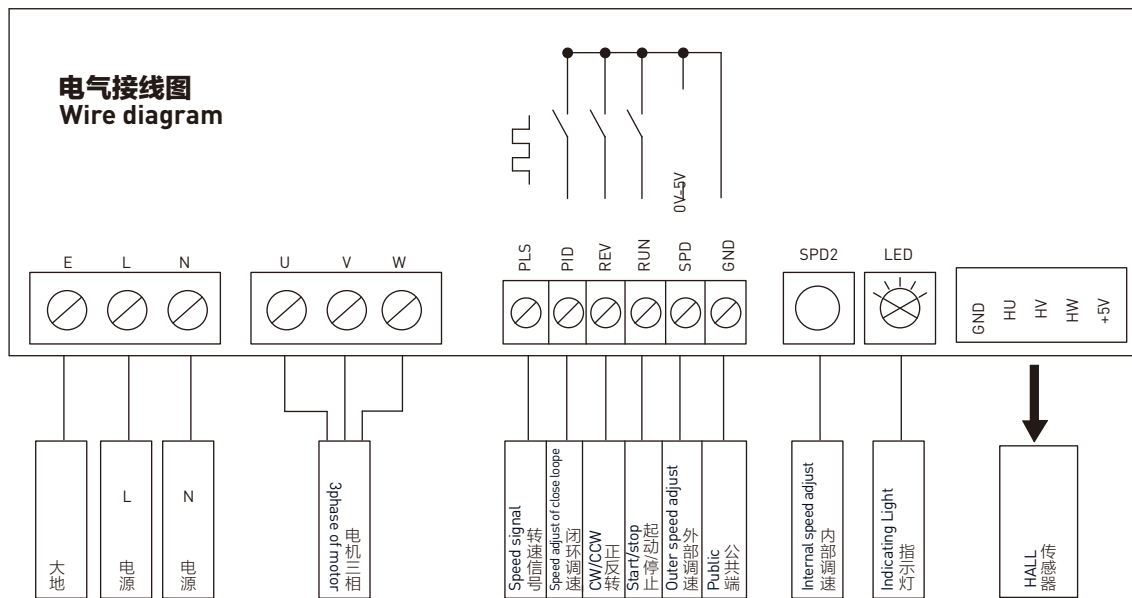


110V 220VAC 3A控制板使用说明 110V 220VAC 3A CONTROL BOARD EXPLANATION

►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 3phase 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.

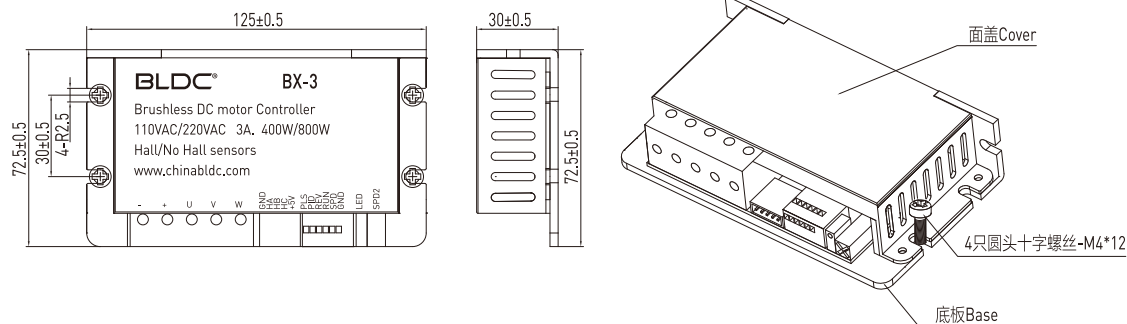
指示灯闪烁次数 Flashing times	检查内容 Item failure	故障原因 Reason
1次 1	过流 Current	电机工作电流过大 Too big current
2次 2	电压异常 Voltage	电压过低或过高 Voltage is too low or too high
3次 3	MOS管过温 Temp. of pipe	功率管温度超过110℃ Temperature of power tube is above
4次 4	起动失败 Start issue	电机不能正常起动 Can't start normally
5次 5	硬件故障 Hardware issue	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

►交直流两用：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

