

## GBL-D03 通用型直流无刷电机驱动器 GBL-D03 Universal Brushless DC Motor Driver

### 产品特点 Product Features

- 可驱动小于 70W 无刷电机
- 拥有刹车、正反转切换等功能
- 拥有过温、过流、霍尔错误保护功能
- 可使用内部电位器调速
- 可使用外部电位器调速
- 可使用外部模拟电压调速
- 尺寸小巧，易于安装
- Can drive less than 70W brushless motor
- With brake, positive and negative rotation switching and other functions
- Have over temperature, over current, hall error protective function
- Speed adjustment using internal potentiometer
- Speed adjustment using external potentiometer
- Adjustable speed with external analog voltage
- Compact size, easy to install



### 产品规格 Product Specification

项目 Item	单位 Units	参数 Parameters
输入电压 Input voltage	VDC	最小值 12; 典型值 24; 最大值 30 Minimum value: 12; Typical value: 24; maximum: 30
输出电流 Output current	A	3
过压保护 Over voltage protection	VDC	30
欠压保护 Under voltage protection	VDC	12
外接电位器 External potentiometer	kΩ	10
输入模拟量电压 Input analog voltage	VDC	5
速度控制范围 Speed control range	RPM	20000

### 功能选择设定 Function Selection Settings

#### • 刹车设定

刹车功能出厂设定时将 BRK 端和 DC- 端相连，在电机运行时，通过连接或断开 BRK 端和 DC- 端的连接线可控制电机的运行和停止。BRK 端和 DC- 端连接时，电机运行，反之电机停止运行。

#### • 正反转设定

正反转切换功能出厂设定是 F/R 与 DC- 断开，当接通电源时，通过调节电位器，驱动器 GBL-D03 便能带动电机顺时针运转，通过在 F/R 与 DC- 之间接入开关或 PLC 控制开关即可实现电机的正反转运行切换。当断开 F/R 端和 DC- 端的连接线时，电机顺时针运转；当连接 F/R 端和 DC- 端的连接线时，电机逆时针运转。

#### • Brake set

When the brake function is factory set, the BRK port is connected to the DC- port. When the motor is running, the operation and stopping of the motor can be controlled by connecting or disconnecting the connection wires between the BRK port and the DC- port. When BRK port and DC- port are connected, the motor runs, otherwise the motor stops running.

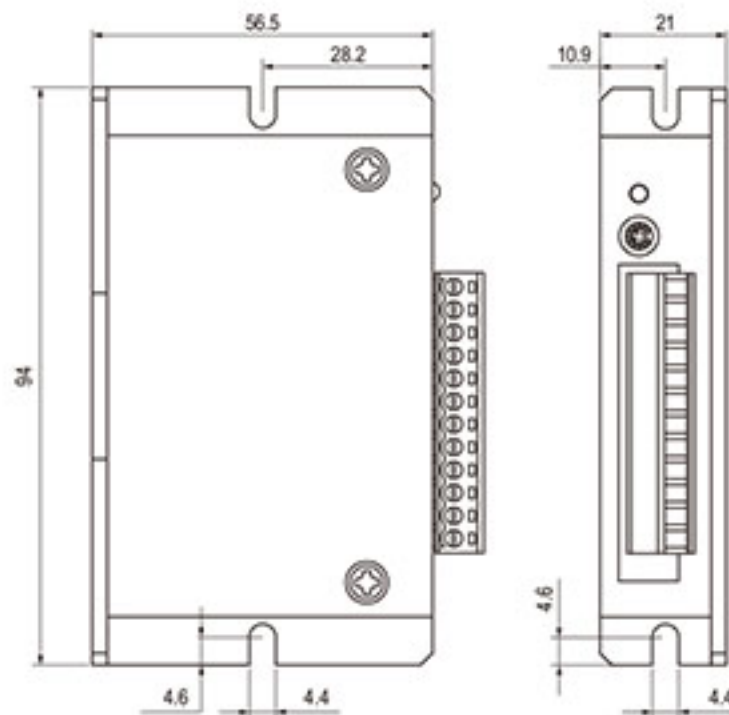
#### • Forward and backward rotation setting

Forward and backward rotation function is factory set F/R and DC- disconnect, when switched on, by adjusting the potentiometer, drive GBL-D03 can drive the motor clockwise operation, through the access switch between F/R with DC- or PLC control switch, the motor can be realized in forward and backward rotation operation, when disconnecting the F/R port and DC- port connecting line, motor clockwise; When connecting the connection wire between the F/R port and the DC- port, the motor runs in reverse rotation.

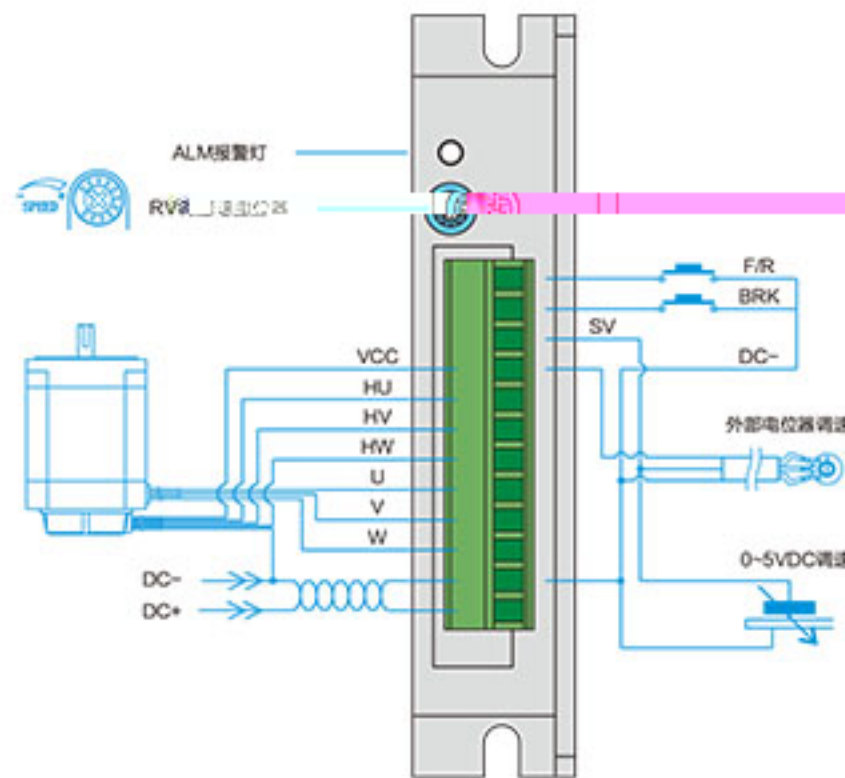
■ 端口信号说明 Port Signal Specification

CN5 端子编号 CN5 Terminal Number	信号种类 Signal types	信号说明 Signal instructions
F/R	控制信号 Control signal	电机转动方向控制端口, F/R端口与 DC- 端口断开电机为顺时针转动, 短接闭合为逆时针转动 Motor rotation direction control port, F/R port and dc-port disconnect motor for clockwise rotation, short connection closure for counterclockwise rotation
BRK		电机快速刹车信号端口, BRK 端口与 DC- 端口断开电机为快速刹车, 短接闭合为正常运行 Motor fast brake signal port, BRK port and DC-port disconnect motor fast brake, short closure for normal operation
SV		调速信号输入端口, 外部电位器调速时中间引出端连接此处, 两侧分别接 VCC 与 DC- 端口 Speed regulating signal input port, the middle outlet end is connected here when the external potentiometer speed regulating, and VCC and DC-port are connected on both sides
VCC		外部电位器电源端口 (霍尔电源正极在此端口共用) External potentiometer power port (hall power positive pole is Shared on this port)
HU	霍尔信号 Hall signal	直流无刷电机霍尔信号 HU DC brushless motor hall signal HU
HV		直流无刷电机霍尔信号 HV DC brushless motor hall signal HV
HW		直流无刷电机霍尔信号 HW DC brushless motor hall signal HW
U	电机连接 Motor connection	直流无刷电机 U 相 DC brushless motor U phase
V		直流无刷电机 V 相 DC brushless motor V phase
W		直流无刷电机 W 相 DC brushless motor W phase
DC-	电源连接 Power connection	直流电源接入负极 (霍尔电源负极在此端口共用) DC power access anode (hall power anode is Shared on this port)
DC+		直流电源接入正极 (电压范围: 12-30VDC) DC power access anode (voltage range: 12-30VDC)

■ 外形尺寸 Overall Dimensions



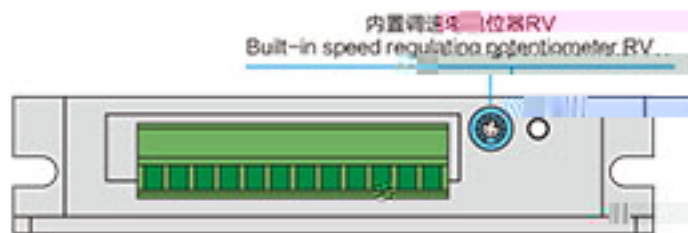
### 驱动器功能配置图 Drive Function Configuration Diagram



#### • 内置电位器调速控制 Built-in potentiometer speed control

内置电位器调速控制，使用内置电位器 RV 调速时，顺时针旋转电位器 RV，电机速度增大；逆时针旋转电位器，电机速度减小；当使用其它速度模式，请逆时针旋转至极限位置。

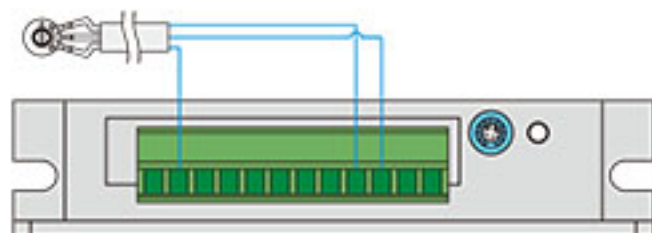
Built-in potentiometer speed control, when using built-in potentiometer RV speed control, clockwise rotation of the potentiometer RV, the motor speed increases; Rotate the potentiometer counterclockwise, the motor speed decreases; When using other speed modes, rotate counterclockwise to the limit position.



#### • 外部电位器调速控制 External potentiometer speed control

外部电位器调速控制，使用外置电位器调速时，请使用 10kΩ 的适合电位器，电位器中间引线端连接驱动器 SV 端口，两侧引出线分别连接 VCC 与 DC- 端口。

External potentiometer speed regulation control, use the external potentiometer control, please use the 10kΩ for potentiometer, potentiometer middle pins connect drive SV port, on both sides of the pinout VCC and DC- port, respectively.



#### • 外部模拟电压调速控制 External analog voltage speed control

当调速模式为外部模拟电压时，输入电压可为 0~5V 进行转速控制，当输入电压大约为 0.25V 时，电机转速为最高转速的 5%；当输入电压大约为 4.7V 时，电机转速为最大值，最高速度值取决于电机规格和电源电压。

When the speed regulation mode is external analog voltage, the input voltage can be 0~5V for speed control. When the input voltage is about 0.25V, the motor speed is 5% of the maximum speed. When the input voltage is about 4.7V, the motor speed is the maximum value, and the maximum speed value depends on the motor specification and the supply voltage.

