

Model	Temp Range	Voltage Range (VDC)	Peak Current	Continuous Current	PWM f(kHz)
BLSD48100DC-2Q-H-X	-10~+45	37~56	50~100	25~50	15

- √ - 60° or 120° Hall Sensor
- √ - PI Close loop of speed
- √ - Low Voltage / Over Voltage
- √ - Alarm
- √ - PI Close loop of current
- √ - Safe Start
- √ - Safe F/R

Technical Notes:

### 1. Control signals:

F/R—H or Open=Forward, L or Close=Reverse  
 EN—H or Open=Disable, L or Close=Enable  
 BK—H or Open=Running, L or Close=Brake  
 SV—0~5V speed reference(112K input resistance)  
 PG—Speed pulse output(OC)  
 ALM—Alarm output(OC)

### 2. Signal wire:

Control signal cable and hall sensors cable can not be tied together with windings cable, otherwise, it will take interference. The long wire should be shielded wire.

### 3. Alarm conditions:

- a. Hall sensor signals are not correct.
- b. LV or OV for 1~3S.
- c. Short circuit and Over temperature of case (80°C)..
- d. Over load for 5~6s continuously.
- e. It can be reset by Turn-Off-On DC Power or Disable the driver once.

### 4. LED indicator:

SC—Bright=Short circuit , Dark=driver is OK  
 P/A—Bright=Driver is OK, Blink=Driver is in alarm  
 SHAFT—Bright=Motor shaft is moving, Dark=Motor shaft is in static

### 5. Braking operation:

The motor speed must be less than the safe brake speed  $N_s$  when you brake the motor.

For Y windings,  $N_s = \sqrt{3} \times I_p \times R_L \times N / (2 \times V_p)$

For  $\Delta$  windings,  $N_s = I_p \times R_L \times N / (2 \times \sqrt{3} \times V_p)$

$I_p$ =Peak current(A),  $R_L$ =Line to line resistance of windings(Ohm)  
 $N$ =No-load speed(rpm),  $V_p$ =Rated voltage(V),  $N_s$ =Safe brake speed(rpm)

### 6. Safe F/R:

If you change F/R of the driver rapidly, it will stop the power stage and motor will be free until the speed is detected as zero, and then to drive in correct direction. This means smooth reverse.

### 7. Safe start:

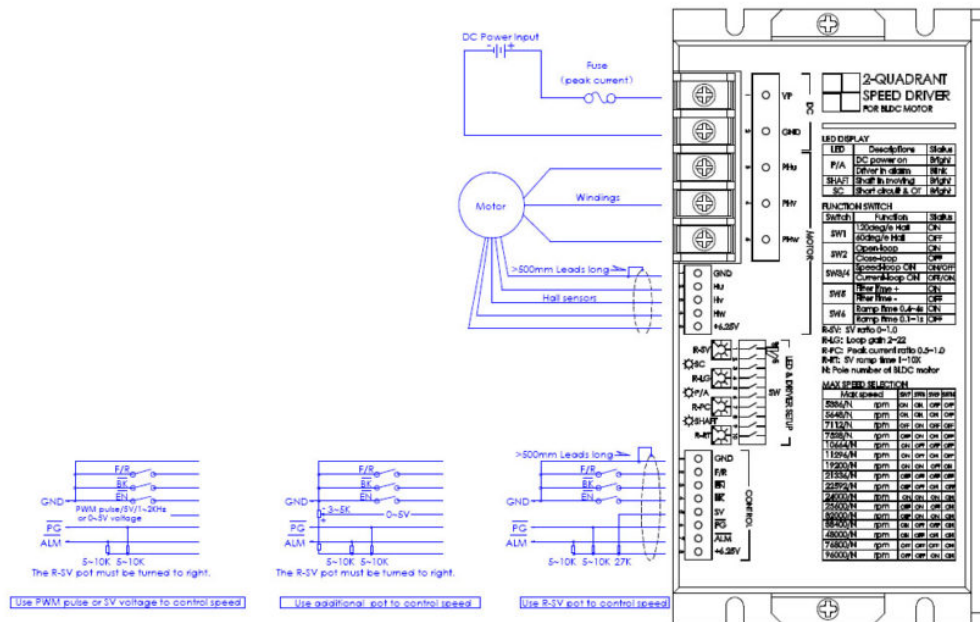
If the motor speed is not detected as zero at power on, the driver will be free until the motor speed is zero.

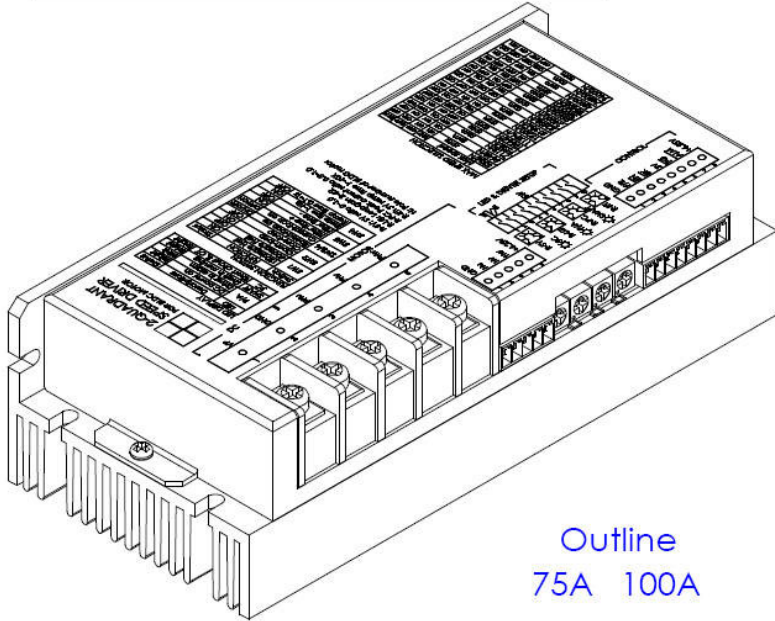
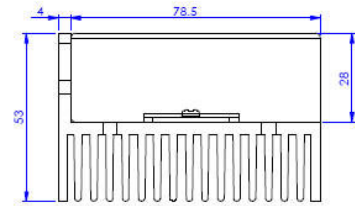
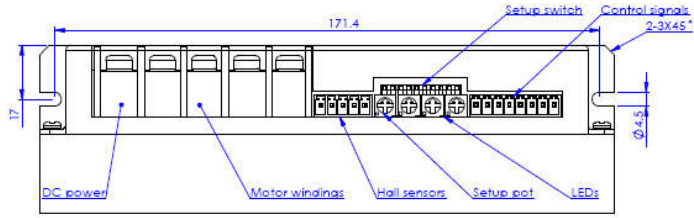
### 8. Drive setup by pot and switch:

R-SV pot=SV voltage ratio, R-LG pot=Loop gain, R-PC=Peak current ratio, R-RT pot=Ramp time  
 SW1=60/120 Hall sensors, SW2=Open/Close loop, SW3,4=Speed/Current loop, SW5=Loop filter time, SW6=SV ramp time setting, SW7,8,9,10=Speed range setting.

### 9. Peak current selection:

$I_p \geq 2 \times I_r$  or  $I_p \geq 4 \times P_o / V_p$ ,  $I_p$  is peak current of driver(A),  $I_r$  is rated current of motor(A)  
 $P_o$  is rated output power of motor(W),  $V_p$  is rated voltage of driver(V)





Outline  
75A 100A

