

BLDC Motor Drive 48QDZ20

48QDZ20 Driver adopts high performance driver IC for BLDC motor which is made from USA, it matches small and medium BLDC motor. As it adopts new PWM technique, motor with it will work in higher speed, lower vibration, lower noise and more steady.

● Product Character	● Electrical Character	● Working Environment	● Product Outline
PWM>12KHZ Input signal compatible with TTL For 3 Phase BLDC motor	DC voltage 18VDC~50VDC Maximum continuous current: 20A Resistance > 500MΩ	Using natural cooling or forced air cooling Avoid dust and corrosive gases 0°C~+50°C 40~89%RH	Size: 118×75×33mm weight: 250g

● Wiring Introduction

External DC power supply (<+50V)	+AT
External DC power supply (0V)	-AT
Phase U	U
Phase V	V
Phase W	W
Hall sensor Power	+5V
Hall sensor Power Negative port(NP) (0V)	GND
Hall A	HALLA
Hall B	HALLB
Hall C	HALLC
Control Power NP (0V)	GND
Motor forward running enable end (Active-Low)	CW
Motor reverse running enable end (Active-Low)	CCW
Speed port (Normal 0~5V, available 0~10V)	DA
Brake inputs (Active-low enable)	BRAKE
Single Hall pulse or Three Hall pulse output, 0~5V Hopping	CLK
Control power	+5V



ACC inner drive potentiometer is used to accelerate, the acceleration time between from 3 seconds to 0.1 seconds.

Inner drive SUB SPEED potentiometer is for auxiliary speed regulator. With the change of motor parameters, following adjustment should be made: DA input voltage adjusts to 5V, if the motor speed is less than the maximum speed, SUB SPEED potentiometer rotate clockwise until the motor to the highest speed. If the DA terminal is less than 5V, the motor has reached maximum speed. In this case also transferred DA terminal to 5V, SUB SPEED potentiometer rotate counterclockwise until the motor speed just to the highest speed.

Panel display speed output, default is 4 poles (two pairs of poles) motor speed, 8-pole (four pairs of poles) motor speed need to be divided by 2.

● Power supply

The drives can work between 18VDC ~ 50VDC, can be used under non-regulated DC power supply, can also be used under step-down transformer + bridge rectifier + capacitor filter. Capacitance can be greater than 2200 μ F, but care should be taken that the peak value of rectified voltage lines should not be more than 50V.

If you use regulated switching power supply, should pay attention to the switching power supply output current range need to set up larger than 30A.

Note: (1) under non-regulated power, current output capability should be greater than 60% of the set current. When using power supply, should be greater than set current. (2) In order to reduce the cost, two or three drivers can use same power source, but you should improve the rated power and rated output current of the power and pay attention to the heat.

● Fit for BLDC motors

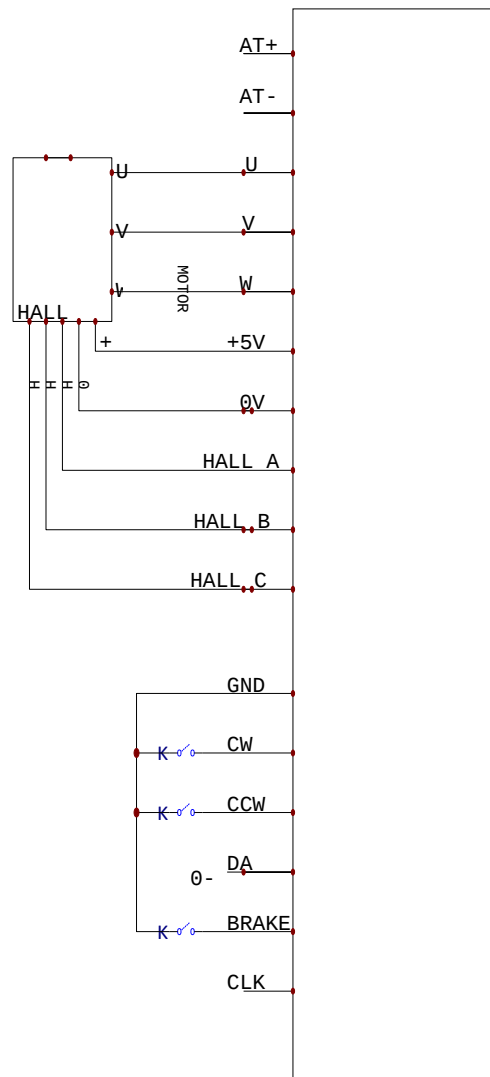
This drive fits for BLDC motors with rated voltages between 18VDC ~ 50VDC, maximum continuous operation current of 20A.

A complete brushless DC motor drive control system should contain a brushless DC motor, brushless DC motor drives, DC power and control signals. The following is a typical system diagram:

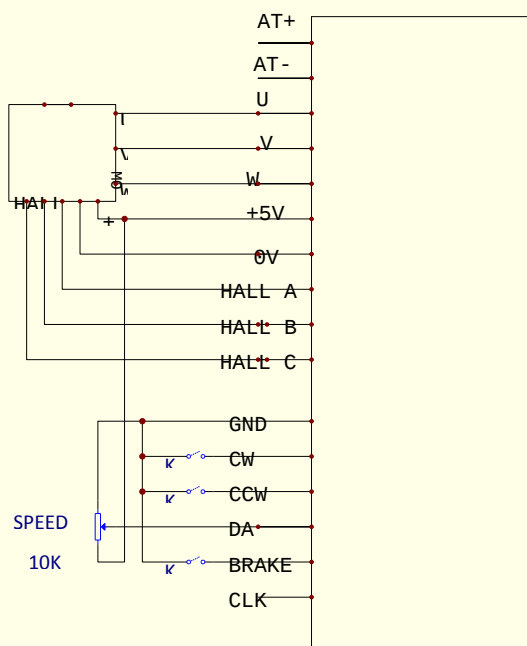
By sequence:

Wire diagram

Potentiometer speed adjustment wiring diagram



Wire diagram



Potentiometer speed adjustment wiring diagram