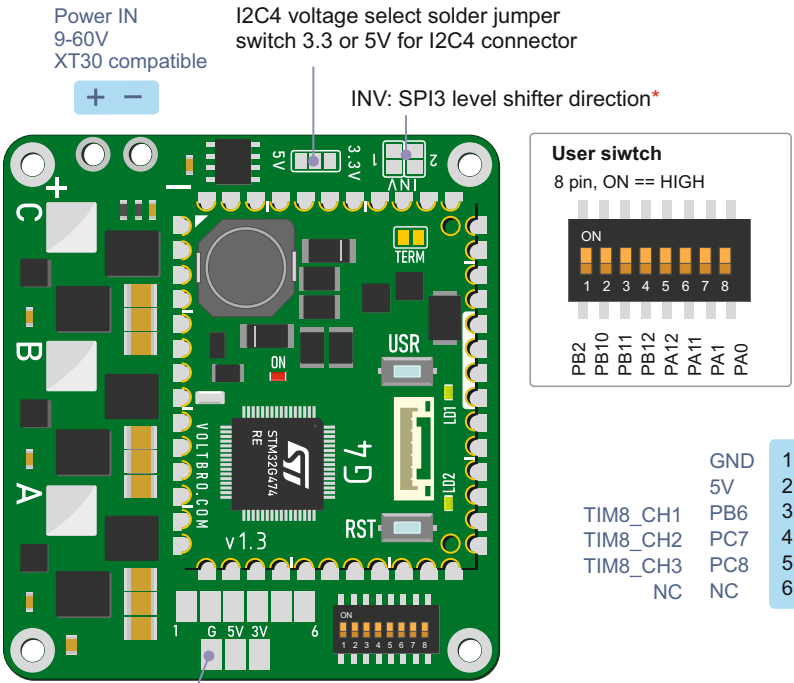


VBCore BLDC Driver 30A v1.4



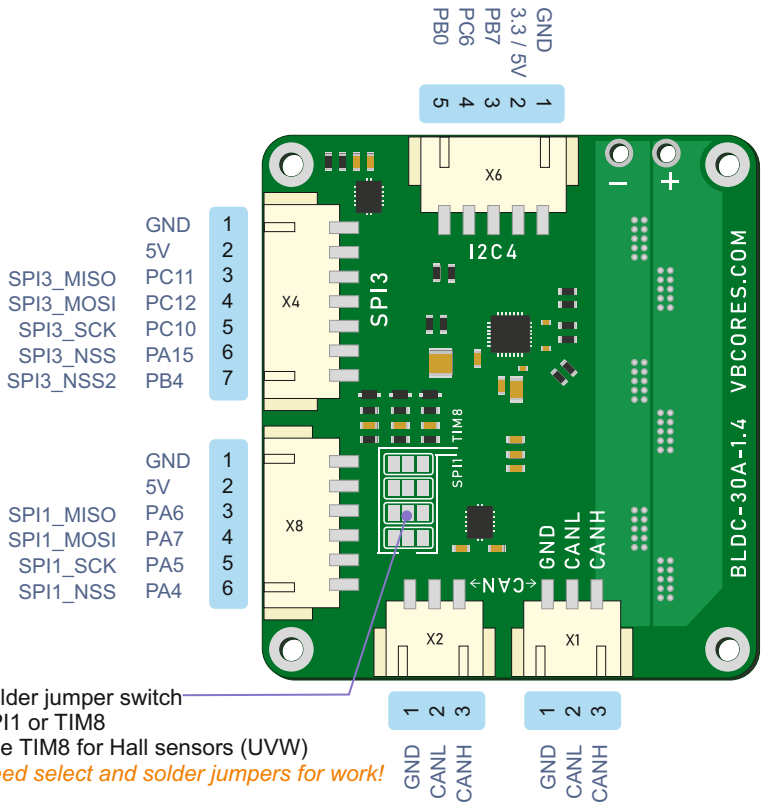
Solder pads
Use common pins with user switch (1-6 inputs)
NOTE: put switches off in case of using solder pads

VBCore BLDC Driver v1.4
VIN: 6-60V
MAX CURRENT 30A
MCU: VB32G4 (STM32G474RE)
DRIVER IC: DRV8328B
SPI encoder interface
UVW Hall encoder interface
I2C encoder interface
Current sensors
EEPROM
CAN / CAN-FD
Dimensions: 51x56mm
Mount holes: 45x50mm D2.5 mm

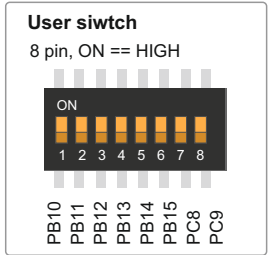
NOTES:

1. The SPI1 and SPI3 connectors are connected to the controller via level shifters.
2. The Hall sensor connectors are connected to the controller via a filter.
3. The I2C4 SCL and SDA lines have external pull-ups — **do not use the internal pull-up.**
4. To supply power to the I2C4 bus (including the EEPROM), close the voltage selection solder jumper.
5. To use the SPI3 7-pin connector as an SPI bus, leave the INV solder pads open.
Close the INV_1 solder jumper to configure the PA15 and PB4 pins as inputs.
Close the INV_2 solder jumper to configure the PC10 and PC12 pins as inputs.

VBCores
www.vbcores.com
Electronics for robotics
research and development



Solder jumper switch
SPI1 or TIM8
Use TIM8 for Hall sensors (UVW)
Need select and solder jumpers for work!



Motor driver
DRV8328B 4.5 to 60 V
Three-phase BLDC Gate Driver

Controll	PIN	Timer
INLA	PB13	TIM1_CH1N
INLB	PB14	TIM1_CH2N
INLC	PB15	TIM1_CH3N
INHA	PA8	TIM1_CH1
INHB	PA9	TIM1_CH2
INHC	PA10	TIM1_CH3
NSLEEP	PB3	
NFAULT	PB5	

Current sensor
ACS711KEXLT-31AB-T
Range: $\pm 31A$
Sensitivity: 45mV/A

Controll	PIN	ADC
I_A	PC1	ADC12_IN7
I_B	PC2	ADC12_IN8
I_C	PC3	ADC12_IN9

EEPROM

256K, AT24C256C
**For enable, one of I2C4 voltage select solder jumper must be closed*

Controll	PIN	I2C
A0, A1, A2	GND	
Address		0x50
SCL	PC6	I2C4_SCL
SDA	PB7	I2C4_SDA

Voltage controll

Resistive voltage divider 16:1

Controll	PIN	ADC
V input	PC0	ADC12_IN6