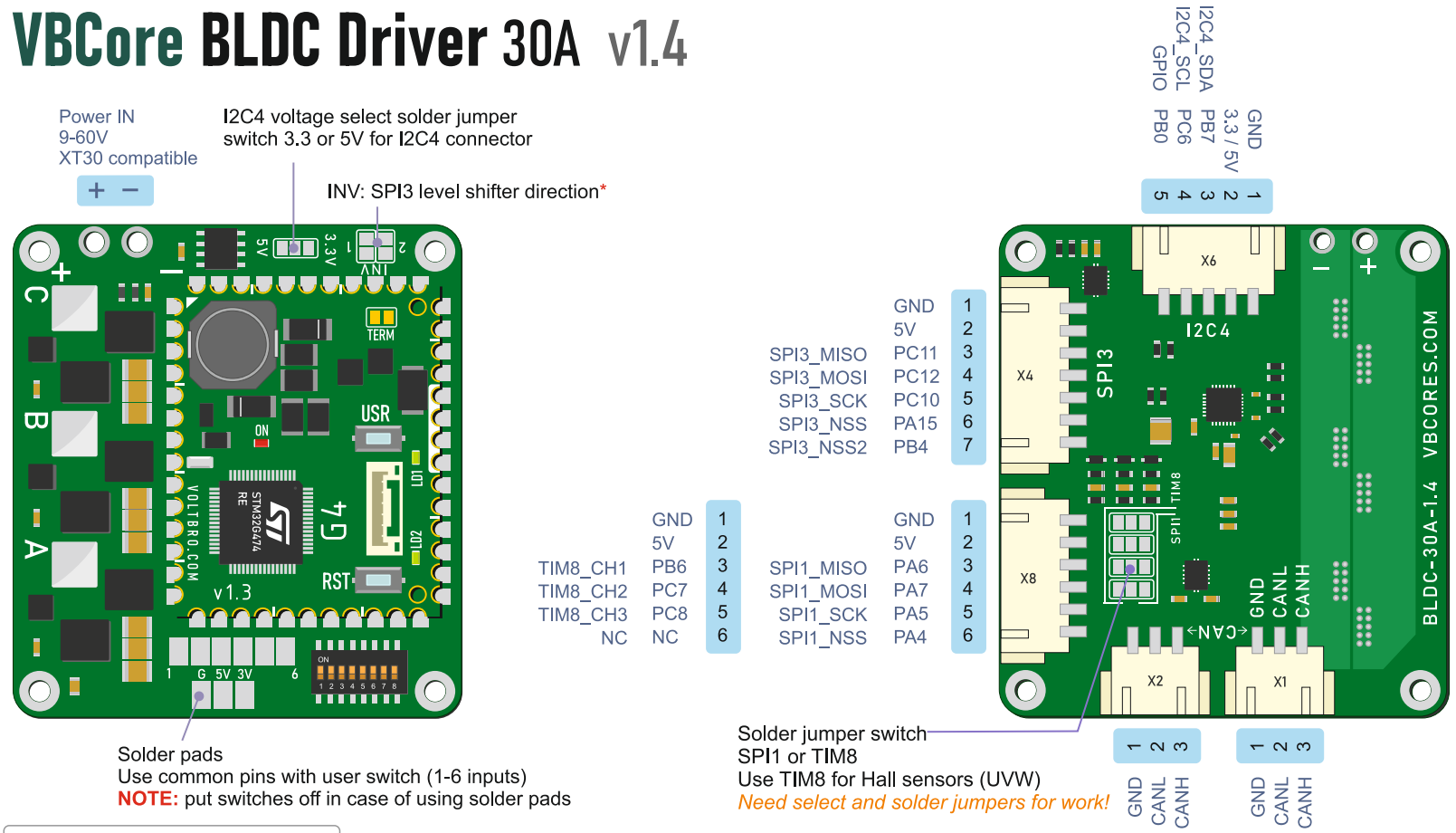
VBCore BLDC Driver 30A v1.4



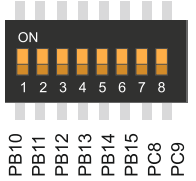
VBCore BLDC Driver v1.4

VIN: 9-60V
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.

User siwtch
8 pin, ON == HIGH



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

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: ± 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 control

Resistive voltage divider 16:1

Controll	PIN	ADC
V input	PC0	ADC12_IN6