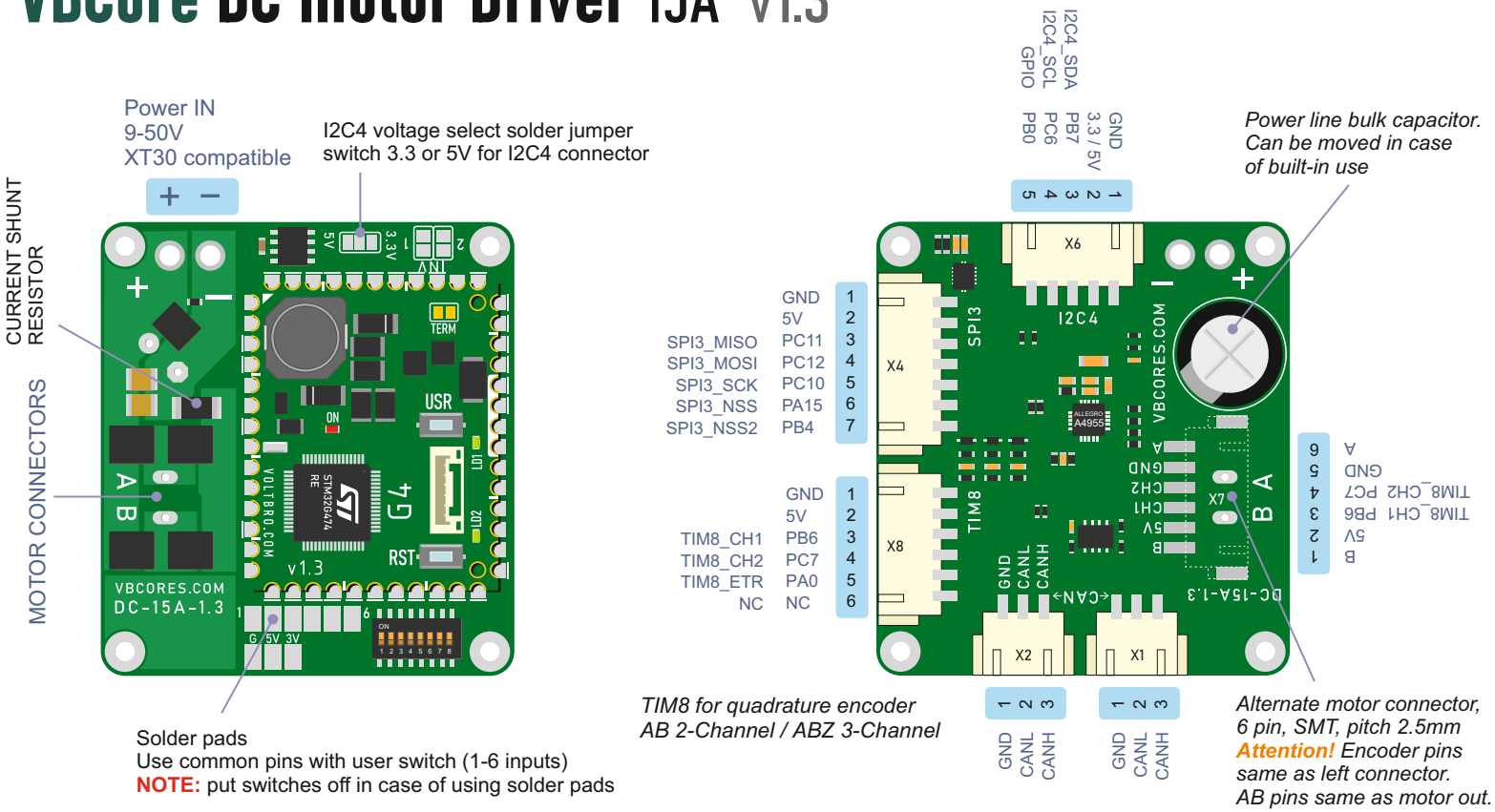
VBCore DC motor Driver 15A v1.3



Driver

Allegro A4955, 50 V
Full-Bridge PWM Gate Driver
designed for control of DC motors

Controll	PIN	Notes
SLEEPn	PB3	
IN1	PA8	TIM1_CH1
IN2	PA9	TIM1_CH2
AIOUT	PC1	
VREF	PA4	1:2 divider
FAULT	PB5	
RC		R_{RC}= 47K, C_{RC} = 1n
ISET		R_{ISET}= 47K
SENSE		R_{SENSE}= 0,01

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

Current shunt resistor

Connected to A4955 driver

Size	Default
1206	R_{SENSE} 0.01 Ohm

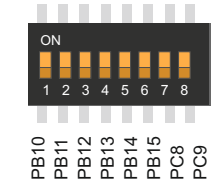
VBCore DC motor Driver v1.3

VIN: 9-50V
MAX CURRENT: 15A
MCU: VB32G4 (STM32G474RE)
DRIVER: ALLEGRO A4955
SPI interface
ABZ encoder interface
I2C interface
Current control
I2C 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.
6. *Carefully read datasheet for ALLEGRO A4955 driver futures*

User siwtch
8 pin, ON == HIGH



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