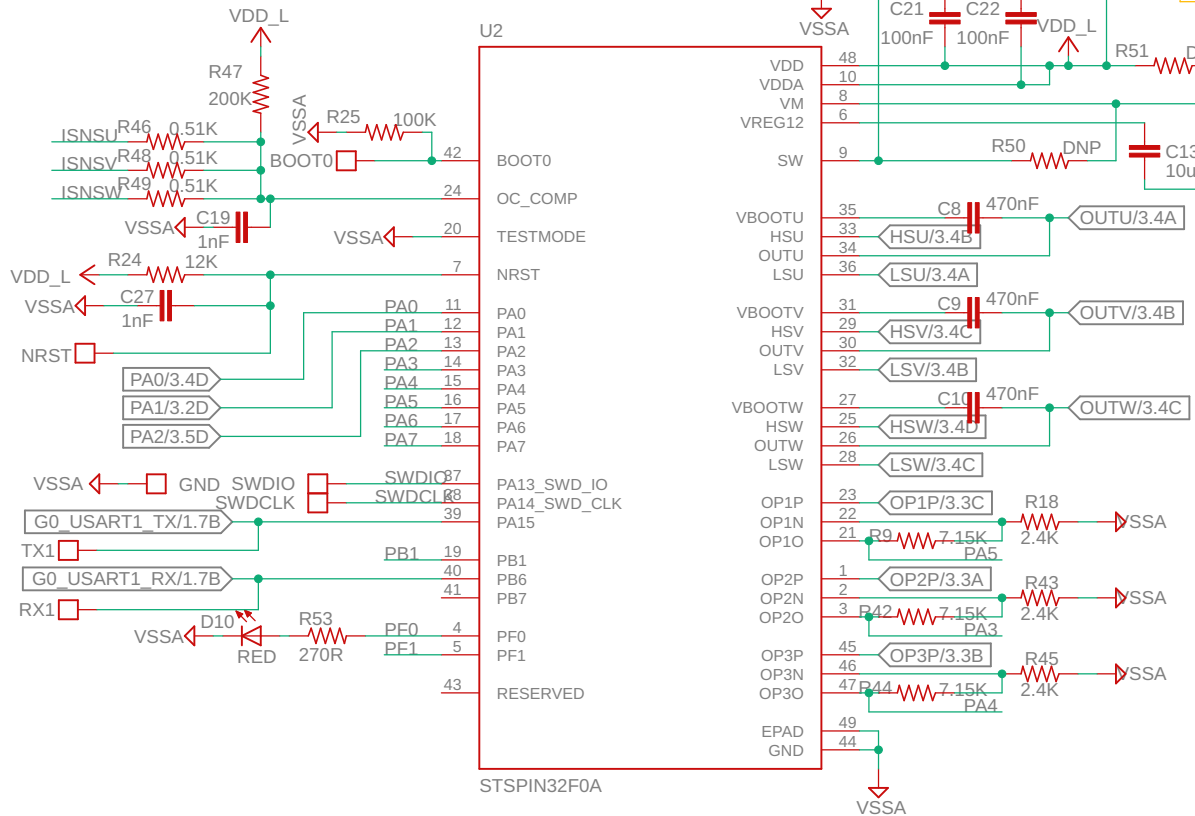


$OC_COMP\ Voltage = V_{sense} + V_p$
 $V_{sense} = (I_{nsnw} + I_{nsnv} + I_{nsnu}) * R_{sh} * R_p / (R_n + 3R_p)$
 $V_p = V_{dd} * R_n / (R_n + 3R_p)$
 $R_p = R_{47} ; R_n = R_{46} = R_{48} = R_{49} ; R_{sh} = R_{10} = R_{14} = R_{17}$
 $R_{sh} = 0.05R ; R_p = 200k ; R_n = 0.51k$
 $>> I_{nsnv} + I_{nsnu} + I_{nsnw} > 29.85A \dots OC_COMP = 500mV$
 $>> I_{nsnv} + I_{nsnu} + I_{nsnw} > 14.84A \dots OC_COMP = 250mV$
 $>> I_{nsnv} + I_{nsnu} + I_{nsnw} > 5.83A \dots OC_COMP = 100mV$

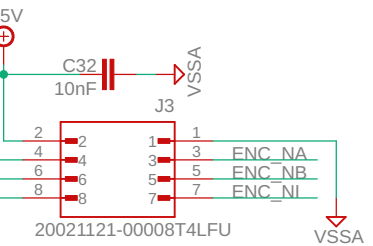
If you want to use this module as standalone without providing external 3V3 you have to remove the jumper resistor and place the 2 DNP resistors.
 Attention : make sure (in this situation) you didn't connect any other modules to this module (the drawn current from the Vdd pads doesn't exceed 100mA).

VM = 12-38V

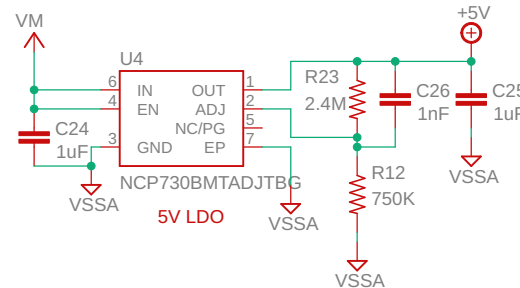


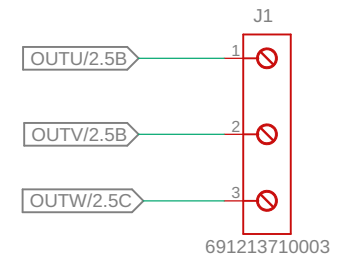
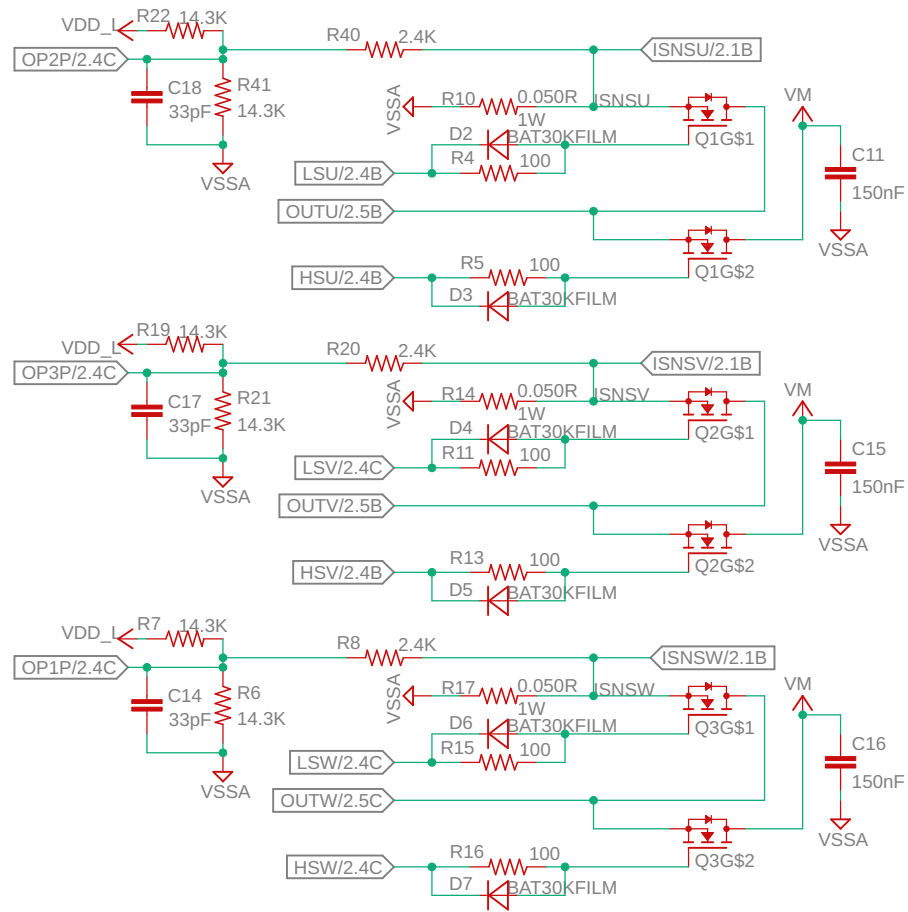
$OPO = Gain * (R_{p1} * I_{sns}(w,u,v) * R_{sh} + R_{n1} * 3.3)$
 $Gain = 1 + R_f / R_{n1}$
 $R_{n1} = R_{18} = R_{43} = R_{45} = R_{40} = R_{20} = R_8$
 $R_{p1} = R_{22} = R_{41} = R_{19} = R_{21} = R_7 = R_6$
 $R_f = R_9 = R_{42} = R_{44} ; R_{sh} = R_{10} = R_{14} = R_{17}$
 $R_{sh} = 0.05R \text{ \& } R_f = 7.15k \text{ \& } R_{p1} = 14.3k \text{ \& } R_{n1} = 2.4k$
 $>> I_{sns}(w,u,v) [0-10]A$
 $>> OPO (1.65 - 3.14) V$

Do not supply any other circuits from this connector except the encoder.
 (maximum drawn current should not exceed 150 mA)

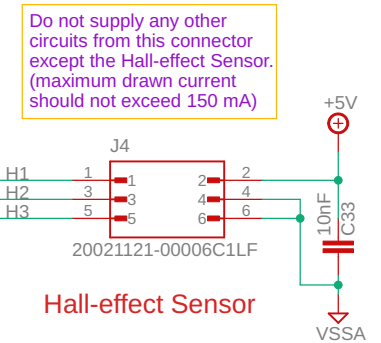


Encoder Input






Driver Output



Hall-effect Sensor

Module H19R0	Title H19R0_Frontend	 www.hexabitz.com
Description	Revision 0	
38 V/10A Sensored BLDC	Size Letter	
Author Muhammad Awais	Sheet 3 of 3	