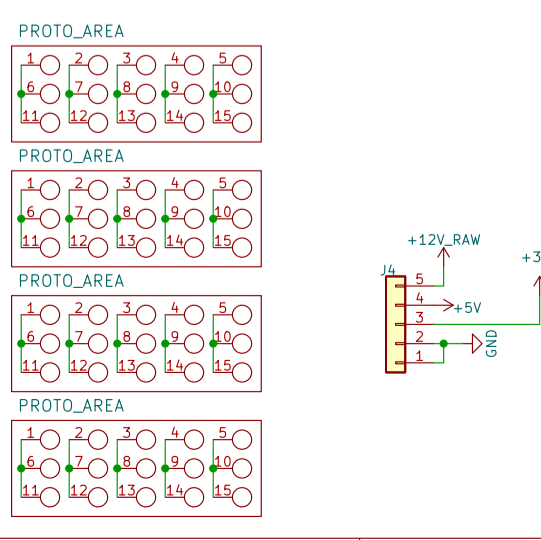
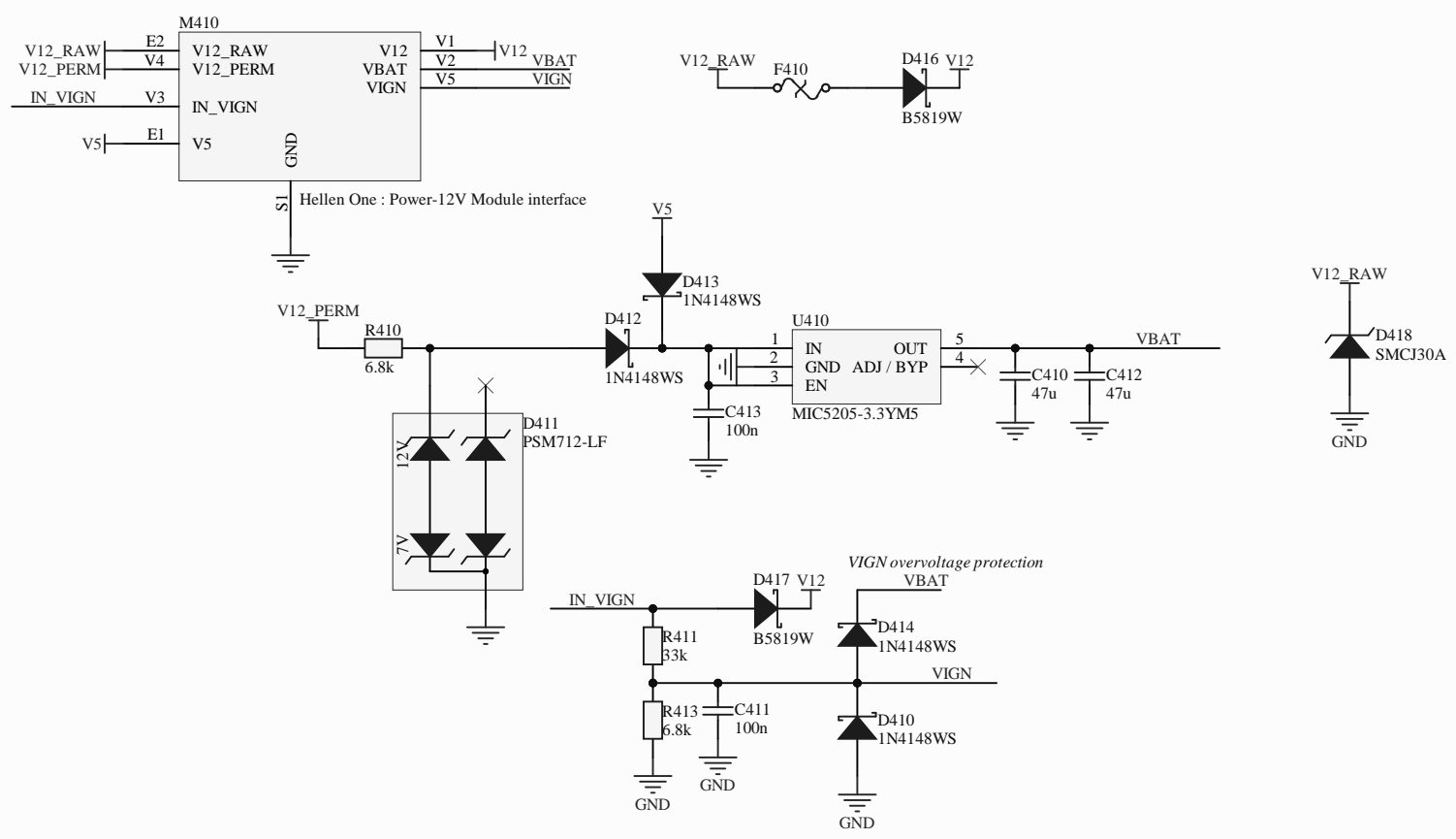
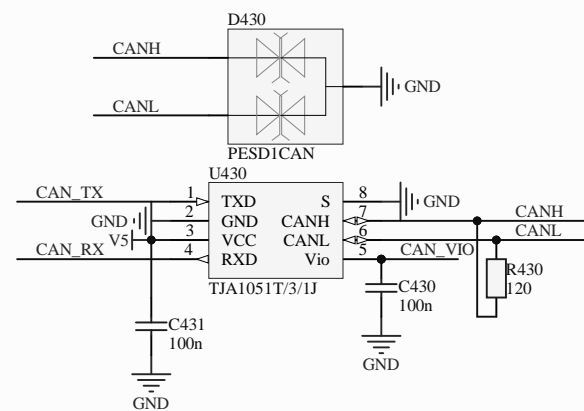
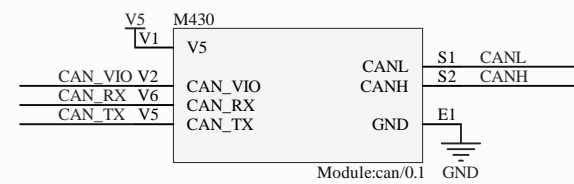
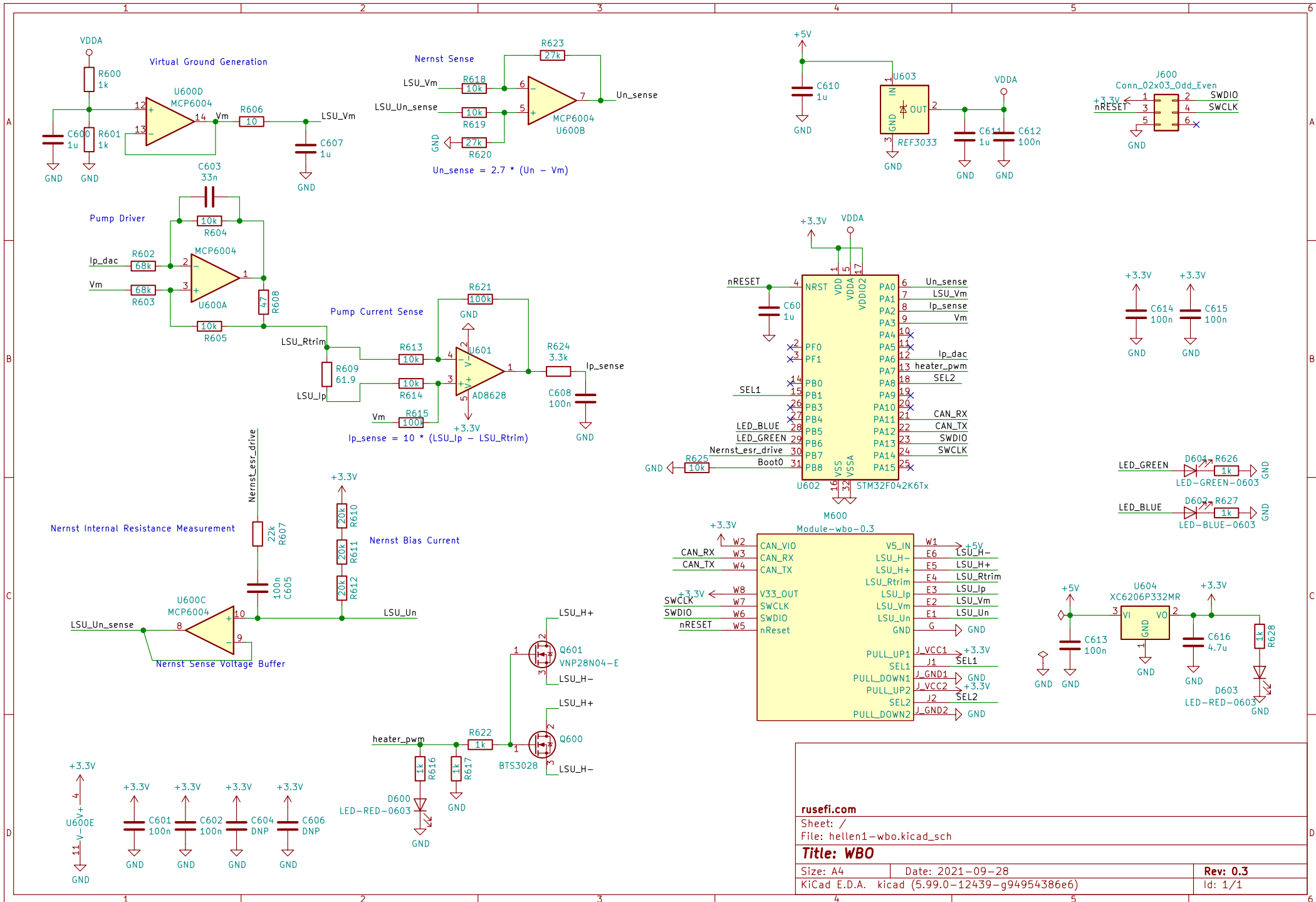


- 1 Fuel pump
- 2 IN_5
- 3 IN_4
- 4 IN_4
- 5 IN_4
- 6 VVT Solenoid | inj7
- 7 VVT Solenoid | inj7
- 8 X
- 9 X
- 10 X
- 11 X
- 12 X
- 13 X
- 14 X
- 15 X
- 16 X
- 17 X
- 18 X
- 19 X
- 20 X
- 21 X
- 22 X
- 23 X
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- 98 X
- 99 X
- 100 X









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Sheet: /
 File: hellen1-wbo.kicad_sch

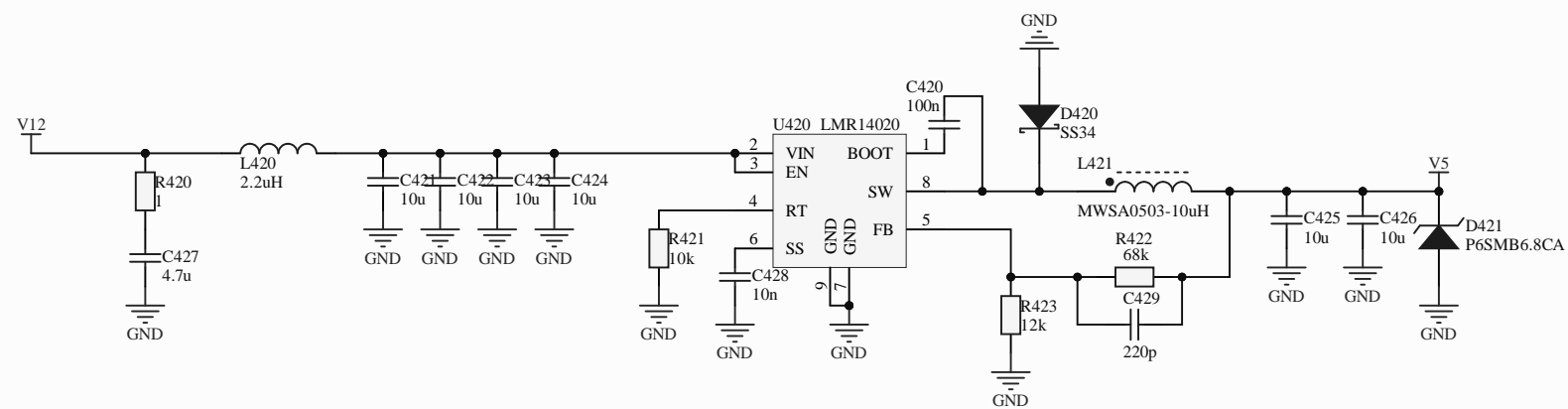
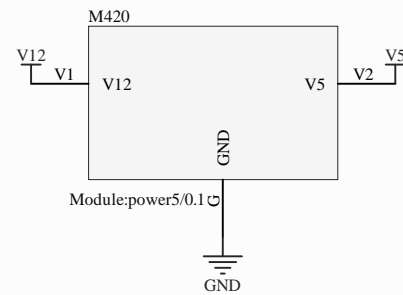
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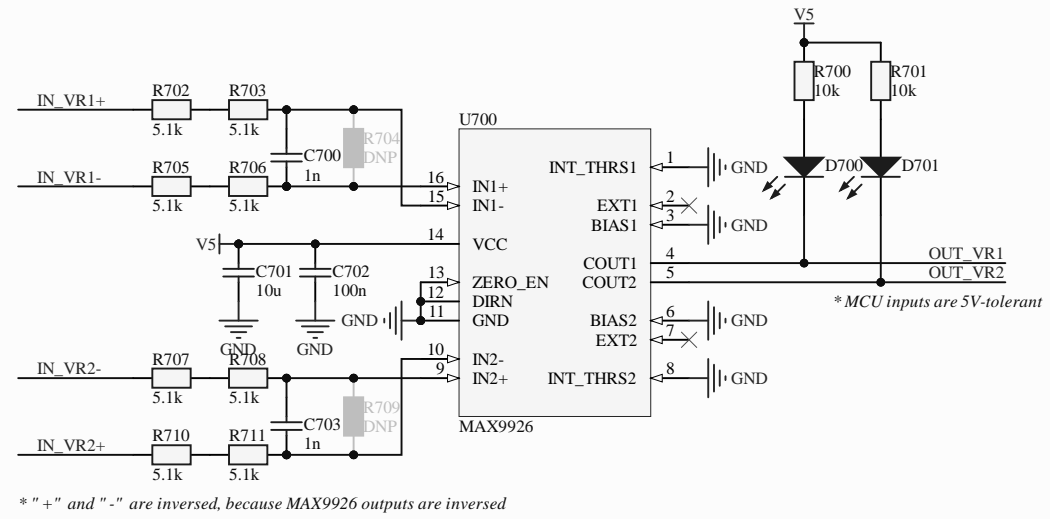
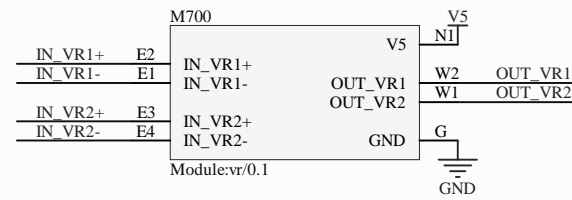
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Date: 2021-09-28

Rev: 0.3

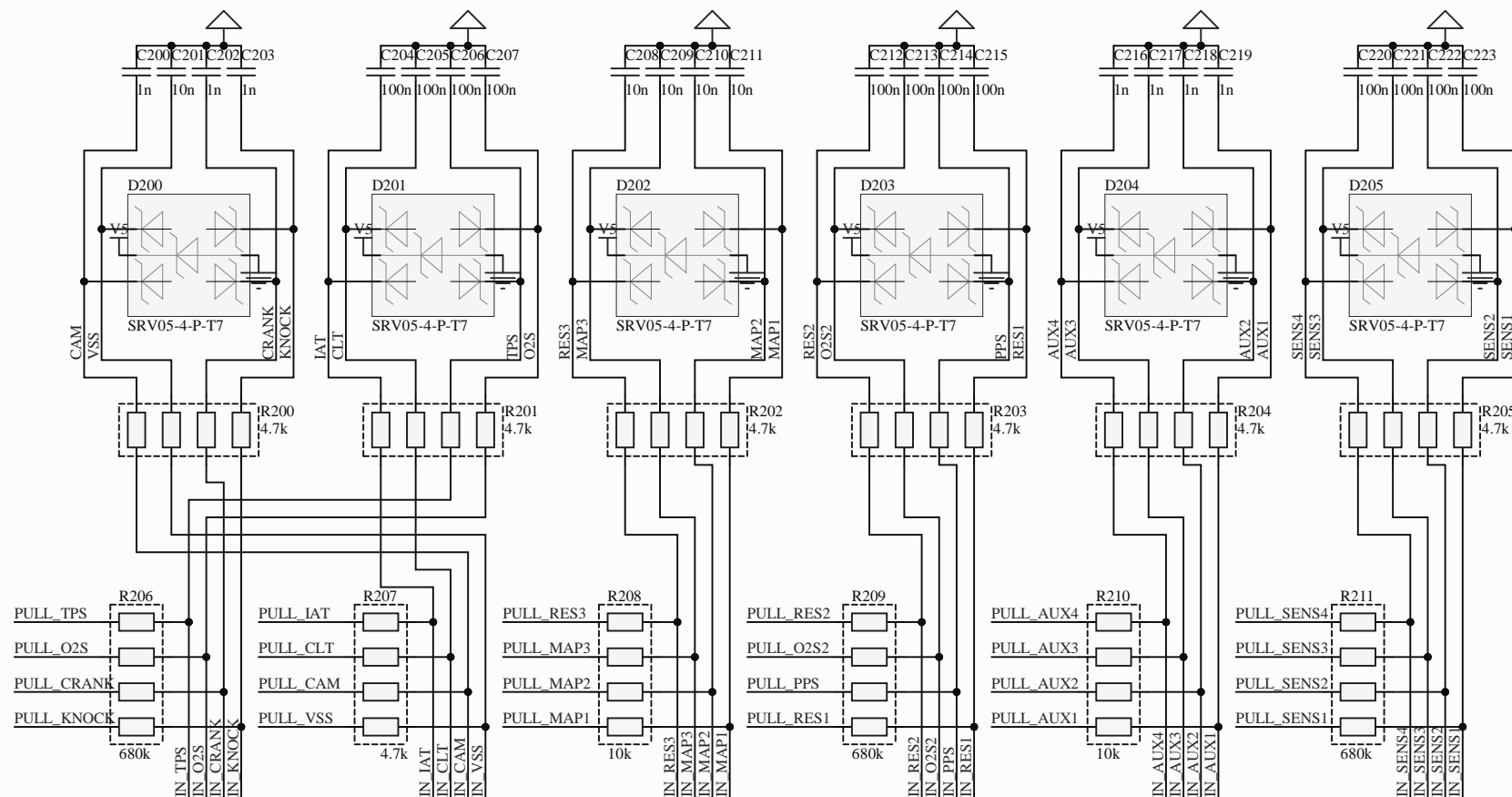
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M200D			
PULL_CRANK J21	PULL_CRANK	PULL_MAP1	J14 PULL_MAP1
PULL_CAM J17	PULL_CAM	PULL_MAP2	J13 PULL_MAP2
PULL_VSS J18	PULL_VSS	PULL_MAP3	J12 PULL_MAP3
PULL_TPS J19	PULL_TPS	PULL_AUX1	J10 PULL_AUX1
PULL_PPS J5	PULL_PPS	PULL_AUX2	J9 PULL_AUX2
PULL_IAT J15	PULL_IAT	PULL_AUX3	J8 PULL_AUX3
PULL_CLT J16	PULL_CLT	PULL_AUX4	J7 PULL_AUX4
PULL_O2S J20	PULL_O2S	PULL_SENS1	J26 PULL_SENS1
PULL_O2S2 J4	PULL_O2S2	PULL_SENS2	J25 PULL_SENS2
		PULL_SENS3	J24 PULL_SENS3
		PULL_SENS4	J23 PULL_SENS4
PULL_RES1 J6	PULL_RES1	PULL_SENS4	J22 PULL_KNOCK
PULL_RES2 J3	PULL_RES2		
PULL_RES3 J11	PULL_RES3		

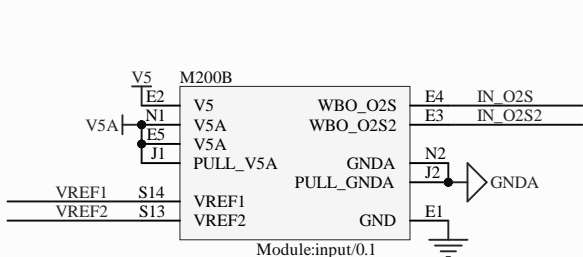
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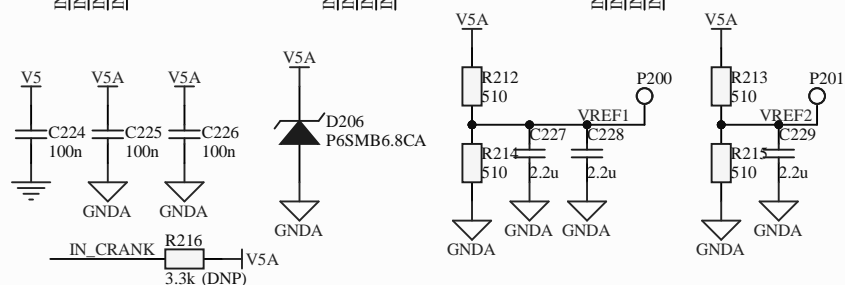
M200C		M200A	
IN_CRANK S8	IN_CRANK	N21 CRANK	
IN_CAM S5	IN_CAM	N19 CAM	
IN_VSS S6	IN_VSS	N20 VSS	
IN_TPS S10	IN_TPS	N17 TPS	
IN_PPS S24	IN_PPS	N5 PPS	
IN_IAT S16	IN_IAT	N15 IAT	
IN_CLT S15	IN_CLT	N16 CLT	
IN_O2S S9	IN_O2S	N18 O2S	
IN_O2S2 S25	IN_O2S2	N4 O2S2	
IN_RES1 S23	IN_RES1	N6 RES1	
IN_RES2 S26	IN_RES2	N3 RES2	
IN_RES3 S22	IN_RES3	N11 RES3	
IN_MAP1 S11	IN_MAP1	N14 MAP1	
IN_MAP2 S12	IN_MAP2	N13 MAP2	
IN_MAP3 S19	IN_MAP3	N12 MAP3	
IN_AUX1 S17	IN_AUX1	N10 AUX1	
IN_AUX2 S18	IN_AUX2	N9 AUX2	
IN_AUX3 S20	IN_AUX3	N8 AUX3	
IN_AUX4 S21	IN_AUX4	N7 AUX4	
IN_SENS1 S1	IN_SENS1	N26 SENS1	
IN_SENS2 S2	IN_SENS2	N25 SENS2	
IN_SENS3 S3	IN_SENS3	N24 SENS3	
IN_SENS4 S4	IN_SENS4	N23 SENS4	
IN_KNOCK S7	IN_KNOCK	N22 KNOCK	

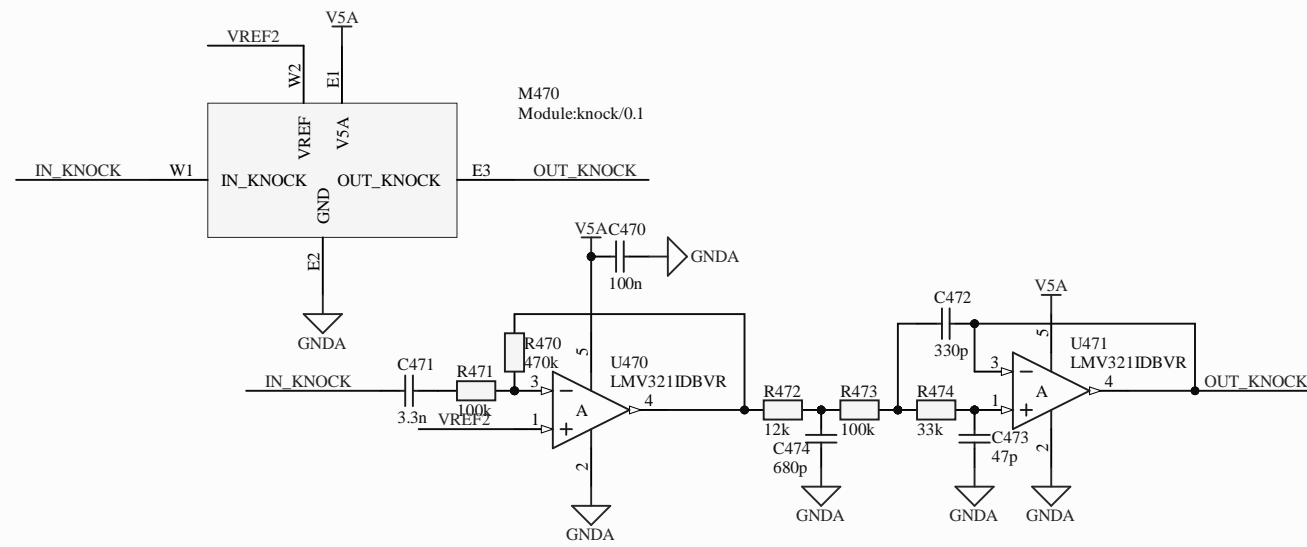
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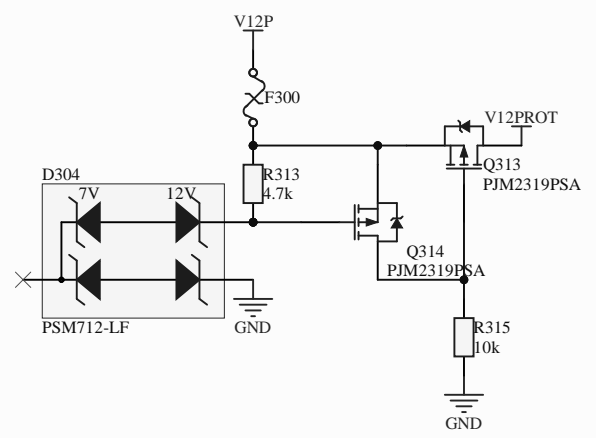
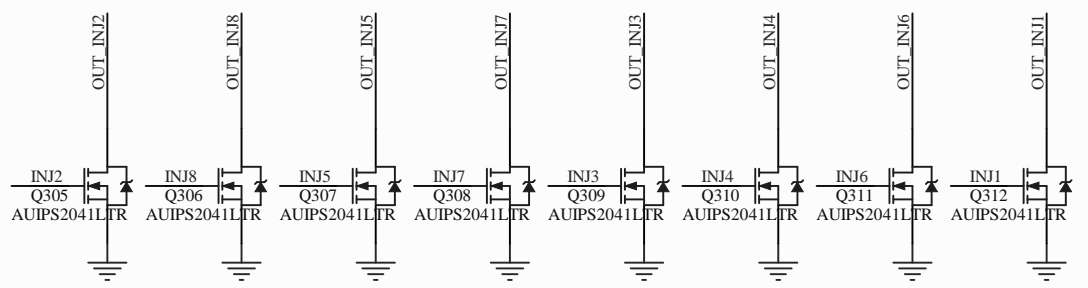
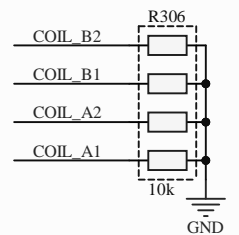
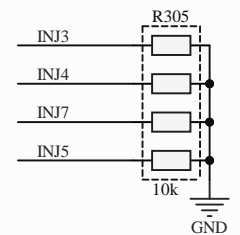
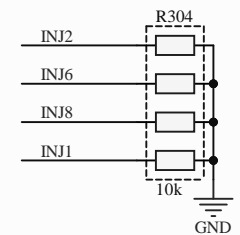
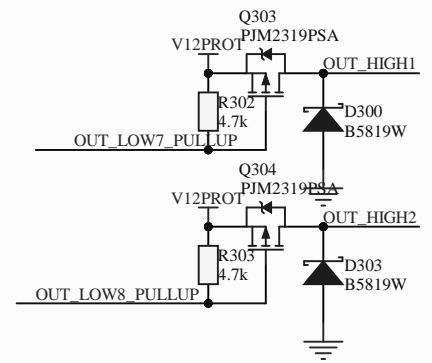
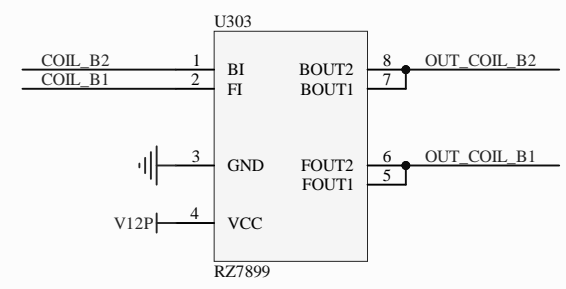
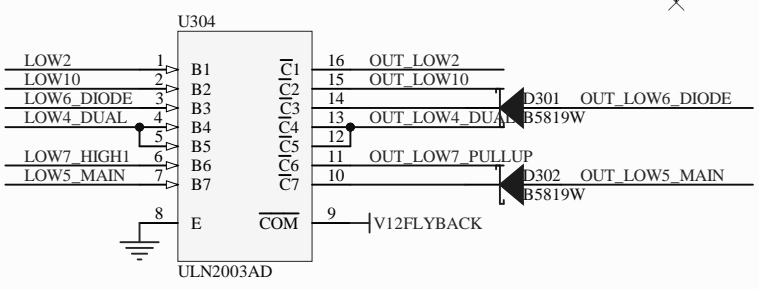
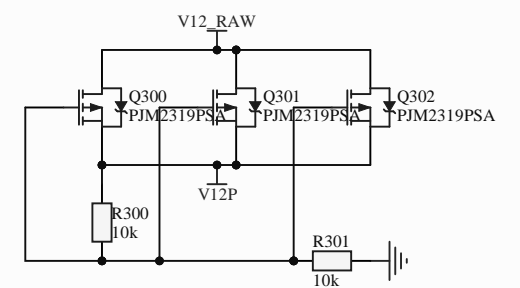
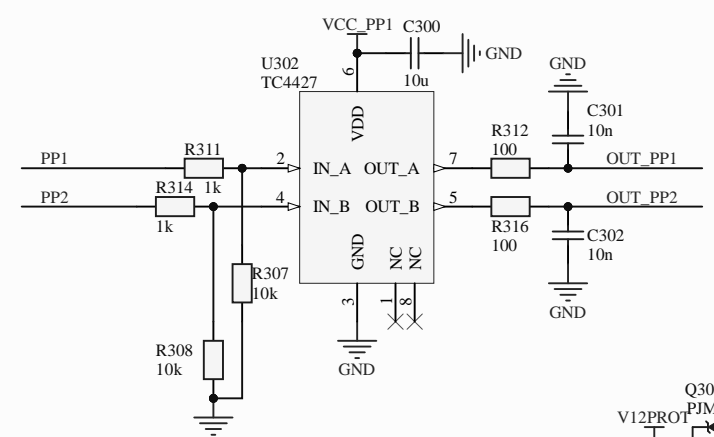
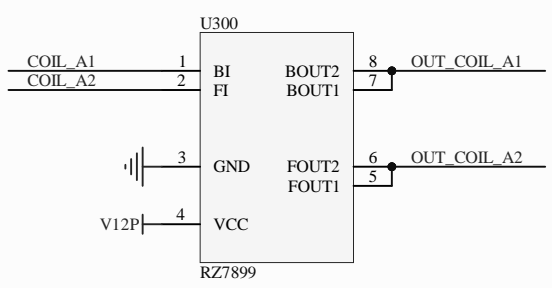
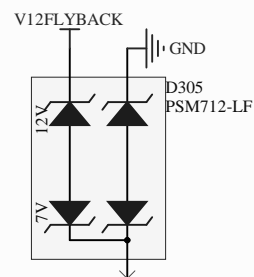
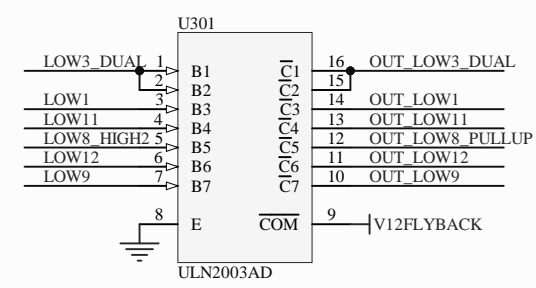
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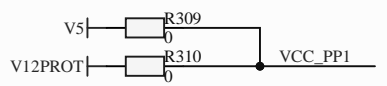
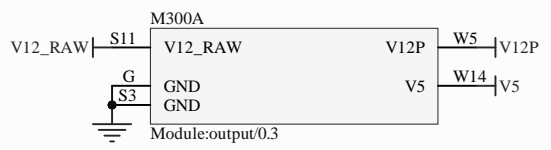
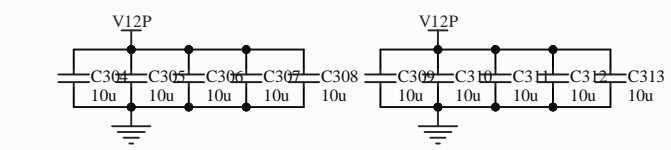
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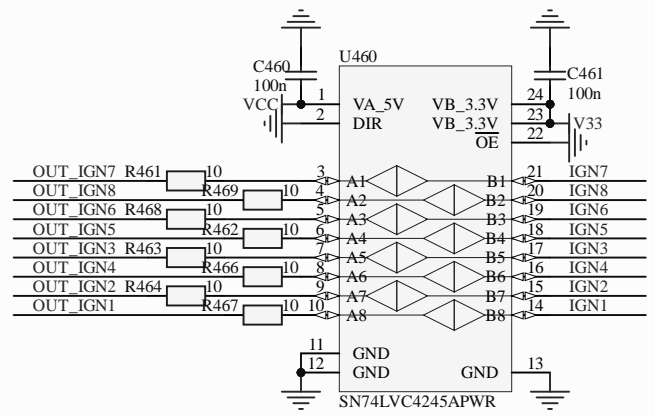
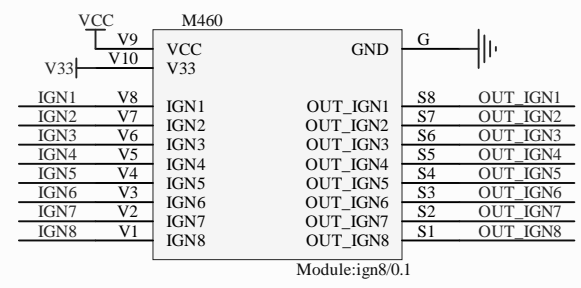


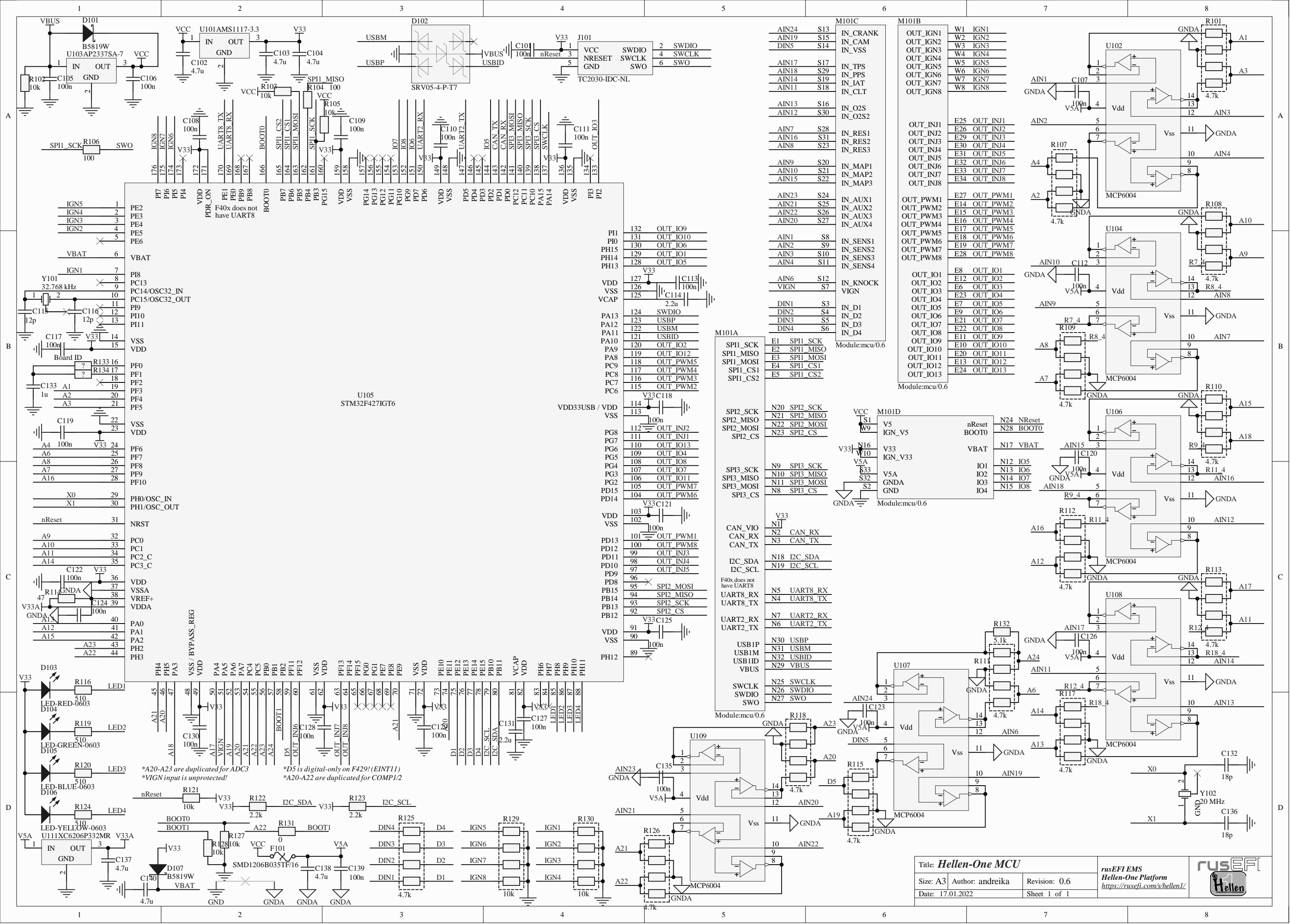


M300B		M300C	
INJ1	W24	OUT_INJ1	S18
INJ2	W23	OUT_INJ2	S16
INJ3	W20	OUT_INJ3	S17
INJ4	W19	OUT_INJ4	W7
INJ5	W18	OUT_INJ5	W10
INJ6	W17	OUT_INJ6	S15
INJ7	W16	OUT_INJ7	W12
INJ8	W15	OUT_INJ8	W11
PP1	W28	OUT_PP1	W6
PP2	W22	OUT_PP2	S6
COIL_A1	W33	OUT_SOLENOID_A1	S1
COIL_A2	W32	OUT_SOLENOID_A2	S2
COIL_B1	W31	OUT_SOLENOID_B1	S4
COIL_B2	W30	OUT_SOLENOID_B2	S5
LOW1	W21	OUT_LOW1	S8
LOW2	W29	OUT_LOW2	W1
LOW3_DUAL	W38	OUT_LOW3_DUAL	S7
LOW4_DUAL	W34	OUT_LOW4_DUAL	W4
LOW5_MAIN	W40	OUT_LOW4_DUAL	W13
LOW6_DIODE	W25	OUT_LOW5_MAIN	W3
LOW7_HIGH1	W39	OUT_LOW6_DIODE	W9
LOW8_HIGH2	W37	OUT_LOW7_PULLUP	S12
LOW9	W27	OUT_LOW8_PULLUP	S14
LOW10	W26	OUT_LOW9	W2
LOW11	W35	OUT_LOW10	S10
LOW12	W36	OUT_LOW11	S13
		OUT_LOW12	
		OUT_HIGH1	W8
		OUT_HIGH2	S9



* These can be removed in the board compilation file





IGN5	1	PE2	P7	176	IGN8	176
IGN4	2	PE3	P6	175	IGN7	175
IGN3	3	PE4	P5	174	IGN6	174
IGN2	4	PE5	P4	173	IGN5	173
	5	PE6	P3	172	IGN4	172
	6	VBAT	P2	171	IGN3	171
	7	PI8	P1	170	IGN2	170
	8	PC13	P0	169	IGN1	169
	9	PC14/OSC32_IN	PE0	168		
	10	PC15/OSC32_OUT	PE1	167		
	11	PI9	PE2	166		
	12	PI10	PE3	165		
	13	PI11	PE4	164		
	14	VSS	PE5	163		
	15	VDD	PE6	162		
	16	PF0	PE7	161		
	17	PF1	PE8	160		
	18	PF2	PE9	159		
	19	PF3	PE10	158		
	20	PF4	PE11	157		
	21	PF5	PE12	156		
	22	VSS	PE13	155		
	23	VDD	PE14	154		
	24	PF6	PE15	153		
	25	PF7	PE16	152		
	26	PF8	PE17	151		
	27	PF9	PE18	150		
	28	PF10	PE19	149		
	29	PH0/OSC_IN	PE20	148		
	30	PH1/OSC_OUT	PE21	147		
	31	NRST	PE22	146		
	32	PC0	PE23	145		
	33	PC1	PE24	144		
	34	PC2_C	PE25	143		
	35	PC3_C	PE26	142		
	36	VDD	PE27	141		
	37	VSSA	PE28	140		
	38	VREF+	PE29	139		
	39	VDDA	PE30	138		
	40	PA0	PE31	137		
	41	PA1	PE32	136		
	42	PA2	PE33	135		
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	86	PH45	PE77	91		
	87	PH46	PE78	90		
	88	PH47	PE79	89		

AIN24	S13	IN_CRANK
AIN19	S15	IN_CAM
DIN5	S14	IN_VSS
AIN17	S17	IN_TPS
AIN18	S29	IN_PPS
AIN14	S19	IN_IAT
AIN11	S18	IN_CLT
AIN13	S16	IN_O2S
AIN12	S30	IN_O2S2
AIN7	S28	IN_RES1
AIN16	S31	IN_RES2
AIN8	S23	IN_RES3
AIN9	S20	IN_MAP1
AIN10	S21	IN_MAP2
AIN15	S22	IN_MAP3
AIN23	S24	IN_AUX1
AIN21	S25	IN_AUX2
AIN22	S26	IN_AUX3
AIN20	S27	IN_AUX4
AIN1	S8	IN_SENS1
AIN2	S9	IN_SENS2
AIN3	S10	IN_SENS3
AIN4	S11	IN_SENS4
AIN6	S12	IN_KNOCK
VIGN	S7	VIGN
DIN1	S3	IN_D1
DIN2	S4	IN_D2
DIN3	S5	IN_D3
DIN4	S6	IN_D4

SPI1_SCK	E1	SPI1_SCK
SPI1_MISO	E2	SPI1_MISO
SPI1_MOSI	E3	SPI1_MOSI
SPI1_CS1	E4	SPI1_CS1
SPI1_CS2	E5	SPI1_CS2
SPI2_SCK	N20	SPI2_SCK
SPI2_MISO	N21	SPI2_MISO
SPI2_MOSI	N22	SPI2_MOSI
SPI2_CS	N23	SPI2_CS
SPI3_SCK	N9	SPI3_SCK
SPI3_MISO	N10	SPI3_MISO
SPI3_MOSI	N11	SPI3_MOSI
SPI3_CS	N8	SPI3_CS
CAN_VIO	N1	CAN_VIO
CAN_RX	N2	CAN_RX
CAN_TX	N3	CAN_TX
I2C_SDA	N18	I2C_SDA
I2C_SCL	N19	I2C_SCL
UART8_RX	N5	UART8_RX
UART8_TX	N4	UART8_TX
UART2_RX	N7	UART2_RX
UART2_TX	N6	UART2_TX
USB1P	N30	USB1P
USB1M	N31	USB1M
USB1ID	N32	USB1ID
VBUS	N29	VBUS
SWCLK	N25	SWCLK
SWDIO	N26	SWDIO
SWO	N27	SWO

OUT_IGN1	W1	IGN1
OUT_IGN2	W2	IGN2
OUT_IGN3	W3	IGN3
OUT_IGN4	W4	IGN4
OUT_IGN5	W5	IGN5
OUT_IGN6	W6	IGN6
OUT_IGN7	W7	IGN7
OUT_IGN8	W8	IGN8
OUT_INJ1	E25	OUT_INJ1
OUT_INJ2	E26	OUT_INJ2
OUT_INJ3	E29	OUT_INJ3
OUT_INJ4	E30	OUT_INJ4
OUT_INJ5	E31	OUT_INJ5
OUT_INJ6	E32	OUT_INJ6
OUT_INJ7	E33	OUT_INJ7
OUT_INJ8	E34	OUT_INJ8
OUT_PWM1	E27	OUT_PWM1
OUT_PWM2	E14	OUT_PWM2
OUT_PWM3	E15	OUT_PWM3
OUT_PWM4	E16	OUT_PWM4
OUT_PWM5	E17	OUT_PWM5
OUT_PWM6	E18	OUT_PWM6
OUT_PWM7	E19	OUT_PWM7
OUT_PWM8	E28	OUT_PWM8
OUT_IO1	E8	OUT_IO1
OUT_IO2	E12	OUT_IO2
OUT_IO3	E6	OUT_IO3
OUT_IO4	E23	OUT_IO4
OUT_IO5	E7	OUT_IO5
OUT_IO6	E9	OUT_IO6
OUT_IO7	E21	OUT_IO7
OUT_IO8	E22	OUT_IO8
OUT_IO9	E11	OUT_IO9
OUT_IO10	E10	OUT_IO10
OUT_IO11	E20	OUT_IO11
OUT_IO12	E13	OUT_IO12
OUT_IO13	E24	OUT_IO13

