

ExtraLSA	1	1
ExtraLSC	2	2
HS4	3	3
HS2	4	4
ETB2_	5	5
ETB1_	6	6
KNOCK_2	7	7
KNOCK_1	8	8
LSU_Rtrim2	9	9
LSU_Ip2	10	10
AV2	11	11
AV5	12	12
AV8	13	13
AV11	14	14
AT1	15	15
AT4	16	16
	17	17
	18	18
LSU_Un	19	19
LSU_Vm	20	20
HeaterNeg	21	21
IGBT7	22	22
IGBT5	23	23
IGBT3	24	24
IGBT1	25	25
LS10ADD	26	26
LS12ADD	27	27
12V_MR	28	28

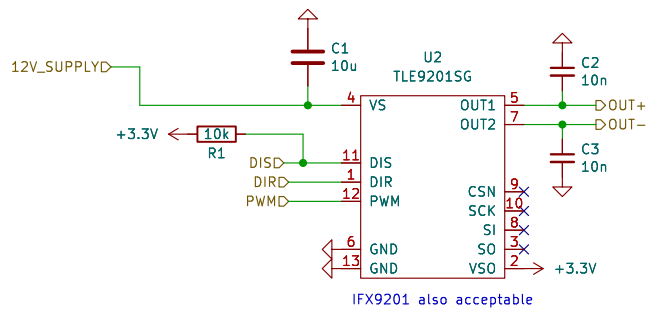
ExtraLSB	29	29
ExtraLSD	30	30
HS3	31	31
HS1	32	32
ETB2_+	33	33
ETB1_+	34	34
HeaterNeg2	35	35
LSU_Un2	36	36
LSU_Vm2	37	37
AV1	38	38
AV4	39	39
AV7	40	40
CRANK +	41	41
CRANK -	42	42
AT3	43	43
12V_KEY	44	44
	45	45
	46	46
LSU_Rtrim	47	47
LSU_Ip	48	48
IGBT8	49	49
IGBT6	50	50
IGBT4	51	51
IGBT2	52	52
LS9ADD	53	53
LS11ADD	54	54
	55	55

5V_SENSOR_2	56	56
5V_SENSOR_2	57	57
5V_SENSOR_1	58	58
5V_SENSOR_1	59	59
DIGITAL_6	60	60
DIGITAL_5	61	61
DIGITAL_4	62	62
DIGITAL_3	63	63
DIGITAL_2	64	64
DIGITAL_1	65	65
	66	66
12V_MR_FUSE	67	67
12V_MR_FUSE	68	68
AV3	69	69
AV6	70	70
AV9	71	71
AV10	72	72
AT2	73	73
CAN-	74	74
CAN+	75	75
LS1	76	76
LS2	77	77
LS3	78	78
LS4	79	79
LS5	80	80
LS6	81	81
LS7	82	82
LS8	83	83
Perm_Live	84	84
LS16	85	85
LS15	86	86
LS14	87	87
LS13	88	88

Matronic_88pin
Matronic_88pin1A

PIN FUNCTIONS

12V_KEY - Connect to ignition switch. Powers internal ECU logic.
 12V_MR - Power input from the ECU-controlled main relay.
 12V_MR_FUSE - Internally-fused 12V power output for sensors etc
 PERM_LIVE - 12v permanent battery connection, keeps clock running while powered off.
 5V_SENSOR - 5V supply output for ECU sensors
 LS1-8, LS13-16 - Medium power low-side outputs, no diode (injectors, relays, etc)
 LS9-12, A-D - High power low-side outputs with freewheel diode (WT, Idle, PWM solenoids, etc)
 HS1-4 - Medium power high side outputs

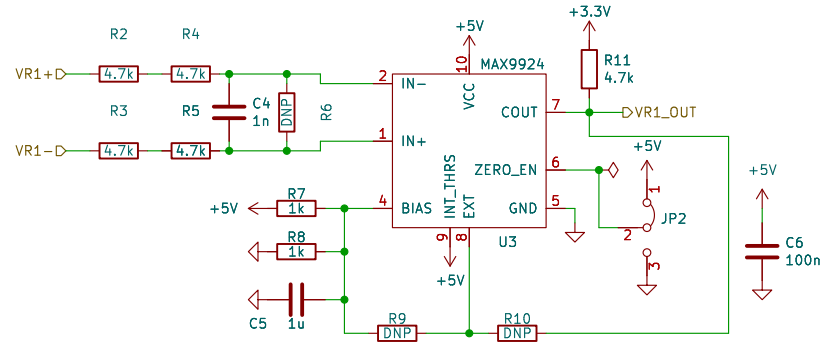


IFX9201 also acceptable

FutureProofPerformance.com	
Sheet: /etb-2/	
File: etb-9201.kicad_sch	
Title: Polygonus Universal 88p	
Size: A4	Date: 2023-11-12
KiCad E.D.A. kicad 7.0.8	Rev: v1.0
	Id: 2/9

Yes, we know that the polarity is flipped going in to the VR interface chips.
 While originally on accident, it's no big deal since they invert anyway;
 When VR+ transitions to a higher voltage than VR-, VR_OUT will output a rising edge.

See issue <https://github.com/mck1117/proteus/issues/57> for more detail



Optional setting in Mode C for no adaptive threshold timeout – See MAX9924 Datasheet
 Components as specified put chip in mode A1. Flip jumper and install R1219+R2020 for mode C.

FutureProofPerformance.com

Sheet: /VR Conditioner/
 File: VR Conditioner.kicad_sch

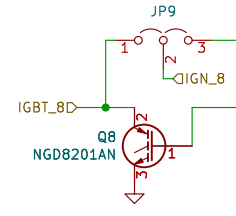
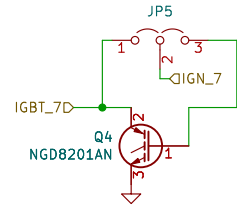
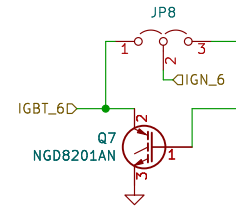
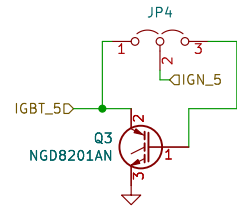
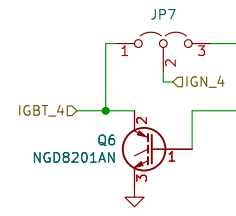
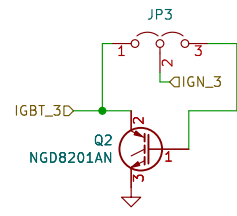
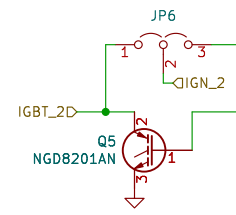
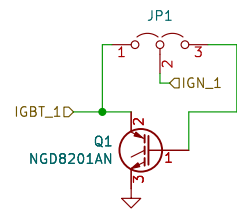
Title: Polygonus Universal 88p

Size: A4 Date: 2023-11-12

KiCad E.D.A. kicad 7.0.8

Rev: v1.0

Id: 4/9



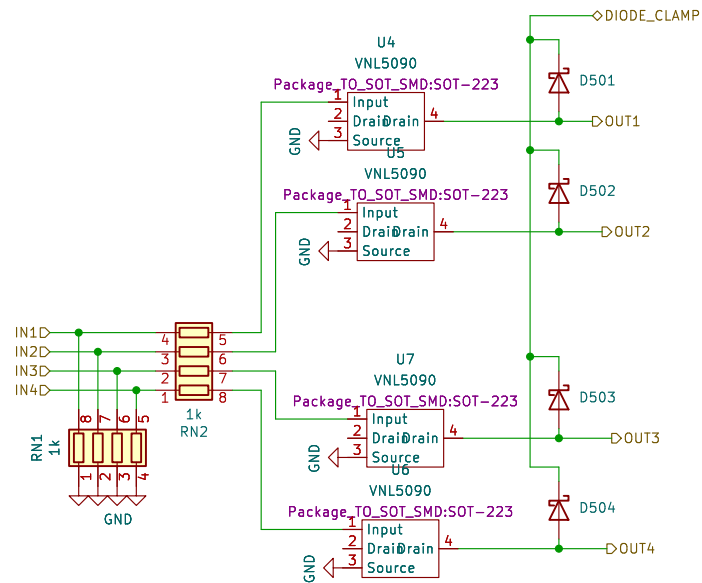
FutureProofPerformance.com

Sheet: /IGBT outputs/
File: IGBT_outputs.kicad_sch

Title: Polygonus Universal 88p

Size: A4 Date: 2023-11-12
KiCad E.D.A. kicad 7.0.8

Rev: v1.0
Id: 5/9



FutureProofPerformance.com

Sheet: /Lowside Adder/
File: Lowside Adder.kicad_sch

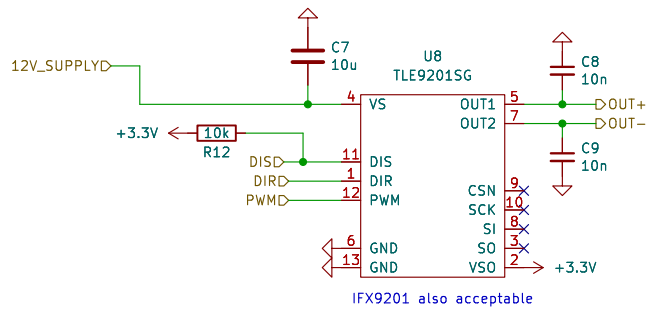
Title: Polygonus Universal 88p

Size: A4 Date: 2023-11-12

KiCad E.D.A. kicad 7.0.8

Rev: v1.0

Id: 6/9



FutureProofPerformance.com

Sheet: /etb-1/

File: etb-9201.kicad_sch

Title: Polygonus Universal 88p

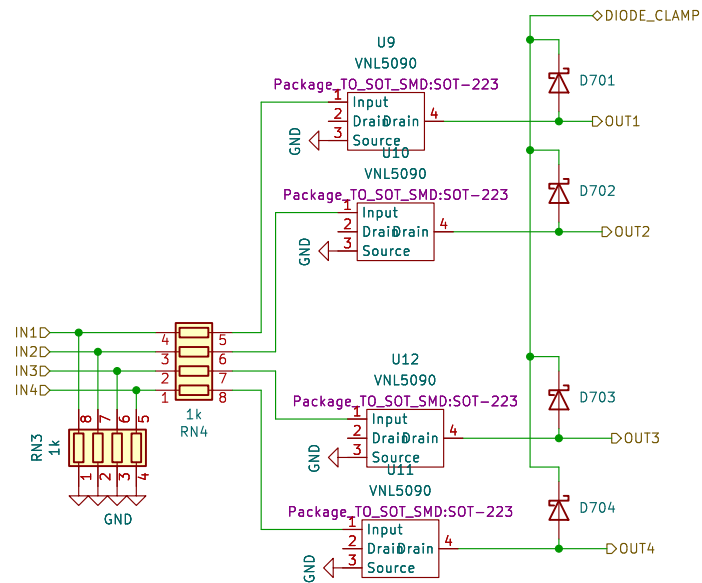
Size: A4

Date: 2023-11-12

Rev: v1.0

KiCad E.D.A. kicad 7.0.8

Id: 7/9



FutureProofPerformance.com

Sheet: /Lowside Adder1/
File: Lowside Adder.kicad_sch

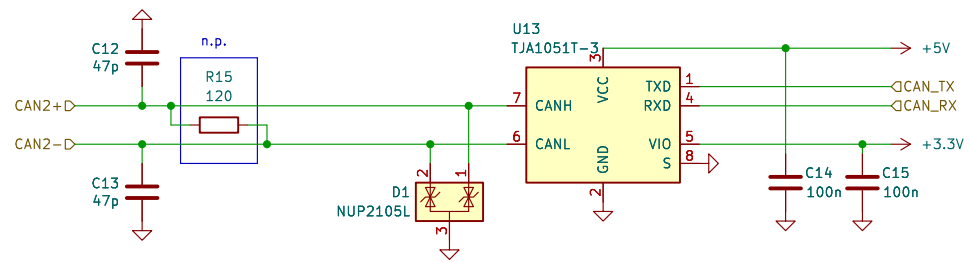
Title: Polygonus Universal 88p

Size: A4 Date: 2023-11-12

KiCad E.D.A. kicad 7.0.8

Rev: v1.0

Id: 8/9



FutureProofPerformance.com

Sheet: /WBO-CAN-TRANS/
File: wbo-can-trans.kicad_sch

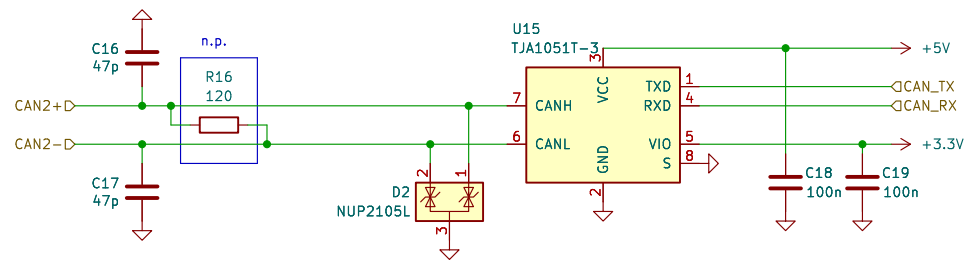
Title: Polygon Universal 88p

Size: A4 Date: 2023-11-12

KiCad E.D.A. kicad 7.0.8

Rev: v1.0

Id: 9/9



FutureProofPerformance.com

Sheet: /WBO-CAN-TRANS1/

File: wbo-can-trans.kicad_sch

Title: Polygon Universal 88p

Size: A4

Date: 2023-11-12

Rev: v1.0

KiCad E.D.A. kicad 7.0.8

Id: 10/9