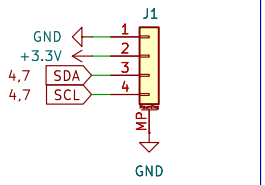
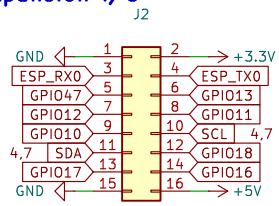
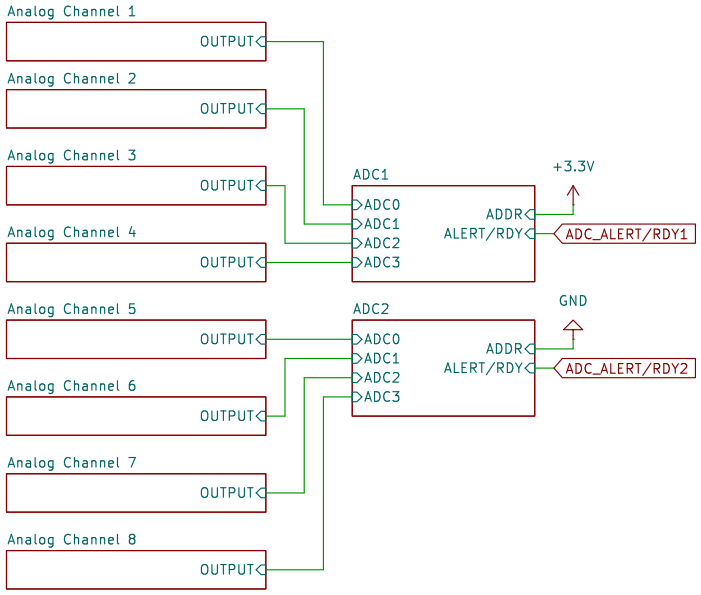
I2C / QWIIC



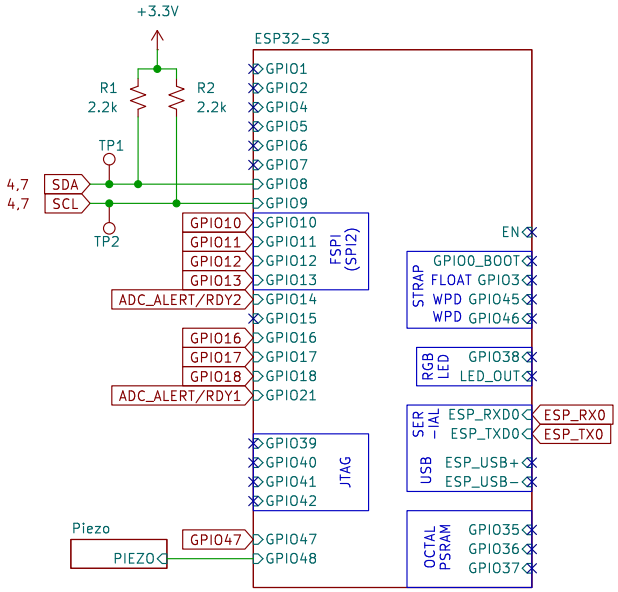
Expansion I/O



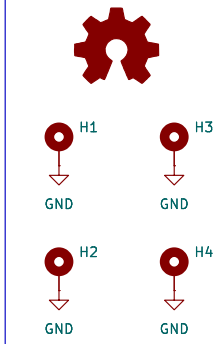
Analog Inputs



ESP32-S3



Misc

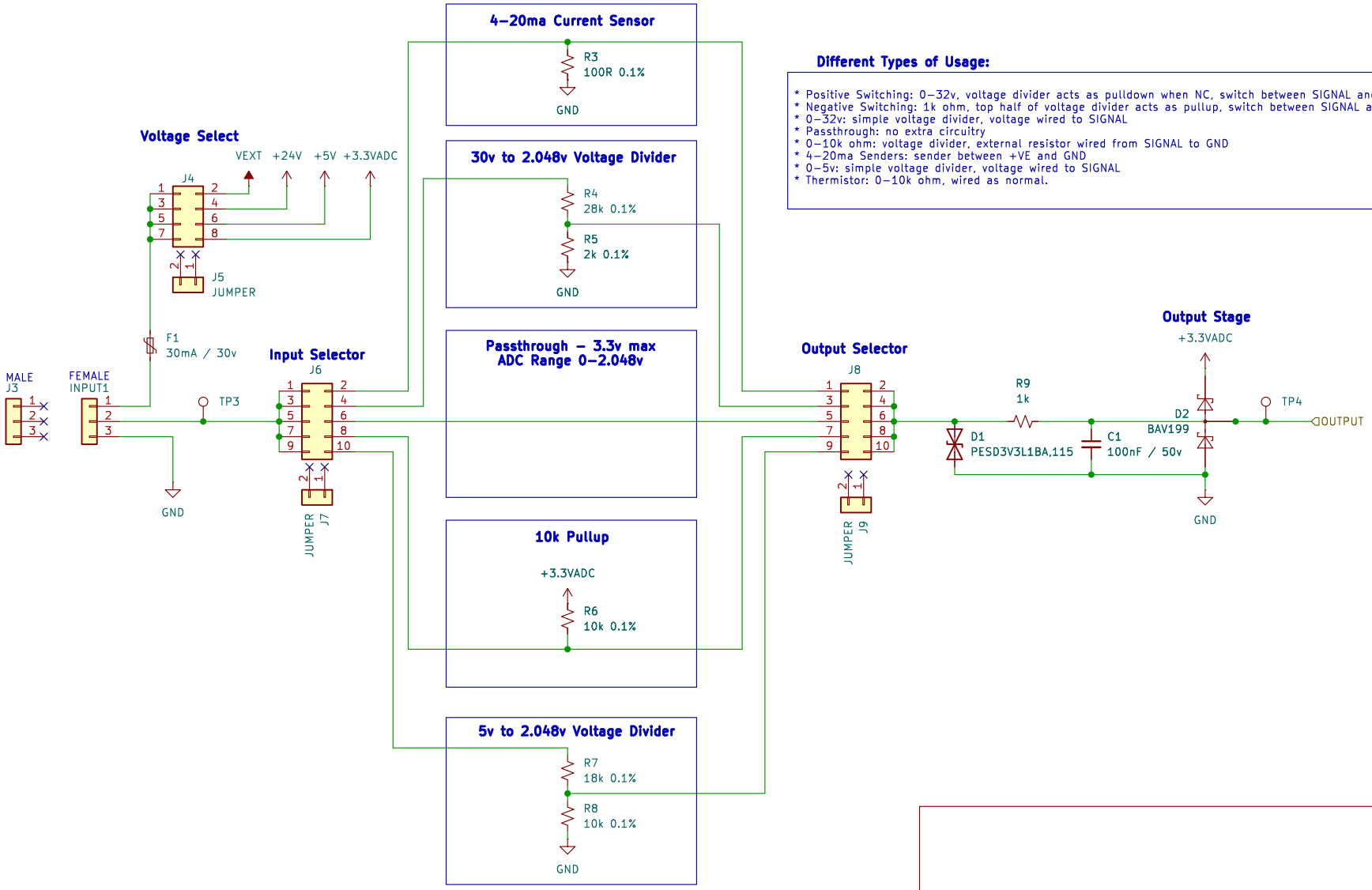


Power Supply

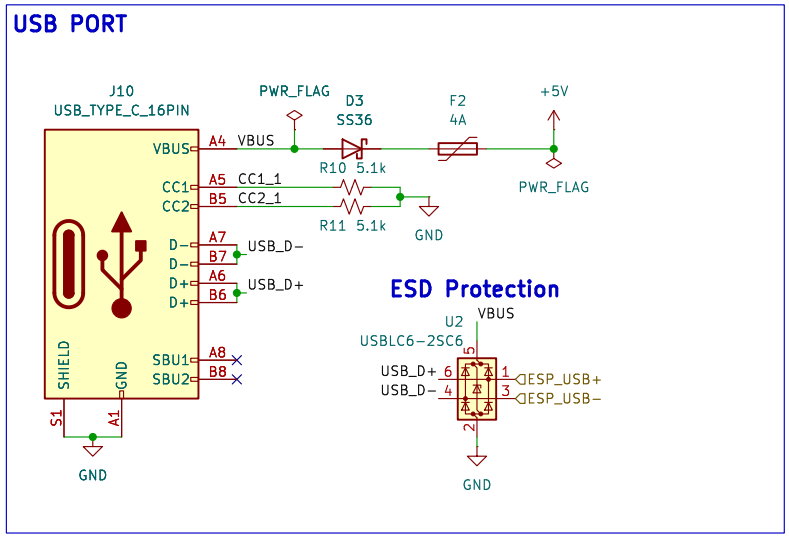
Sheet: /
File: sendit.kicad_sch

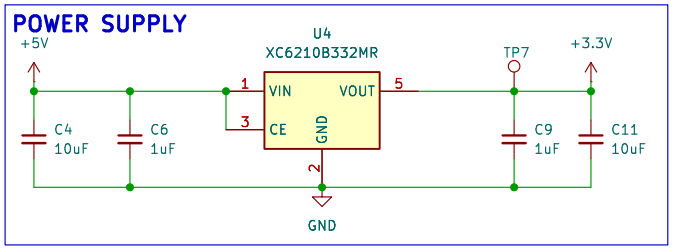
Title: https://github.com/hoeken/sendit

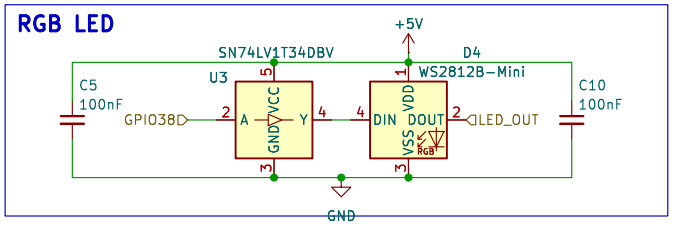
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 1/14

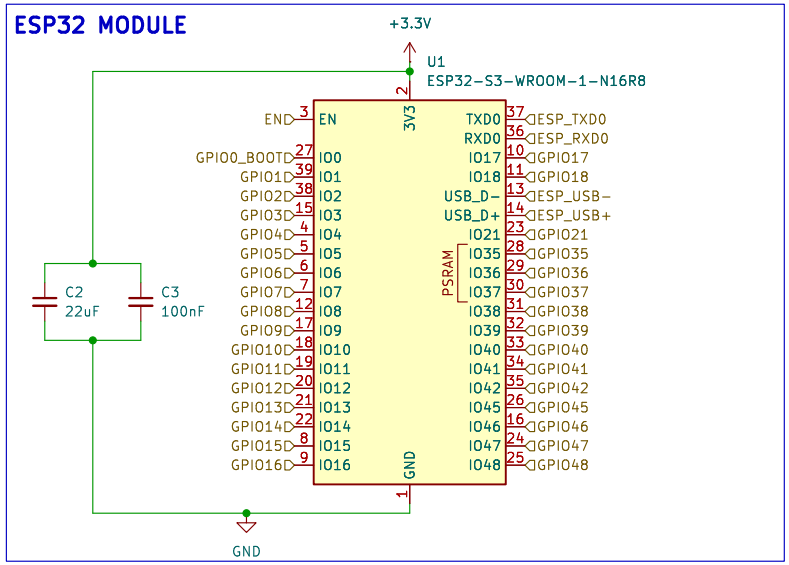


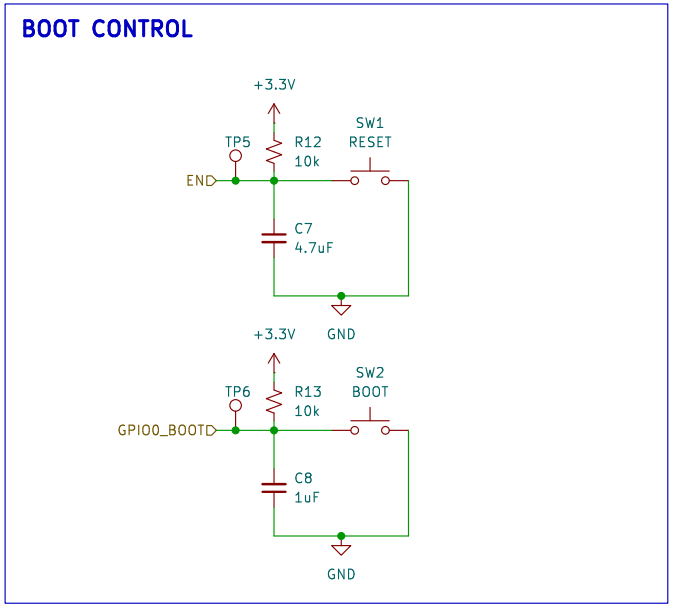
Sheet: /Analog Channel 1/		
File: analog_channel.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 2/14











Originally forked from: github.com/eggsampler/ESP32−S3−Breakout
Updates based on www.waveshare.com/wiki/ESP32−S3−DEV−KIT−N8R8

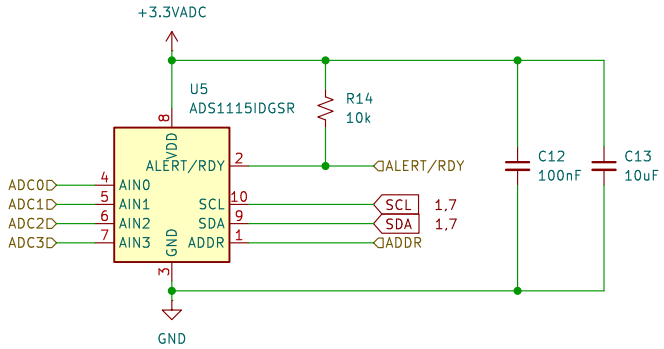
Design by Zach Hoeken

Sheet: /ESP32−S3/
File: esp32−s3.kicad_sch

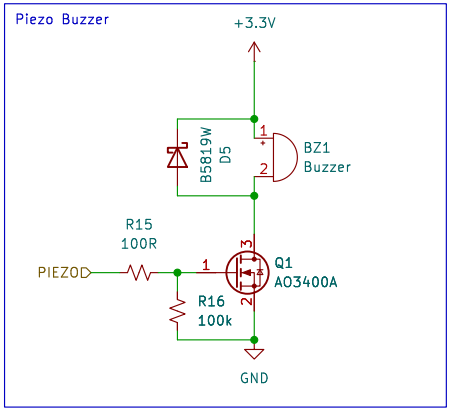
Title: https://github.com/hoeken/sendit

Size: A4	Date: 2025−08−28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 3/14

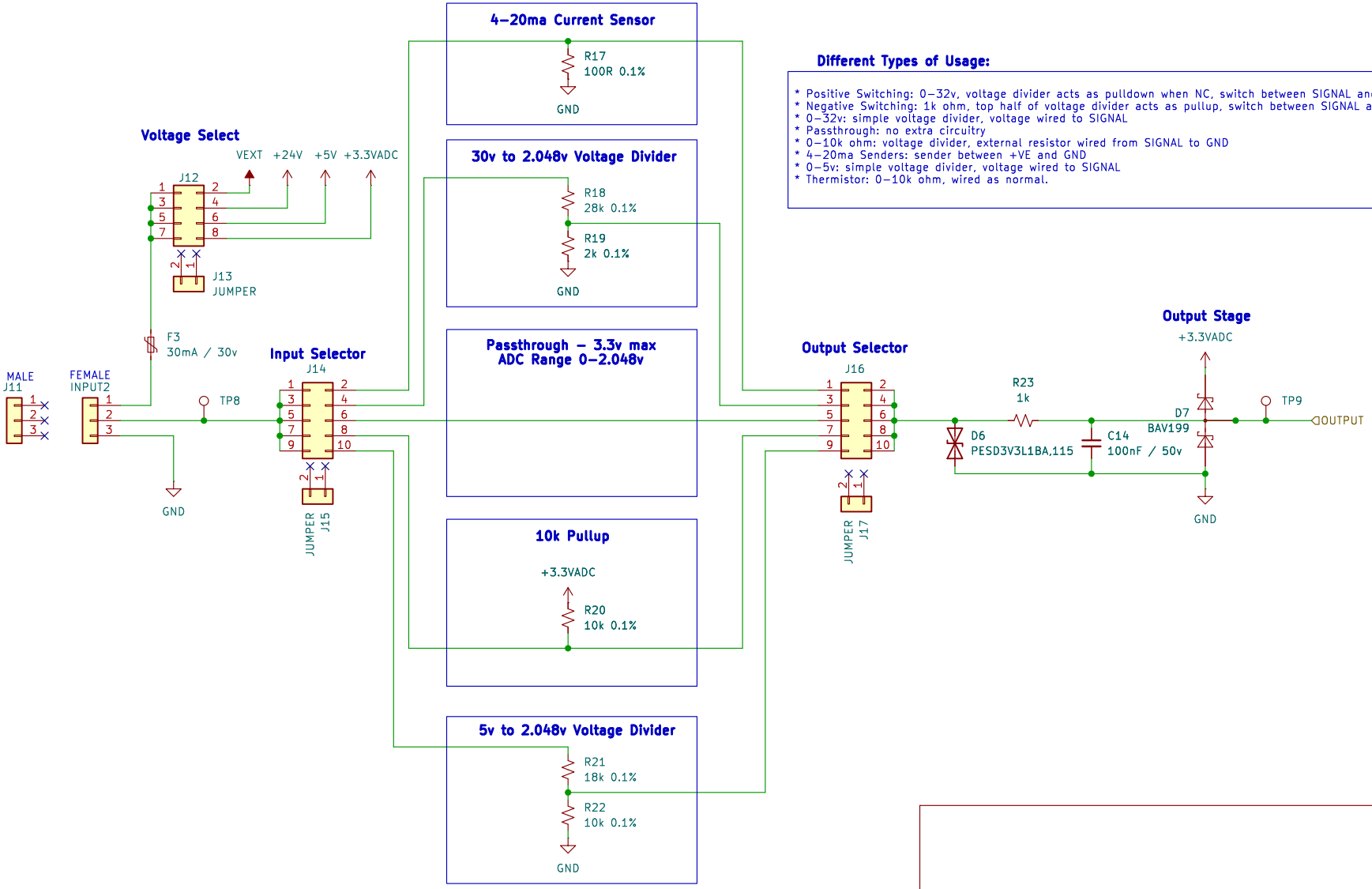
ADC



Sheet: /ADC1/		
File: 1115_adc.kicad_sch		
Title: https://github.com/hoeken/brineomatic		
Size: A4	Date: 2025-08-28	**Rev: B**
KiCad E.D.A. 9.0.6		Id: 4/14

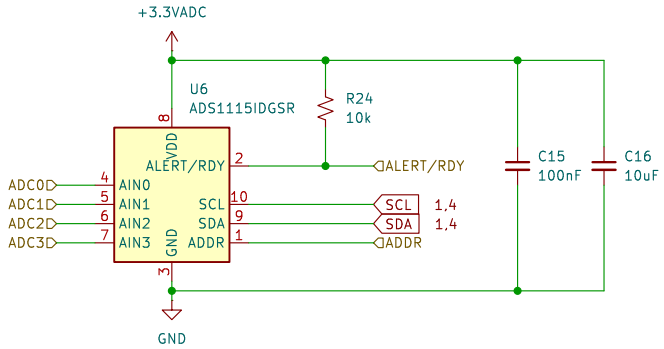


Sheet: /Piezo/		
File: piezo.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 5/14

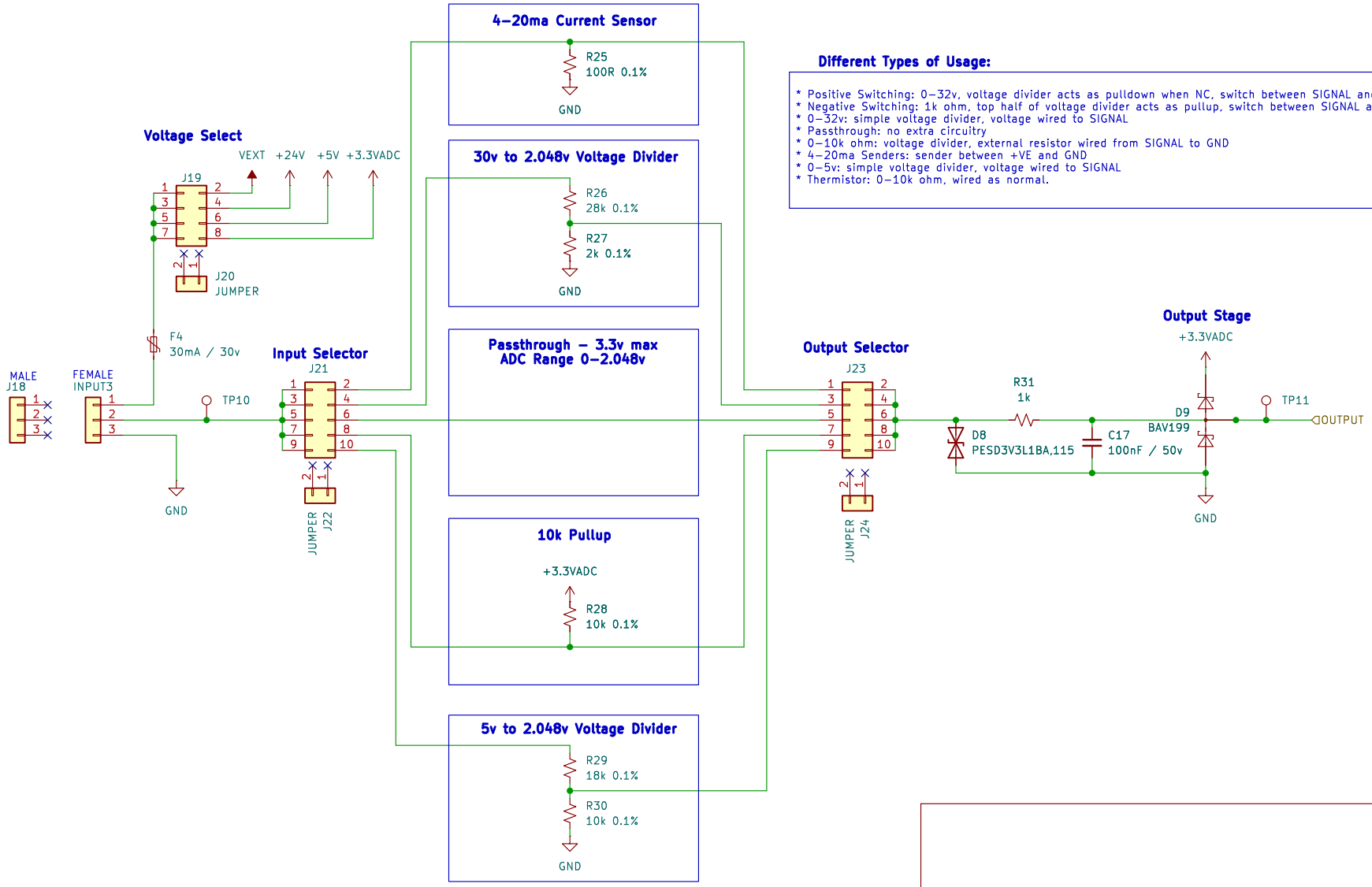


Sheet: /Analog Channel 5/		
File: analog_channel.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 6/14

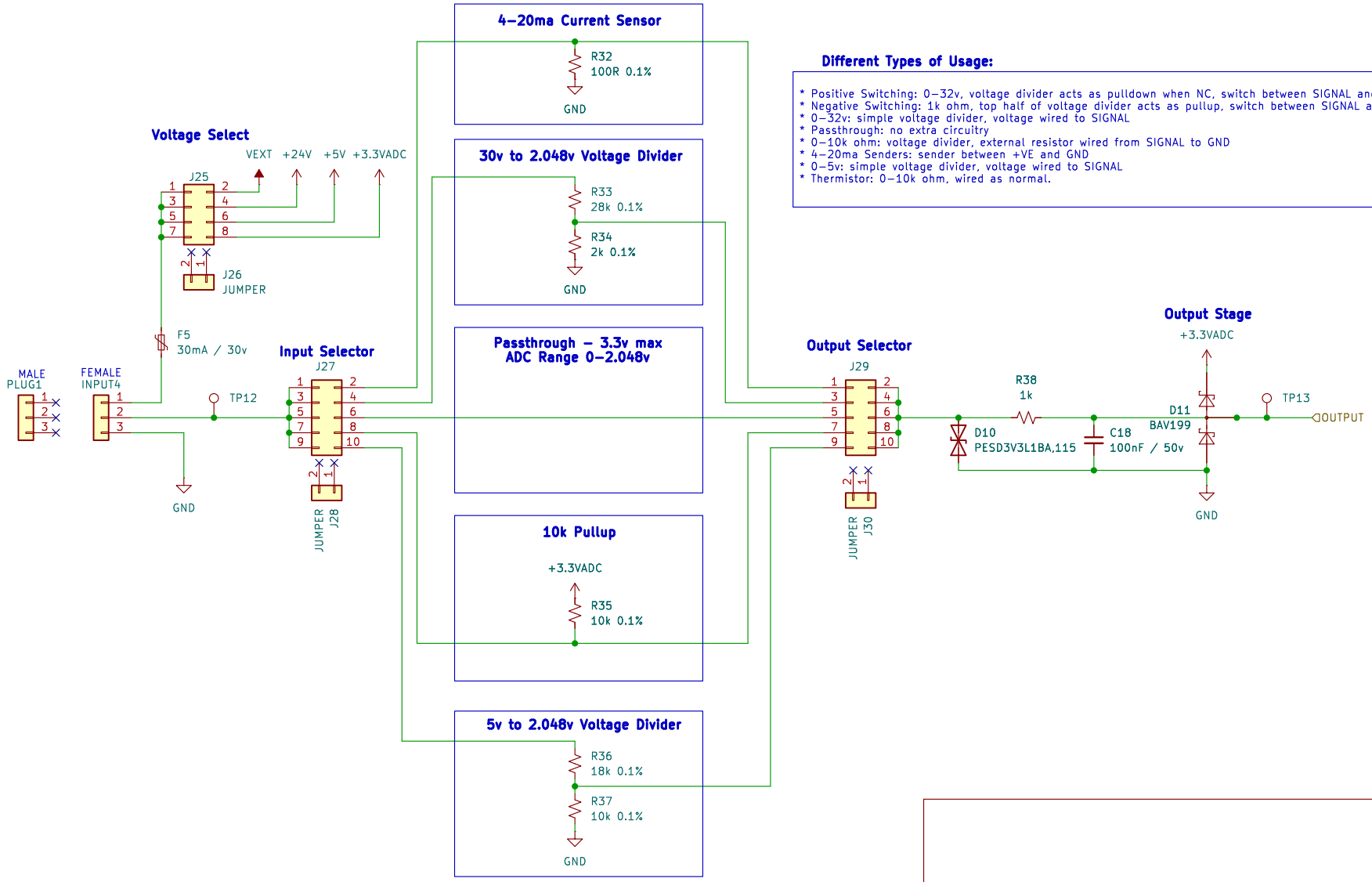
ADC

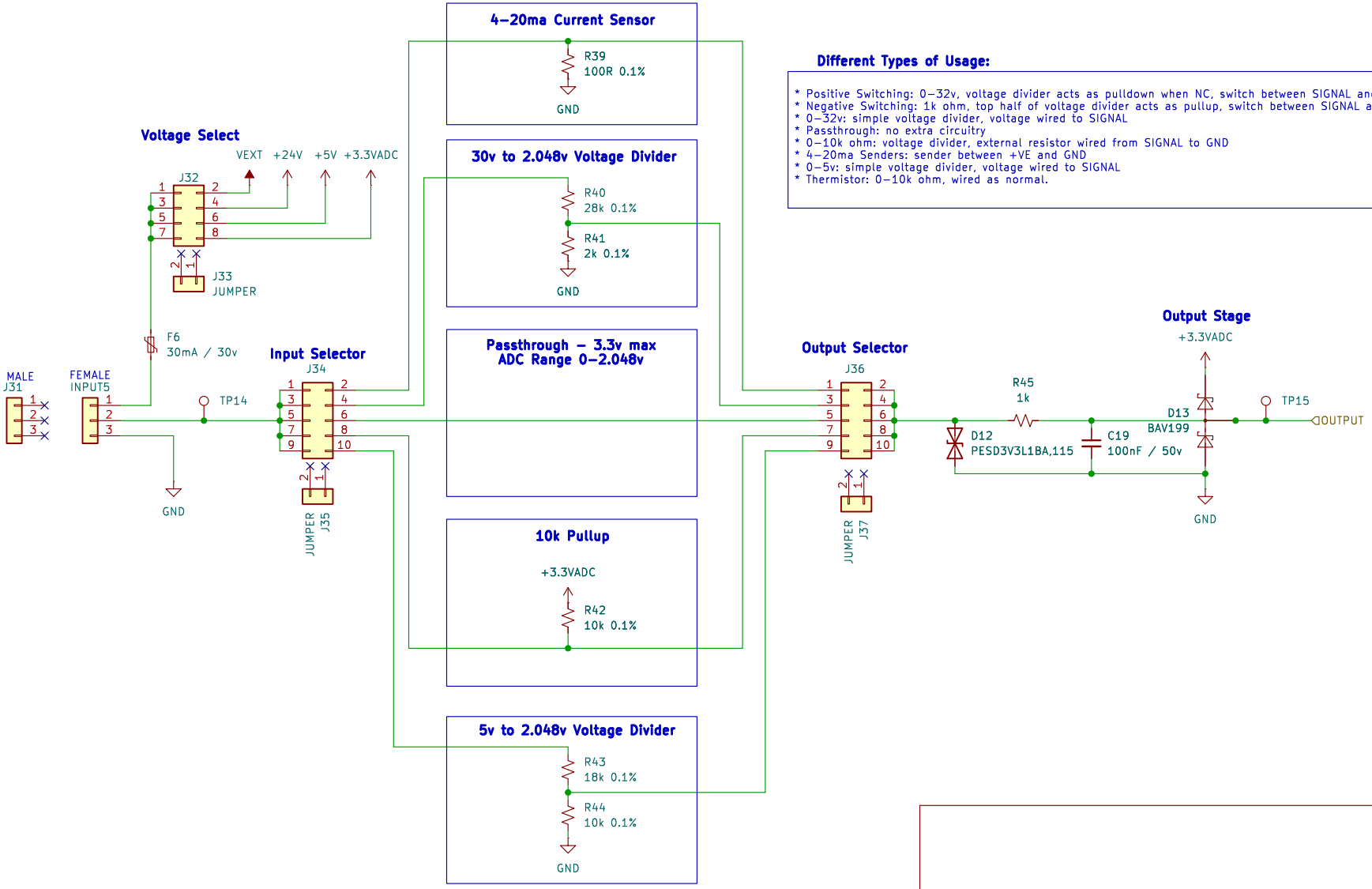


Sheet: /ADC2/		
File: 1115_adc.kicad_sch		
Title: https://github.com/hoeken/brineomatic		
Size: A4	Date: 2025-08-28	**Rev: B**
KiCad E.D.A. 9.0.6		Id: 7/14



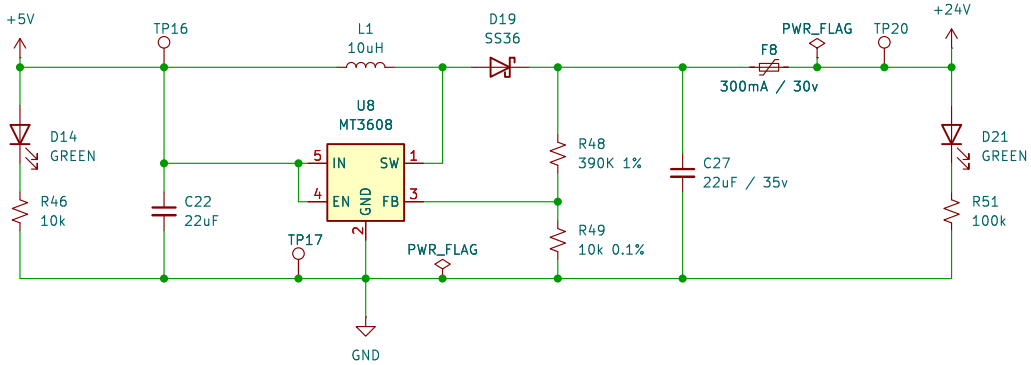
Sheet: /Analog Channel 2/		
File: analog_channel.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 10/14


4–20ma Current Sensor
R32
100R 0.1%
GND
30v to 2.048v Voltage Divider
R33
28k 0.1%
R34
2k 0.1%
GND
Passthrough – 3.3v max
ADC Range 0–2.048v
10k Pullup
+3.3VADC
R35
10k 0.1%
5v to 2.048v Voltage Divider
R36
18k 0.1%
R37
10k 0.1%
GND
Different Types of Usage:
* Positive Switching: 0–32v, voltage divider acts as pulldown when NC, switch between SIGNAL and +VE
* Negative Switching: 1k ohm, top half of voltage divider acts as pullup, switch between SIGNAL and GND
* 0–32v: simple voltage divider, voltage wired to SIGNAL
* Passthrough: no extra circuitry
* 0–10k ohm: voltage divider, external resistor wired from SIGNAL to GND
* 4–20ma Senders: sender between +VE and GND
* 0–5v: simple voltage divider, voltage wired to SIGNAL
* Thermistor: 0–10k ohm, wired as normal.
Voltage Select
VEXT +24V +5V +3.3VADC
J25
J26
JUMPER
F5
30mA / 30v
MALE
PLUG1
FEMALE
INPUT4
TP12
GND
Input Selector
J27
JUMPER
J28
Output Selector
J29
JUMPER
J30
R38
1k
D10
PESD3V3L1BA,115
C18
100nF / 50v
D11
BAV199
+3.3VADC
GND
Output Stage
TP13
OUTPUT
Sheet: /Analog Channel 3/
File: analog_channel.kicad_sch
Title: https://github.com/hoeken/sendit
Size: A4
Date: 2025-08-28
Rev: C
KiCad E.D.A. 9.0.6
Id: 17/14

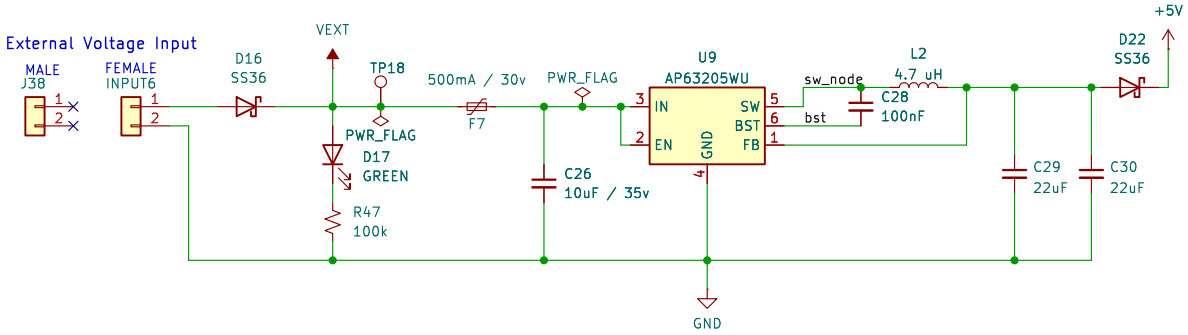


Sheet: /Analog Channel 4/		
File: analog_channel.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 24/14

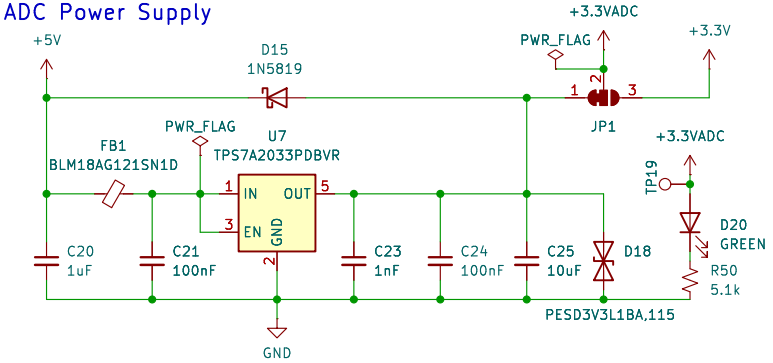
5V to 24V Boost Converter



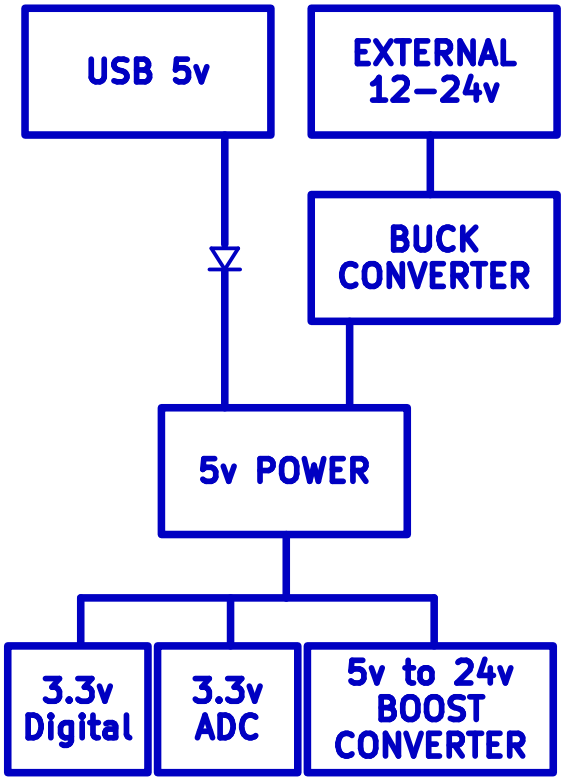
24v to 5v Buck Converter



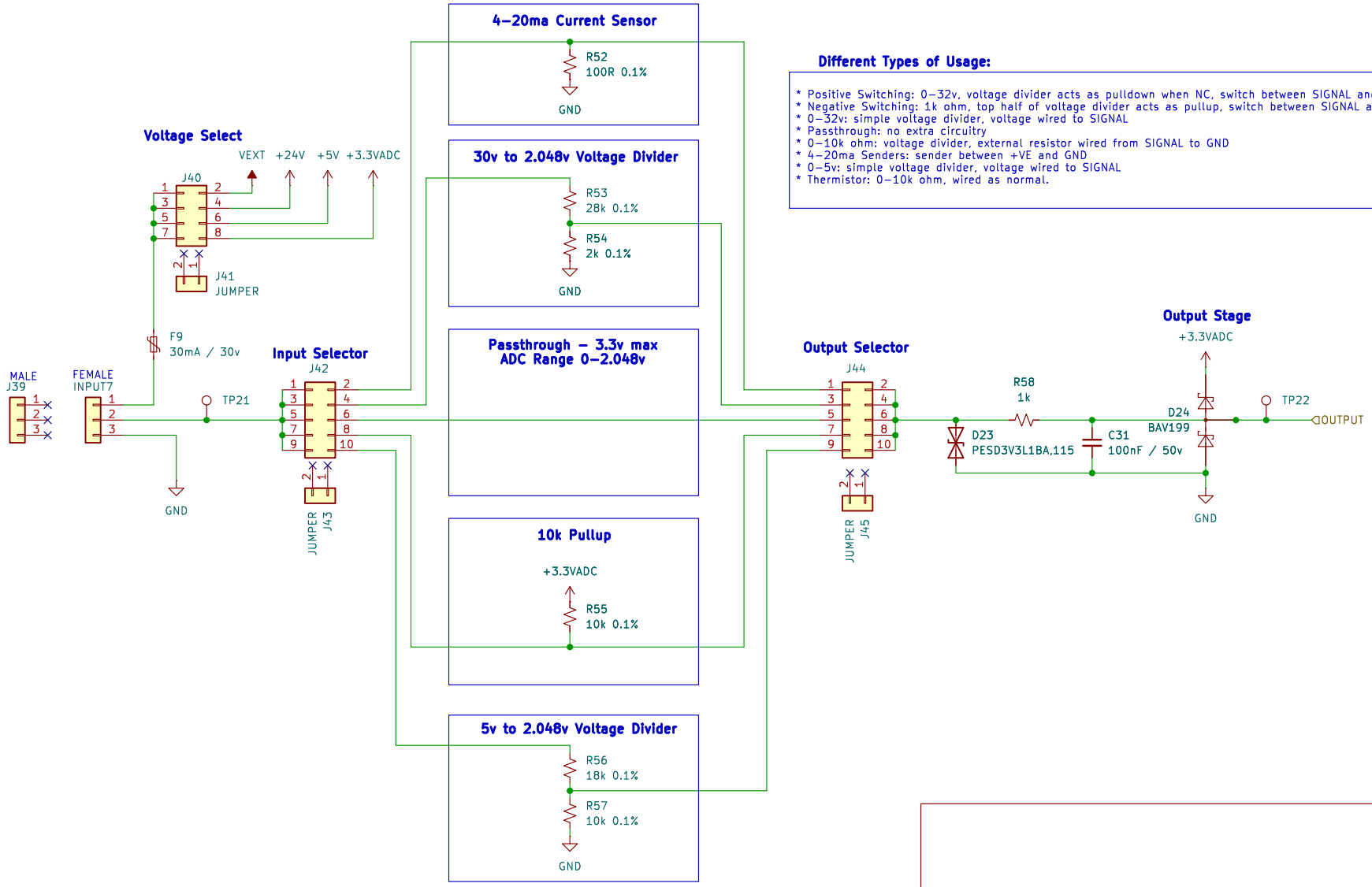
ADC Power Supply



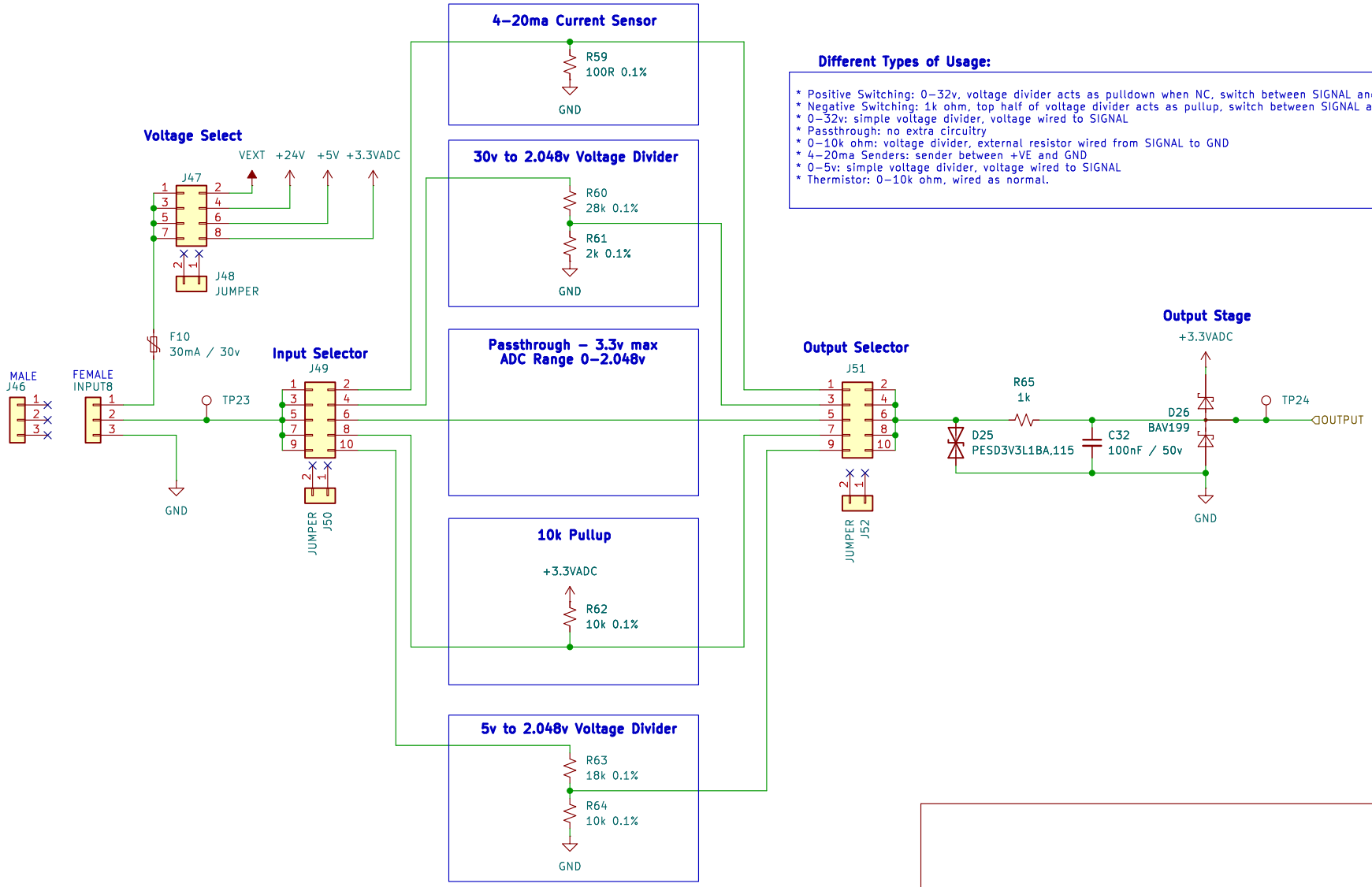
POWER TOPOLOGY



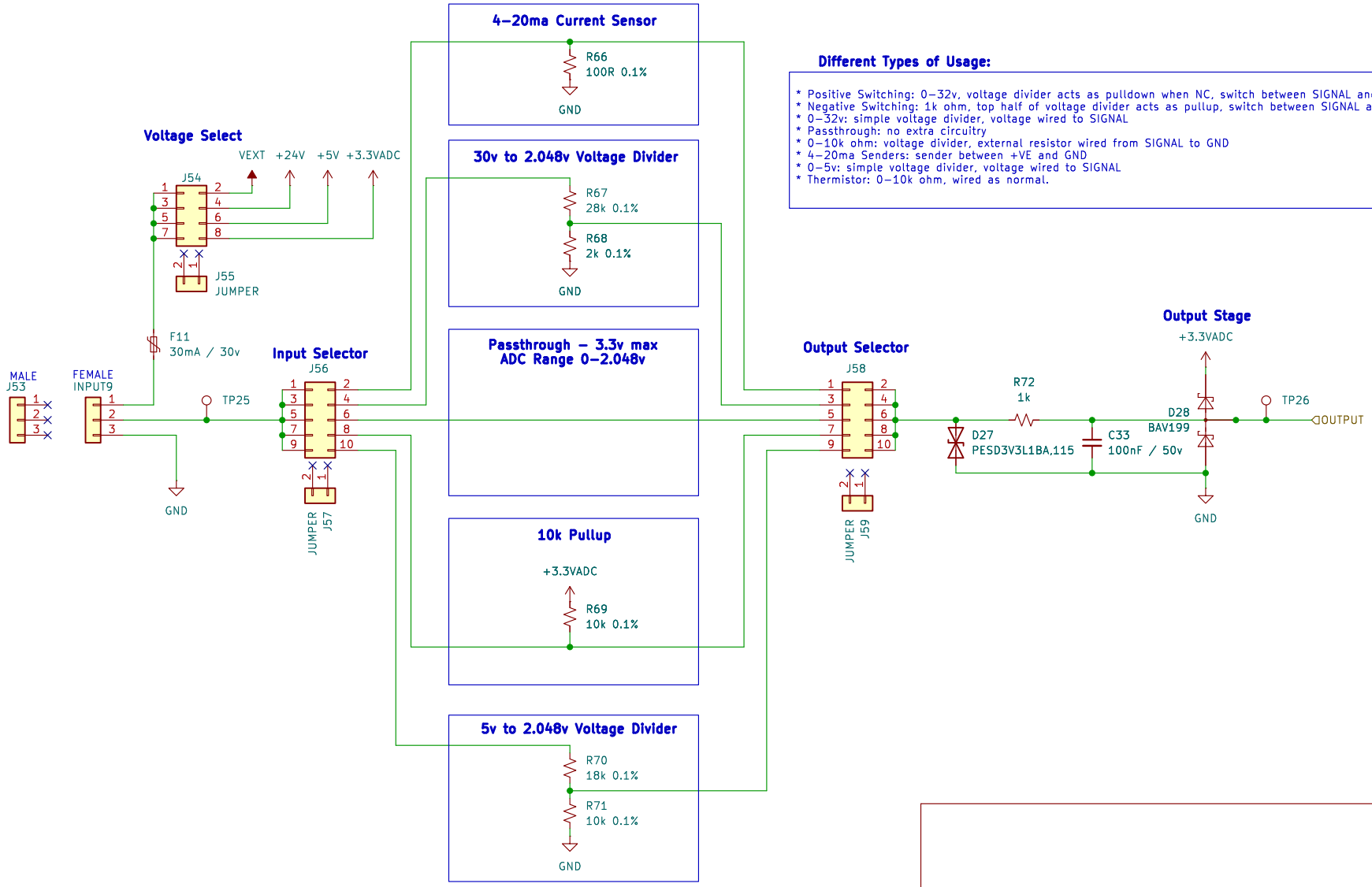
Sheet: /Power Supply/		
File: power_supply.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 27/14



Sheet: /Analog Channel 6/	
File: analog_channel.kicad_sch	
Title: https://github.com/hoeken/sendit	
Size: A4	Date: 2025-08-28
KiCad E.D.A. 9.0.6	Id: 30/14
	Rev: C



Sheet: /Analog Channel 7/		
File: analog_channel.kicad_sch		
Title: https://github.com/hoeken/sendit		
Size: A4	Date: 2025-08-28	**Rev: C**
KiCad E.D.A. 9.0.6		Id: 36/14


4–20ma Current Sensor
R66
100R 0.1%
GND
30v to 2.048v Voltage Divider
R67
28k 0.1%
R68
2k 0.1%
GND
Passthrough – 3.3v max
ADC Range 0–2.048v
10k Pullup
+3.3VADC
R69
10k 0.1%
5v to 2.048v Voltage Divider
R70
18k 0.1%
R71
10k 0.1%
GND
Different Types of Usage:
* Positive Switching: 0–32v, voltage divider acts as pulldown when NC, switch between SIGNAL and +VE
* Negative Switching: 1k ohm, top half of voltage divider acts as pullup, switch between SIGNAL and GND
* 0–32v: simple voltage divider, voltage wired to SIGNAL
* Passthrough: no extra circuitry
* 0–10k ohm: voltage divider, external resistor wired from SIGNAL to GND
* 4–20ma Senders: sender between +VE and GND
* 0–5v: simple voltage divider, voltage wired to SIGNAL
* Thermistor: 0–10k ohm, wired as normal.
Voltage Select
VEXT +24V +5V +3.3VADC
J54
J55
JUMPER
F11
30mA / 30v
MALE
J53
FEMALE
INPUT9
TP25
GND
Input Selector
J56
JUMPER
J57
Output Selector
J58
JUMPER
J59
R72
1k
D27
PESD3V3L1BA,115
C33
100nF / 50v
Output Stage
+3.3VADC
D28
BAV199
TP26
OUTPUT
GND
Sheet: /Analog Channel 8/
File: analog_channel.kicad_sch
Title: https://github.com/hoeken/sendit
Size: A4
Date: 2025-08-28
Rev: C
KiCad E.D.A. 9.0.6
Id: 42/14