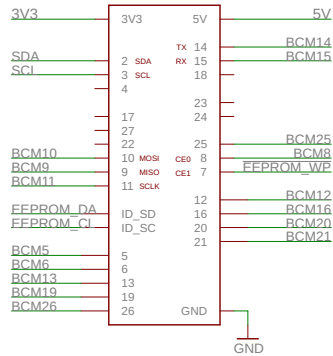
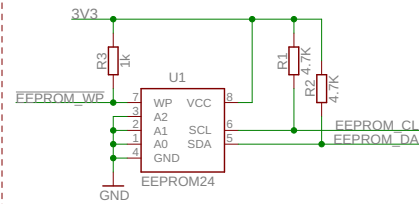


# Automation HAT

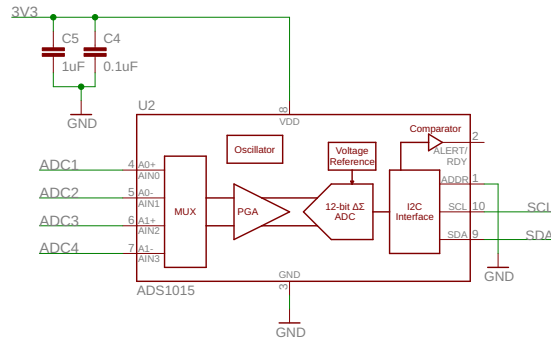
## GPIO connector



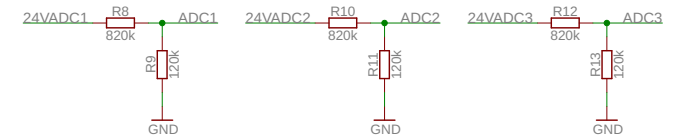
## HAT EEPROM



## ADC

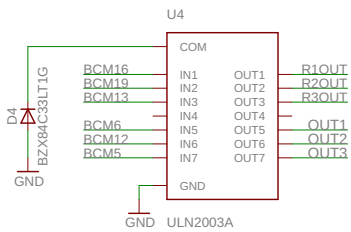


## Analog Input Resistor Dividers



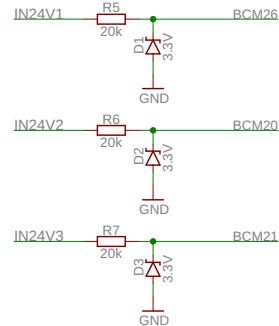
Scale the input on ADC channels to bring the maximum of 24V to below the ADCs non amplified range of 0V to 3.3V.  
 $120k$  and  $820k$  scale  $25.85V$  to  $3.3V$ .  
 $V_{adc} = V_{in} * (120 / (120 + 820))$   
 $V_{in} = V_{adc} / (120 / (120 + 820))$

## Relay & sinking outputs driver

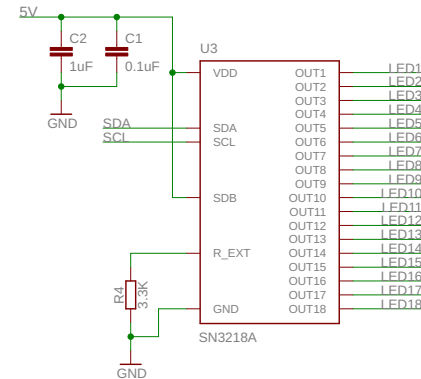


## Buffers for 24V Tolerant Inputs

Max drop across resistor is  $20.7V$ ,  
 $20k$  resistor inline limits current to around  $1mA$

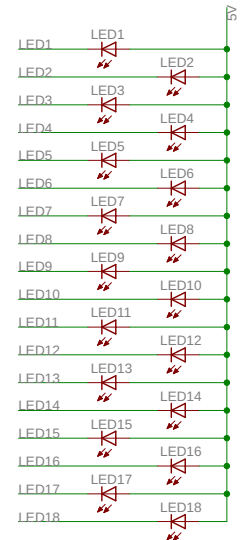


## LED Driver

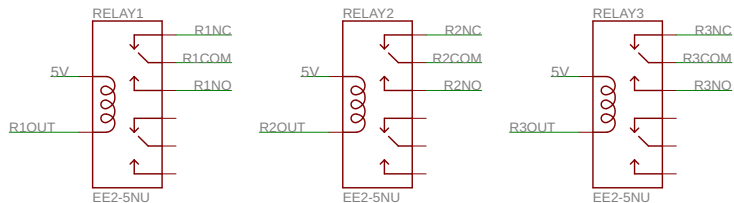


## LEDs

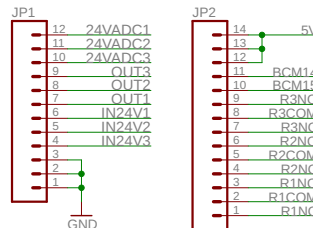
All white, except:  
 Power (LED18): blue  
 Comms (LED17): green  
 Warn (LED16): red



## Relays



## Screw terminals



## Extension connector (optional)

