Pins

Controller Board Pin	RP Pico Pin	Color	Purpose	Controller board pins cross connections	Harness
3		Red	VCC+ Power to the boards		
4		Black	GND. Power to the boards		
6	38 (GND)	Black			
7	39 (VSYS)	Red	Supplies power to RP board		
8	26 (GP20)	White	Motion sensor or bypass switch		RP
9	25 (GP19)	Yellow	Limit switch 2		RP
10	24 (GP18)	Blue	Limit switch 1		RP
11	23 (GP21)	Red	Motion sensor		RP
12	22 (GP17)	Green	GPIO Out to DPDT trigger		RP
13	21 (GP16)	Black	GPIO out SPST trigger		RP
15		Black	To common pin of bypass switch		Bypass switch
16		Red	Trigger voltage (1M pull-up resistor to VCC+)		Bypass switch
2*		Red	Trigger voltage (1M pull-up resistor to VCC+)	10	Limit Switch 1
3*		Red	Trigger voltage (1M pull-up resistor to VCC+)	9	Limit Switch 2
4*		Black	GND to both limit switches.		
5*		White	Trigger from motion sensor connects to Pin 6 of controller board.	11	Motion sensor
6*		Red	VCC		Motion sensor
7*		Black	GND		Motion sensor
8*		Red	A diode and resistor will be connected directly on the LED	13*	Eyes
9*		Black	GND		Eyes
10*		Red	VCC		SPST
11		Black	GND		SPST
12*		Blue	Relay trigger. Triggered by GP16.	13	SPST
13*		White	NO of SPST connects to DPDT Relay	14*,8*	SPST
14*		Red	VCC in from SPST relay	13*	DPDT
15*		Black	GND		DPDT
16*		Blue	DPDT relay trigger. Triggered by GP17.	12	DPDT

Last modified 2/17/2025

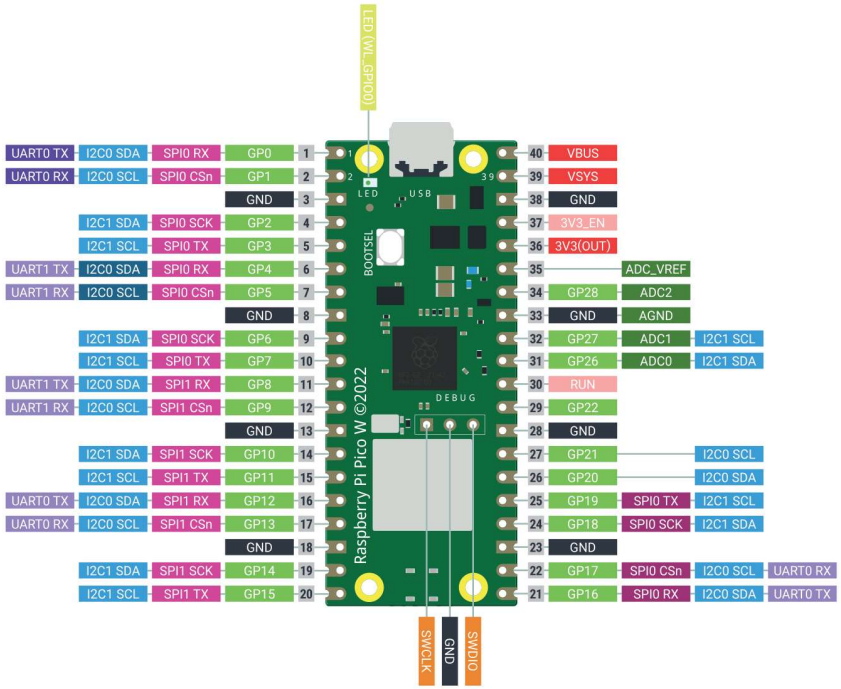
Raspberry Pi Pico W Pinout

RP2040

- Power
- Ground
- UART / UART (default)
- GPIO, PIO, and PWM
- ADC
- SPI / SPI (default)
- I2C / I2C (default)
- System Control
- Debugging

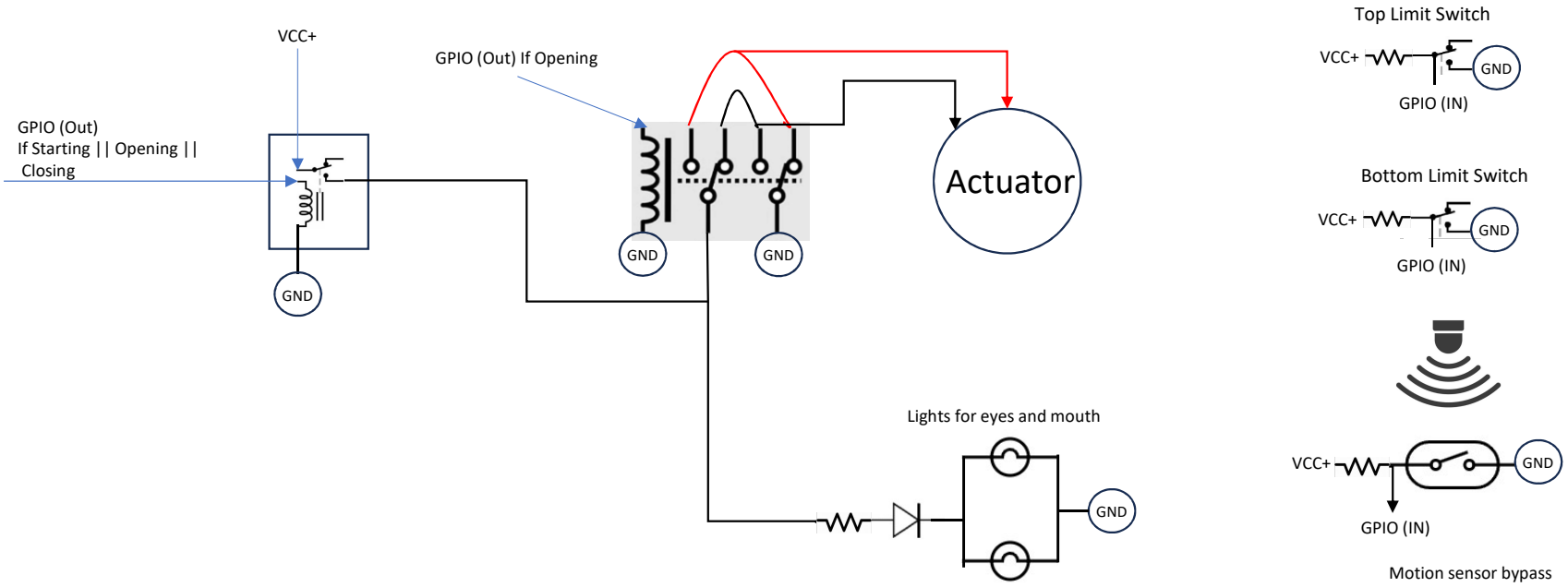
Infineon 43439

- GPIO



Raspberry Pi

Electrical Circuit Diagram



States and Actions (Events)