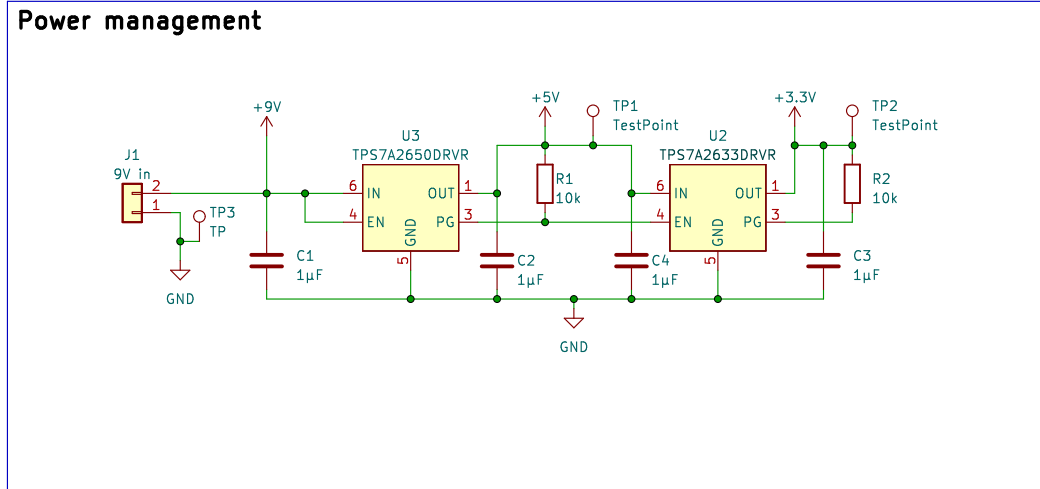


Power management



Connectors

The diagram illustrates the electrical connections for a USB connector (P1) and a microcontroller (P2). The USB connector is labeled "USB_C_Plug_USB2.0" and features pins A4, A5, A6, A7, B4, B5, B6, B7, D-, D+, and SHIELD. The microcontroller has pins P1 through P100. The circuit includes a +5V supply, a VBUS pin, a CC pin, a VCONN pin, a D- pin, a D+ pin, a SHIELD pin, a GND pin, and a USB connector. The microcontroller pins are connected to the USB connector pins. The circuit also includes a 5.1k resistor (R15) and a 5.1k resistor (R14). The microcontroller pins are connected to the USB connector pins. The circuit also includes a 5.1k resistor (R15) and a 5.1k resistor (R14).

USB Connector (P1) Pinout:

- A4: +5V
- A5: VBUS
- A6: USB_DP
- A7: USB_DM
- B4: VCONN
- B5: VCONN
- B6: USB_DP
- B7: USB_DM
- D-: D-
- D+: D+
- SHIELD: SHIELD
- GND: GND

Microcontroller (P2) Pinout:

- P1: GND
- P2: GND
- P3: GND
- P4: GND
- P5: GND
- P6: GND
- P7: GND
- P8: GND
- P9: GND
- P10: GND
- P11: GND
- P12: GND
- P13: GND
- P14: GND
- P15: GND
- P16: GND
- P17: GND
- P18: GND
- P19: GND
- P20: GND
- P21: GND
- P22: GND
- P23: GND
- P24: GND
- P25: GND
- P26: GND
- P27: GND
- P28: GND
- P29: GND
- P30: GND
- P31: GND
- P32: GND
- P33: GND
- P34: GND
- P35: GND
- P36: GND
- P37: GND
- P38: GND
- P39: GND
- P40: GND
- P41: GND
- P42: GND
- P43: GND
- P44: GND
- P45: GND
- P46: GND
- P47: GND
- P48: GND
- P49: GND
- P50: GND
- P51: GND
- P52: GND
- P53: GND
- P54: GND
- P55: GND
- P56: GND
- P57: GND
- P58: GND
- P59: GND
- P60: GND
- P61: GND
- P62: GND
- P63: GND
- P64: GND
- P65: GND
- P66: GND
- P67: GND
- P68: GND
- P69: GND
- P70: GND
- P71: GND
- P72: GND
- P73: GND
- P74: GND
- P75: GND
- P76: GND
- P77: GND
- P78: GND
- P79: GND
- P80: GND
- P81: GND
- P82: GND
- P83: GND
- P84: GND
- P85: GND
- P86: GND
- P87: GND
- P88: GND
- P89: GND
- P90: GND
- P91: GND
- P92: GND
- P93: GND
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- P95: GND
- P96: GND
- P97: GND
- P98: GND
- P99: GND
- P100: GND

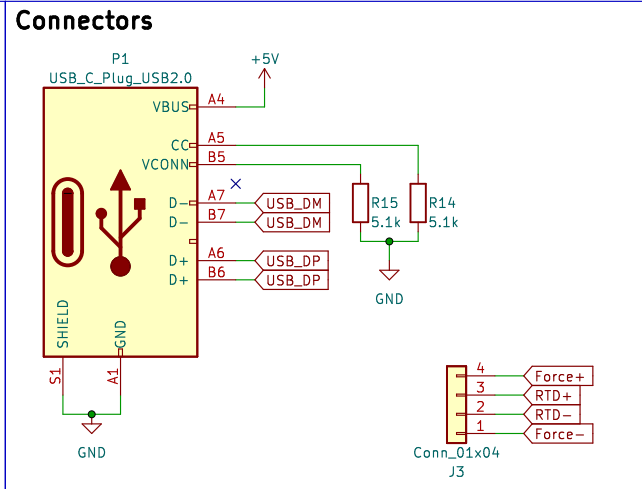
Resistor Values:

- R15: 5.1k
- R14: 5.1k

Connector Pinout:

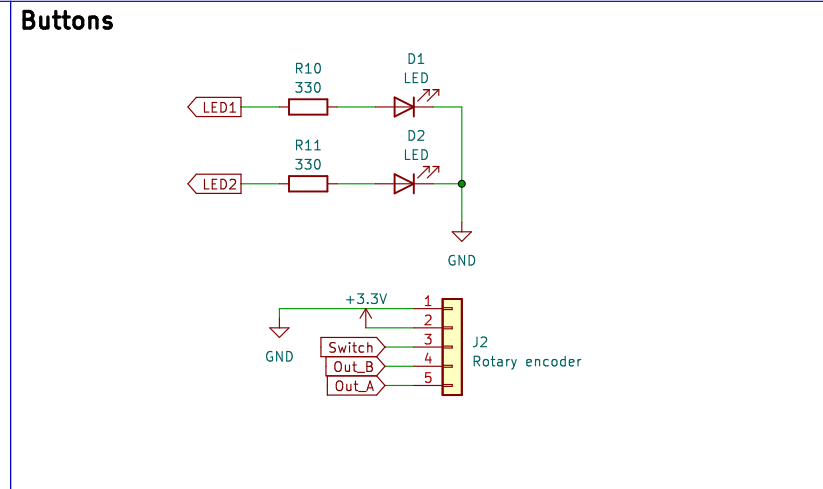
- 4: Force+
- 3: RTD+
- 2: RTD-
- 1: Force-

Conn_01x04 J3



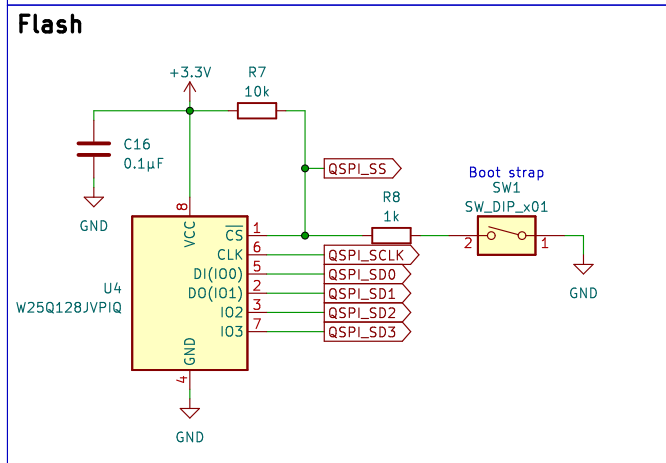
Buttons

The diagram illustrates the wiring for two buttons and a rotary encoder. At the top, two LEDs, LED1 and LED2, are connected in series with resistors R10 and R11 (both 330 ohms) to two LEDs, D1 and D2. The anodes of D1 and D2 are connected to the LEDs, and their cathodes are connected to a common ground (GND). Below this, a rotary encoder J2 is shown with five pins. Pin 1 is connected to +3.3V, pin 2 to GND, pin 3 to a switch, pin 4 to Out_B, and pin 5 to Out_A.

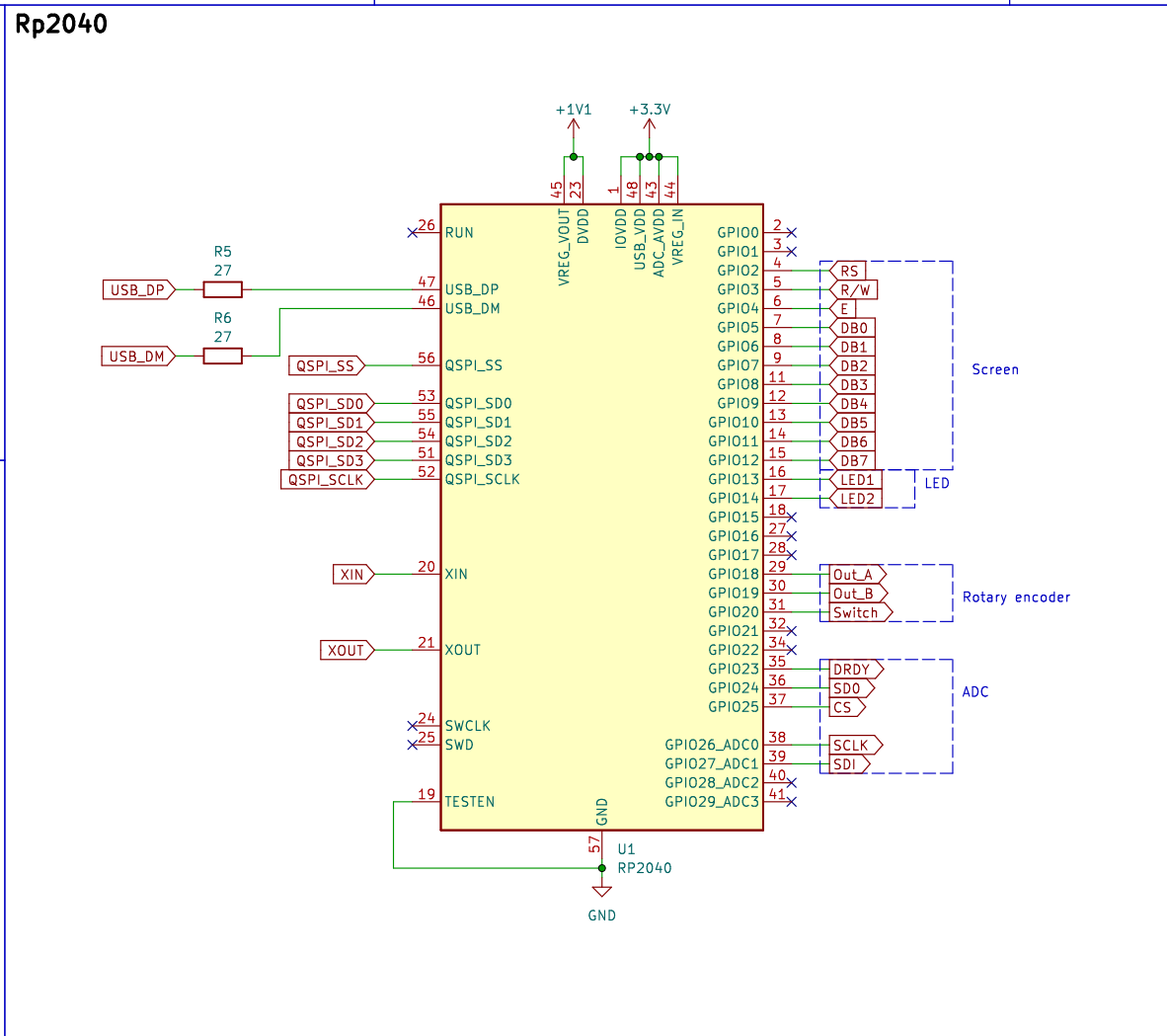


Flash

The schematic diagram illustrates the Flash memory connection for the W25Q128J VPIQ (U4). The chip is connected to a +3.3V supply via a 0.1µF capacitor (C16) and a 10k resistor (R7). The chip's VCC (pin 8) is connected to +3.3V, and its GND (pin 4) is connected to ground. The chip's CS (pin 1) is connected to a boot strap switch (SW1, SW_DIP_x01) via a 1k resistor (R8). The chip's CLK (pin 6) is connected to the QSPL_SCLK signal. The chip's DI(100) (pin 5) is connected to the QSPL_SD0 signal. The chip's DO(101) (pin 3) is connected to the QSPL_SD1 signal. The chip's IO2 (pin 2) is connected to the QSPL_SD2 signal. The chip's IO3 (pin 7) is connected to the QSPL_SD3 signal. The boot strap switch (SW1) is connected to the SW_DIP_x01 signal, which is connected to ground.

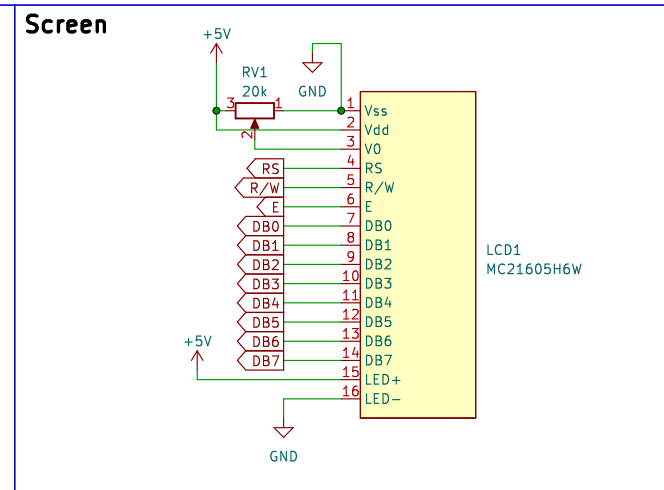


Rp2040

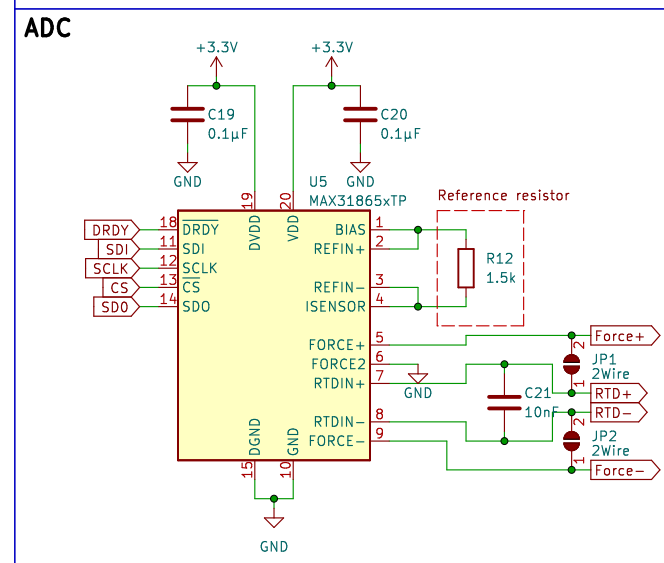
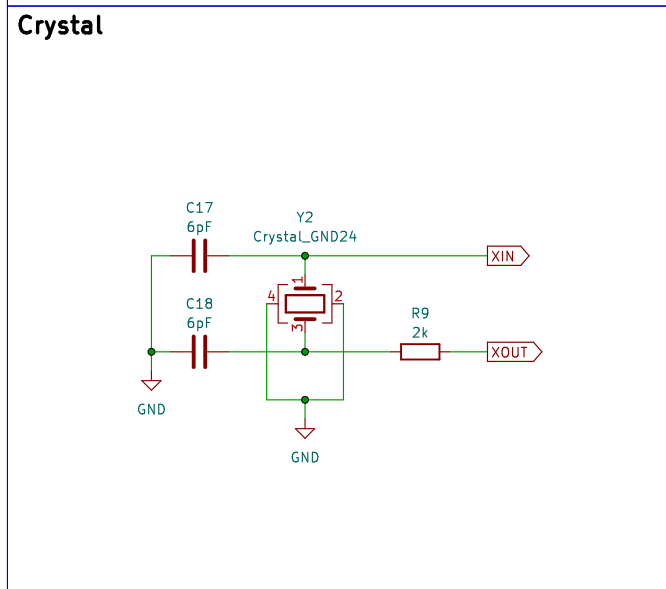


Screen

The diagram shows the LCD1 module (MC21605H6W) connected to a +5V supply and ground. The module has 16 pins. Pin 1 is Vss, Pin 2 is Vdd, Pin 3 is V0, Pin 4 is RS, Pin 5 is R/W, Pin 6 is E, Pin 7 is DB0, Pin 8 is DB1, Pin 9 is DB2, Pin 10 is DB3, Pin 11 is DB4, Pin 12 is DB5, Pin 13 is DB6, Pin 14 is DB7, Pin 15 is LED+, and Pin 16 is LED-. A 20k resistor (RV1) is connected between the +5V supply and Pin 1. The ground connection is shown at Pin 2 and Pin 16.

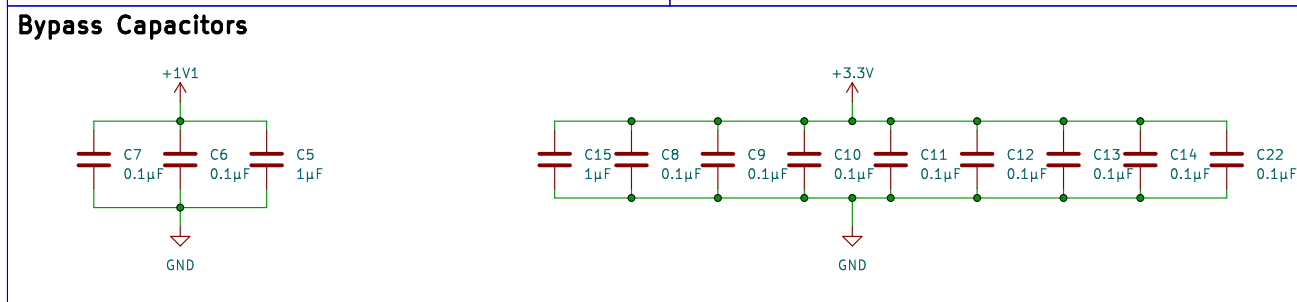


Crystal







Bypass Capacitors

The left diagram illustrates a parallel bypass capacitor configuration. It shows three capacitors, C7 (0.1µF), C6 (0.1µF), and C5 (1µF), connected in parallel between the +1V1 supply rail and ground (GND). The right diagram illustrates a series bypass capacitor configuration. It shows a chain of nine capacitors, C15 (1µF), C8 (0.1µF), C9 (0.1µF), C10 (0.1µF), C11 (0.1µF), C12 (0.1µF), C13 (0.1µF), C14 (0.1µF), and C22 (0.1µF), connected in series between the +3.3V supply rail and ground (GND).



Mounting Holes

	H4 MountingHole		H3 MountingHole
	H1 MountingHole		H2 MountingHole

