BCU

KNX_RX	
KNX_TXD	
KNX_SAVED	
PROG	
LED_PROG	
LED_INFO	

File: BCU.kicad_sch

Progger

USB_DP	
USB_DN	
SWCLK	
SWDIO	
USB_BOOTD	
RESETD	
PROGD	

File: Progger.kicad_sch

RP2040

D16	
D17	
D20_I2C0_SDA	
D9	
D10	
D11	
USB_DP	
USB_DN	
SWCLK	
SWDIO	
USB_BOOT	
RESET	
D0	
D1	
D2	
D3	
D4_UART1_TXD	
D5_UART1_RX	
D6_I2C1_SDA	
D7_I2C1_SCL	
D8	
D12_UART0_TXD	
D13_UART0_RX	
D14	
D15	
D18	
D19	
D21_I2C0_SCL	
D22	
D23	
D24	
D25	
D26_ADC	
D27_ADC	
D28_ADC	
D29_ADC	

File: RP2040.kicad_sch

Buttons

SW_OUT2	
LED2_R	
LED2_G	
SW_OUT1	
SDA	
SCL	
LED2_B	
PWR_VIB	
SW_OUT3	
LED1_G	
LED1_B	
LED1_R	
SW_OUT4	
PWR_BUZ	
IO_0	
IO_1	

File: Buttons.kicad_sch

FM101
FM102
FM103
FM104
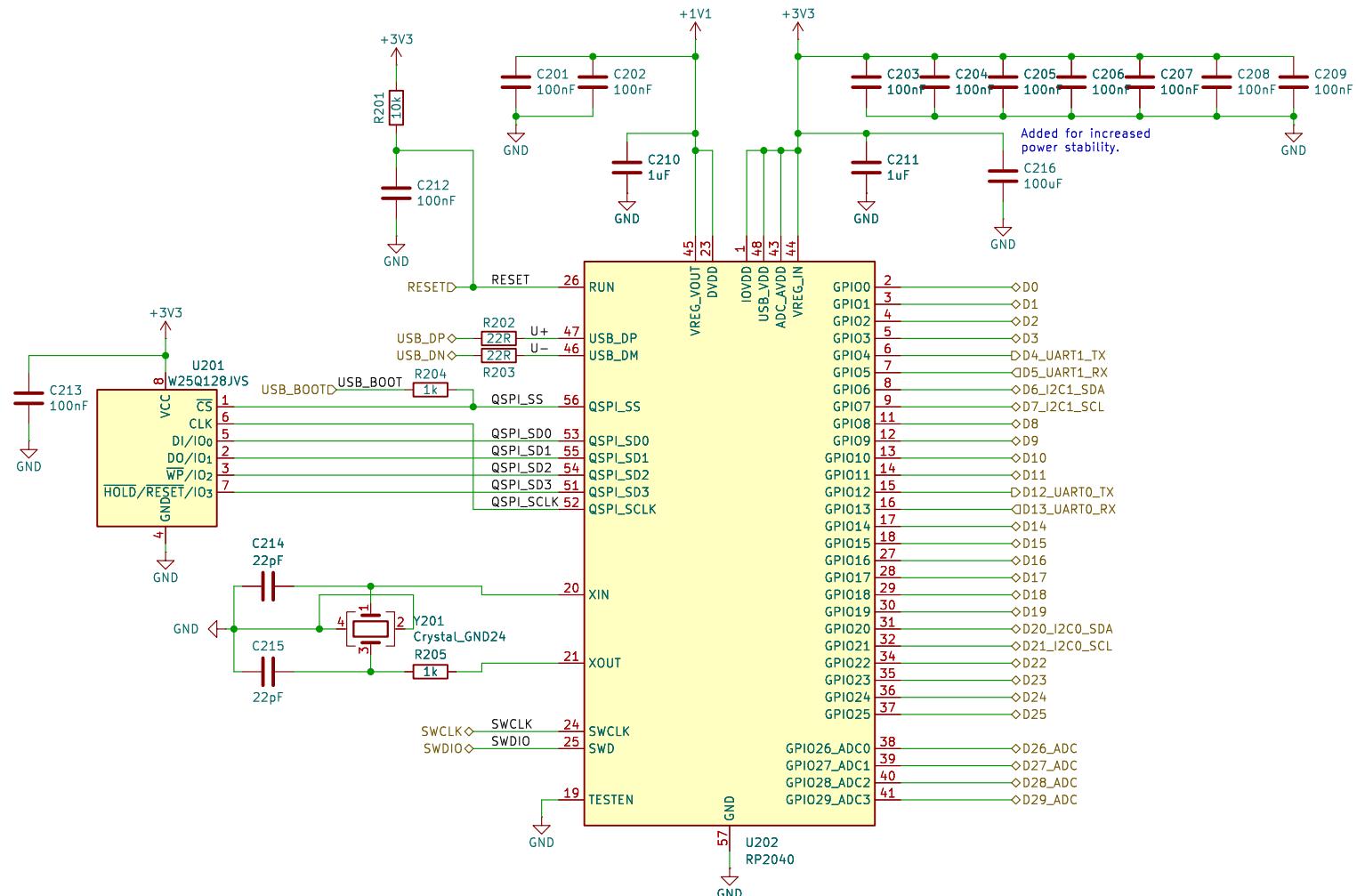
**OpenKNX-Ready**

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File: PushButtons-Gira.kicad_sch

Title: Push Buttons for Gira

Size: A4	Date: 2026-02-07	Rev: 1.4
KiCad E.D.A. 9.0.7-57-ga6c3d7900c		Id: 1/5

Schematic: RP2040 microcontroller circuit

Power supply decoupling capacitors:
- C201 100nF, C202 100nF (+1V1)
- C203 100nF, C204 100nF, C205 100nF, C206 100nF, C207 100nF, C208 100nF, C209 100nF (+3V3)
- C210 1uF, C211 1uF
- C216 100uF
- C212 100nF
- C213 100nF

Added for increased power stability.

R201 10k (+3V3)

U201 W25Q128JVS (Flash memory):
Pin	Name
8	VCC
1	CS
6	CLK
5	DI/IO0
2	DO/IO1
3	WP/IO2
7	HOLD/RESET/IO3
4	GND

QSPI connections to U202:
- QSPI_SS 56
- QSPI_SD0 53
- QSPI_SD1 55
- QSPI_SD2 54
- QSPI_SD3 51
- QSPI_SCLK 52

Crystal oscillator:
- C214 22pF
- C215 22pF
- Y201 Crystal_GND24
- R205 1k
- XIN 20, XOUT 21

R202 22R (USB_DP / U+ 47)
R203 22R (USB_DN / U- 46)
R204 1k (USB_BOOT)

U202 RP2040:
Left side pins:
- 45 VREG_VOUT
- 23 DVDD
- 1 IOVDD
- 48 USB_VDD
- 43 ADC_AVDD
- 44 VREG_IN
- 26 RUN (RESET)
- 47 USB_DP
- 46 USB_DM
- 56 QSPI_SS
- 53 QSPI_SD0
- 55 QSPI_SD1
- 54 QSPI_SD2
- 51 QSPI_SD3
- 52 QSPI_SCLK
- 20 XIN
- 21 XOUT
- 24 SWCLK
- 25 SWD
- 19 TESTEN
- 57 GND

Right side GPIO pins:
Pin	GPIO	Net
2	GPIO0	D0
3	GPIO1	D1
4	GPIO2	D2
5	GPIO3	D3
6	GPIO4	D4_UART1_TX
7	GPIO5	D5_UART1_RX
8	GPIO6	D6_I2C1_SDA
9	GPIO7	D7_I2C1_SCL
11	GPIO8	D8
12	GPIO9	D9
13	GPIO10	D10
14	GPIO11	D11
15	GPIO12	D12_UART0_TX
16	GPIO13	D13_UART0_RX
17	GPIO14	D14
18	GPIO15	D15
27	GPIO16	D16
28	GPIO17	D17
29	GPIO18	D18
30	GPIO19	D19
31	GPIO20	D20_I2C0_SDA
32	GPIO21	D21_I2C0_SCL
34	GPIO22	D22
35	GPIO23	D23
36	GPIO24	D24
37	GPIO25	D25
38	GPIO26_ADC0	D26_ADC
39	GPIO27_ADC1	D27_ADC
40	GPIO28_ADC2	D28_ADC
41	GPIO29_ADC3	D29_ADC

SWCLK 24, SWDIO 25

J301
PROGGER

+3V3   +3V3_2

USB_DP	1	2
USB_DP	3	4	USB_DN
SWCLK	5	6	SWDIO
RESET	7	8	USB_BOOT
PROG	9	10	

USB_DP
SWCLK
RESET
PROG

USB_DN
SWDIO
USB_BOOT
PWR_FLAG

GND

OpenKNX-Ready

Sheet: /Progger/
File: Progger.kicad_sch

Title: Push Buttons for Gira

Size: A4	Date: 2026-02-07	**Rev: 1.4**
KiCad E.D.A. 9.0.7-57-ga6c3d7900c		Id: 3/5

GN401
NanoBCU

KNX+	1	J401
GND	2	KNX_Connector
SAVE	3	KNX_SAVE
Rx	4	KNX_RX
Tx	5	KNX_TX
3V3	6	+3V3
Vcc2	7	+3V3_2

GND

D401
INFO   R401
        200   LED_INFO
Yellow

D402
PROG   R402
        200   LED_PROG
Red

SW401
PROG
        PROG

GND
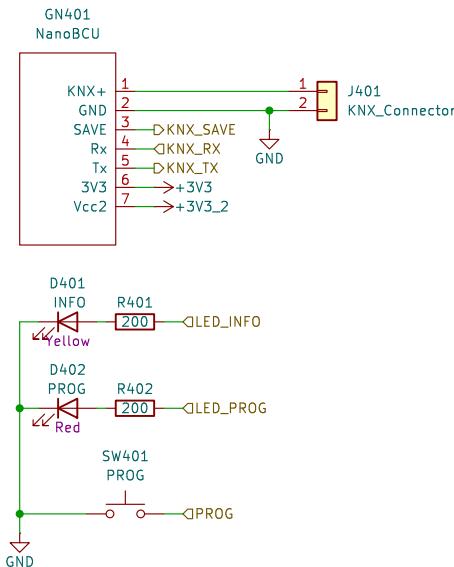
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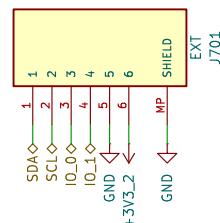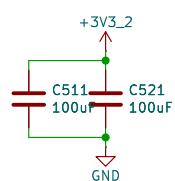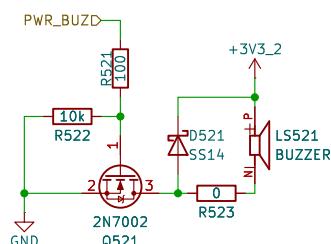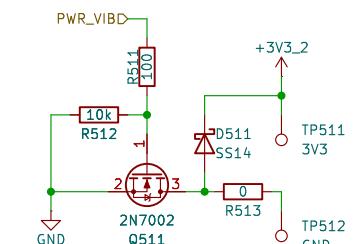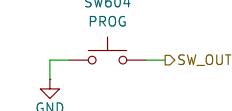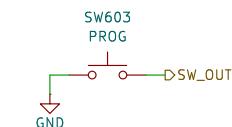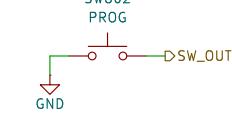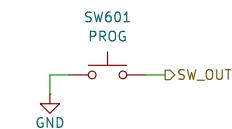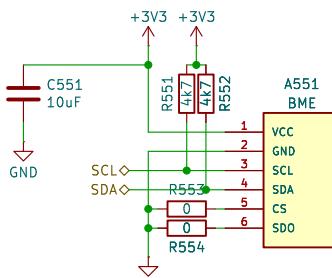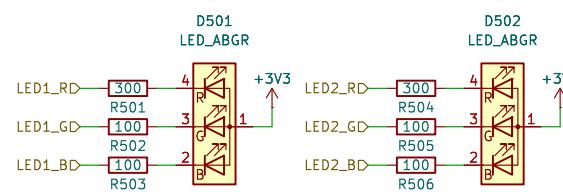
Title: Push Buttons for Gira

| Size: A4 | Date: 2026-02-07 | Rev: 1.4 |
| KiCad E.D.A. 9.0.7-57-ga6c3d7900c | | Id: 4/5 |

Schematic: Push Buttons for Gira

D501 LED_ABGR
- LED1_RD — R501 300 — 4 R
- LED1_GD — R502 100 — 3 G — 1 — +3V3
- LED1_BD — R503 100 — 2 B

D502 LED_ABGR
- LED2_RD — R504 300 — 4 R
- LED2_GD — R505 100 — 3 G — 1 — +3V3
- LED2_BD — R506 100 — 2 B

C551 10uF — GND

+3V3 +3V3
- R551 4k7
- R552 4k7

A551 BME
Pin	Name
1	VCC
2	GND
3	SCL
4	SDA
5	CS
6	SDO

- SCL — R553 0
- SDA — R554 0
- GND

SW601 PROG — GND — SW_OUT1
SW602 PROG — GND — SW_OUT2
SW603 PROG — GND — SW_OUT3
SW604 PROG — GND — SW_OUT4

PWR_VIB
- R511 100
- R512 10k
- D511 SS14
- Q511 2N7002
- +3V3_2
- TP511 3V3
- R513 0
- TP512 GND
- GND

PWR_BUZ
- R521 100
- R522 10k
- D521 SS14
- Q521 2N7002
- +3V3_2
- LS521 BUZZER
- R523 0
- GND

+3V3_2
- C511 100uF
- C521 100uF
- GND

EXT J701
Pin	Name
1	SDA
2	SCL
3	IO_0
4	IO_1
5	GND
6	+3V3_2
SHIELD	MP — GND

Sheet: /Buttons/
File: Buttons.kicad_sch
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KiCad E.D.A. 9.0.7-57-ga6c3d7900c Id: 5/5