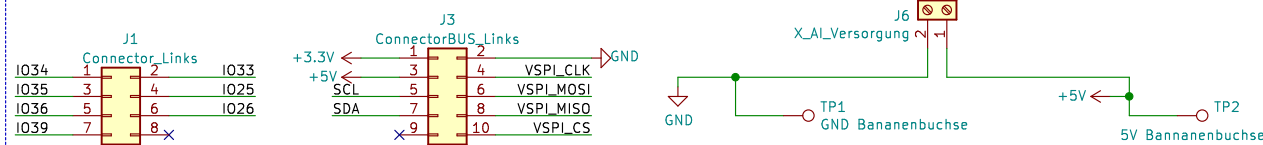


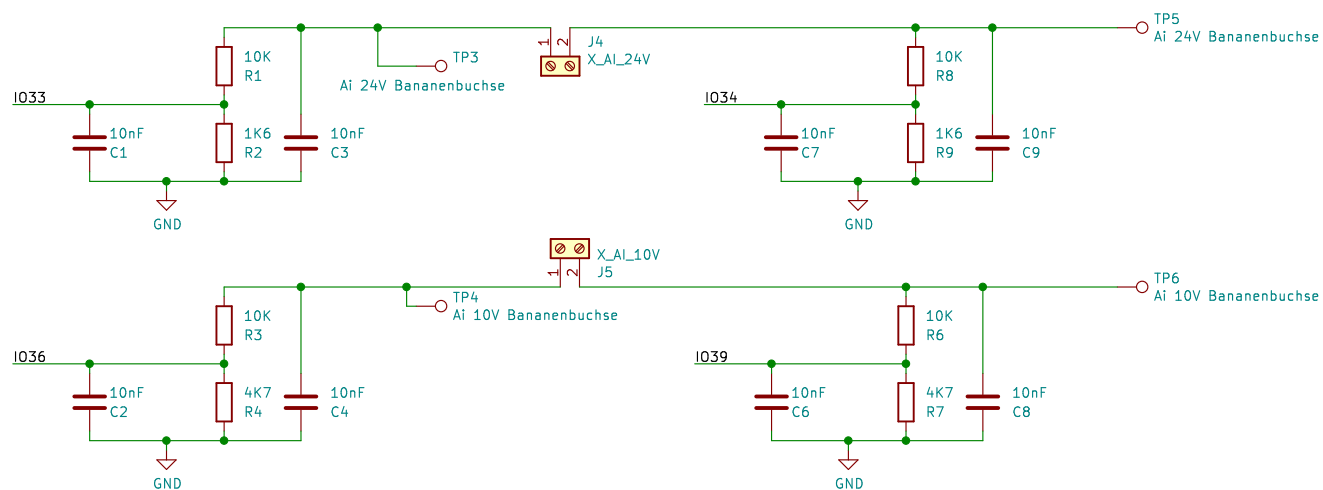
| ID | Bezeichner | Gehäuse | Stückzahl | Bezeichnung |
|----|---|---|-----------|-----------------------------|
| 1 | C32,C33,C11,C4,C12 | C_0805_2012Metric | 5 | 1uF |
| 2 | C31,C5,C3 | C_0805_2012Metric | 3 | 0,1uF |
| | C2,C14,C13,C1,C17,C19,C20,C21,C22,C23,C24,C25,C26,C27,C28,C29,C16,C7,C15,C10,C9,C8,C18, | | 25 | |
| 3 | C6,C30 | C_0805_2012Metric | | 47pF |
| 4 | D2 | D_SOD-123 | 1 | MMSZ5231B-7-F |
| 5 | U1 | QFN-24-1EP_4x4mm_P0.5mm_EP2.6x2.6mm | 1 | CP2102N-A01-GQFN24 |
| 6 | D1 | SOT-143 | 1 | SP0503BAHT |
| 7 | Q2,Q1 | SOT-23 | 2 | BC817 |
| 8 | R3,R33,R4,R8 | R_0805_2012Metric | 4 | 10K |
| 9 | R2,R1 | R_0805_2012Metric | 2 | 22R |
| 10 | R13 | R_0805_2012Metric | 1 | 2K |
| 11 | R14 | R_0805_2012Metric | 1 | 22,1K |
| 12 | R15 | R_0805_2012Metric | 1 | 47,5k |
| | R16,R17,R20,R21,R22,R23,R24,R26,R27,R28,R29 | | 22 | |
| 13 | ,R30,R31,R32,R18,R25,R5,R6,R7,R19,R10,R12 | R_0805_2012Metric | | R47 |
| 14 | S1 | SW_SPST_B3SL-1002P | 1 | BOOT Option |
| 15 | U3 | SOT-223-3_TabPin2 | 1 | AMS1117-3.3 |
| 16 | J1 | USB_Micro-B_Wuerth_629105150521_CircularHoles | 1 | Micro-B_Wuerth_629105150521 |
| 17 | S2 | SW_SPST_B3SL-1002P | 1 | Reset |
| 18 | J2 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Front |
| 19 | J7 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Connector_Links |
| 20 | J4 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Rechts |
| 21 | J3 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Connector_Front |
| 22 | J5 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Conn_Rechts |
| 23 | J6 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Links |
| 24 | U2 | ESP32-WROOM-32U | 1 | EP32-WROOM-32D |
| 25 | R9,R11 | R_0805_2012Metric | 2 | 4K7 |

Mainboard

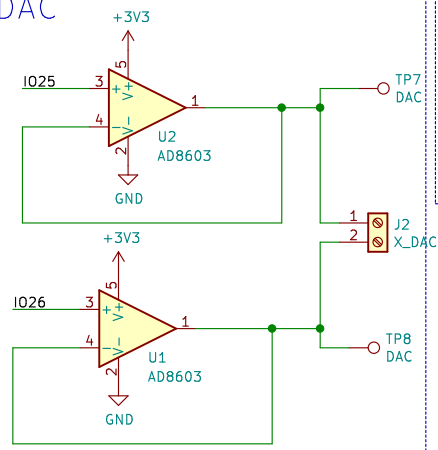
Stecker



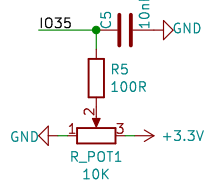
Analog-Inputs



DAC



Potentiometer



Modul 1

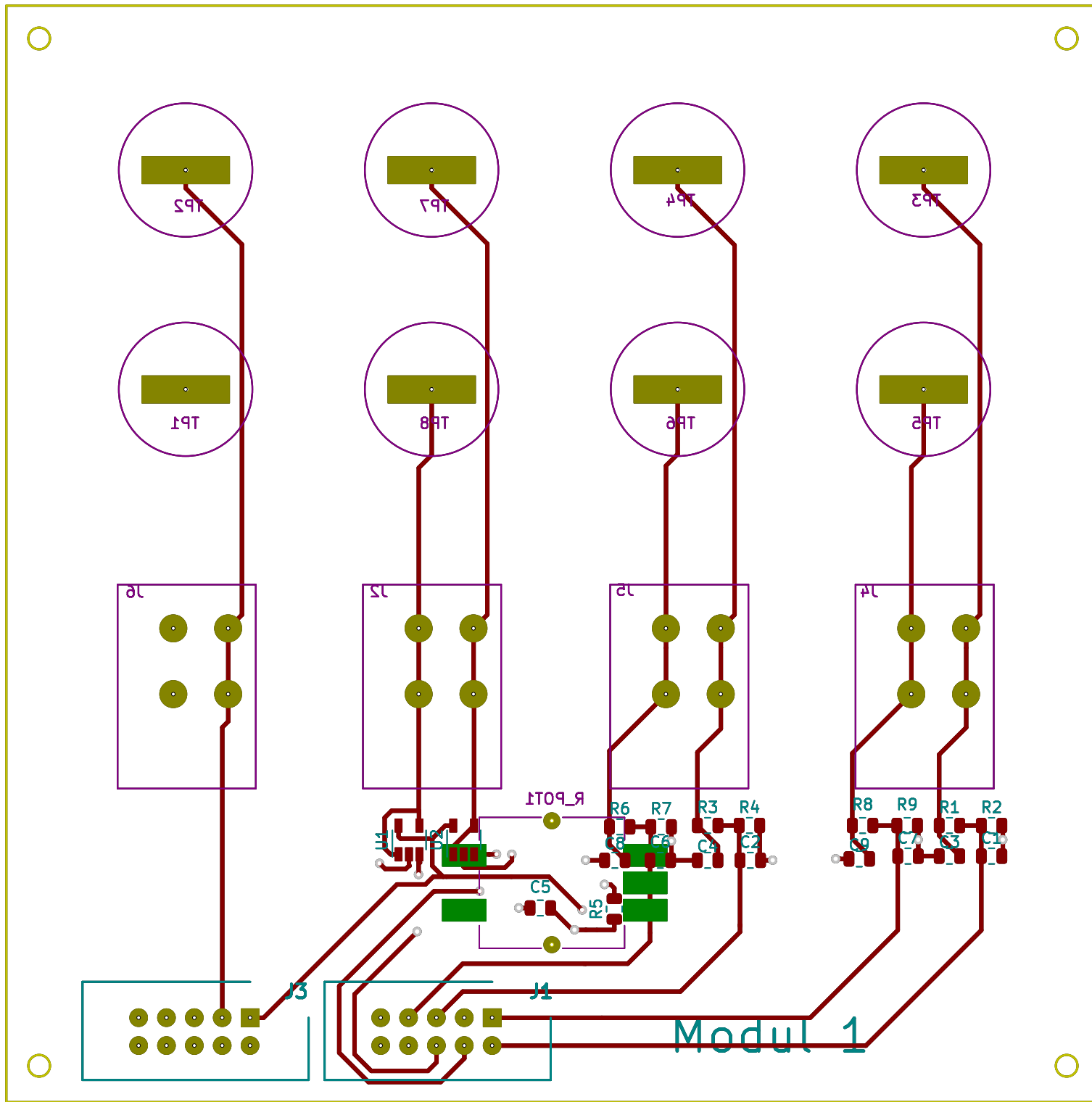
Sheet: /
File: Schaltplan_Modul1.sch

Title:

Size: A4
KiCad E.D.A. eeschema (5.0.0)

Date:

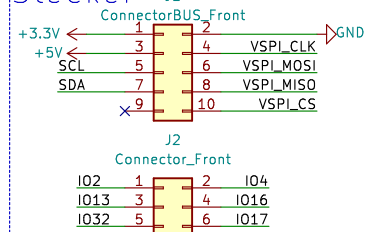
Rev:
Id: 1/1



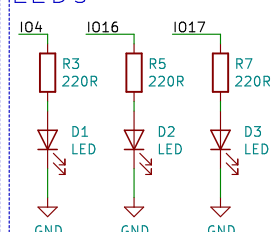
| ID | Bezeichner | Gehäuse | Stückzahl | Bezeichnung |
|----|----------------------------|--------------------------------------|-----------|--------------------|
| 1 | J3 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Links |
| 2 | J1 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Connector_Links |
| 3 | R_POT1 | Potentiometer_Bourns_PRS11S_Vertical | 1 | 10K |
| 4 | J2 | TBL_127B 2 | 1 | X_DAC |
| 5 | C1,C2,C9,C8,C7,C6,C5,C4,C3 | C_0805_2012Metric | 9 | 10nF |
| 6 | TP2 | BannaJack | 1 | BannaJack |
| 7 | TP7,TP8 | BannaJack | 2 | DAC |
| 8 | TP3,TP5 | BannaJack | 2 | BannaJack |
| 9 | TP6 | BannaJack | 1 | BannaJack |
| 10 | TP1 | BannaJack | 1 | BannaJack |
| 11 | TP4 | BannaJack | 1 | BannaJack |
| 12 | U1,U2 | TSOT-23-5 | 2 | AD8603 |
| 13 | R1,R3,R6,R8 | R_0805_2012Metric | 4 | 10K |
| 14 | R2,R9 | R_0805_2012Metric | 2 | 1K6 |
| 15 | R4,R7 | R_0805_2012Metric | 2 | 4K7 |
| 16 | R5 | R_0805_2012Metric | 1 | 100R |
| 17 | J6 | TBL_127B 2 | 1 | TBL_127B 2 |
| 18 | J5 | TBL_127B 2 | 1 | TBL_127B 2 |
| 19 | J4 | TBL_127B 2 | 1 | TBL_127B 2 |

Modul1

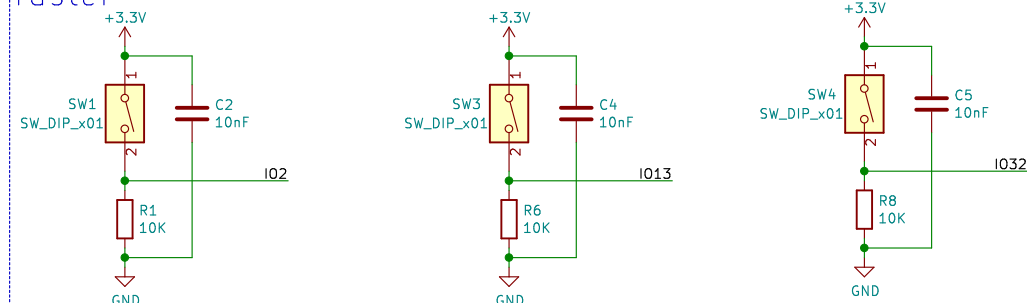
Stecker



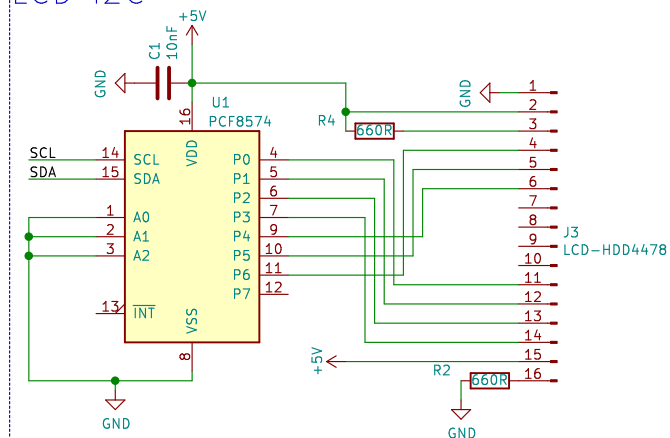
LEDs



Taster



LCD i2C



Modul 2

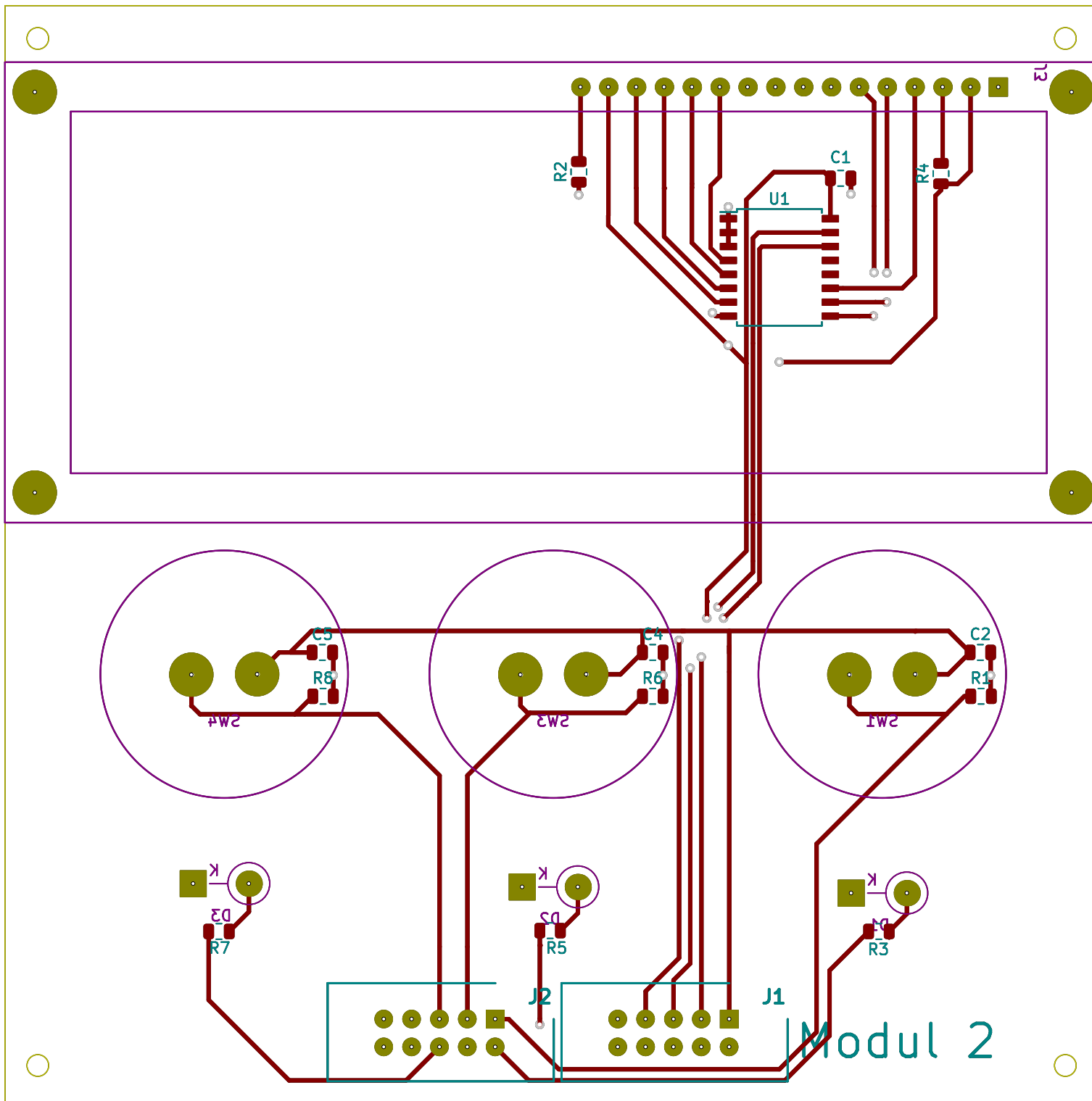
Sheet: /
File: Schaltplan_Modul2.sch

Title:

Size: A4
KiCad E.D.A. eeschema (5.0.0)

Date:

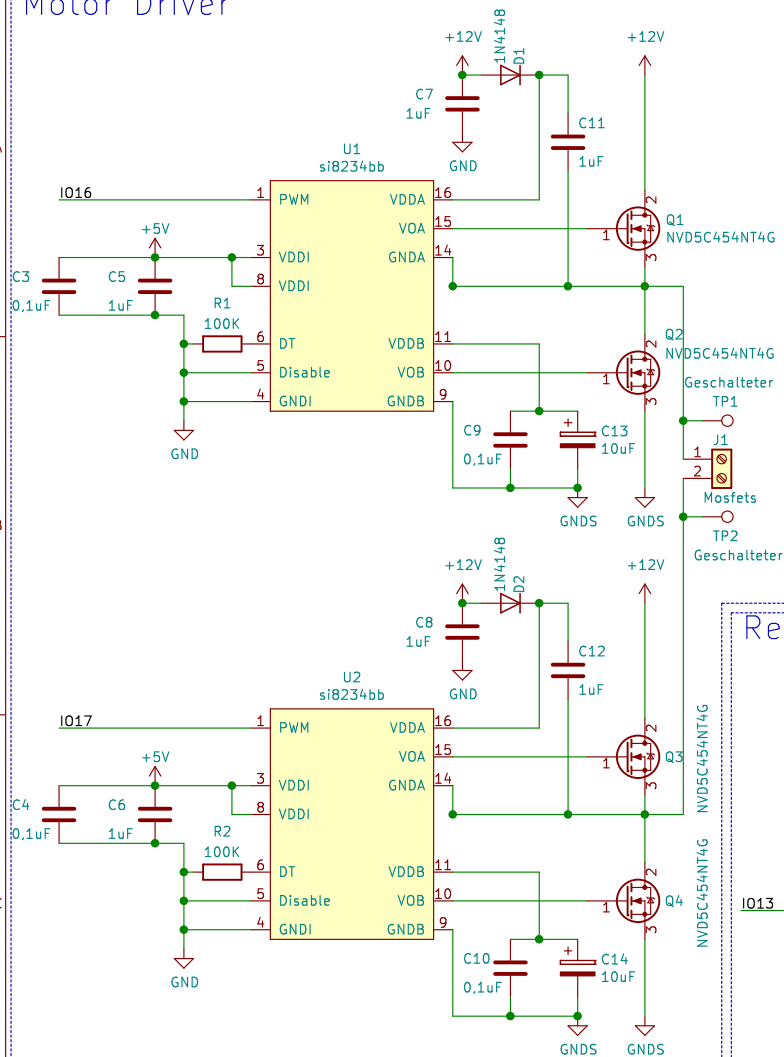
Rev:
Id: 1/1



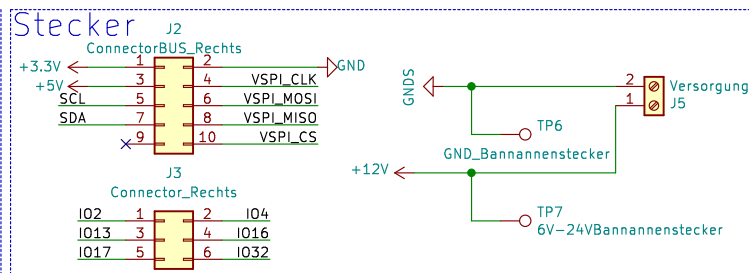
| ID | Bezeichner | Gehäuse | Stückzahl | Bezeichnung |
|----|-------------|-------------------------------------|-----------|--------------------|
| 1 | U1 | SOIC-16W_7.5x10.3mm_P1.27mm | 1 | PCF8574 |
| 2 | C4,C1,C2,C5 | C_0805_2012Metric | 4 | 10nF |
| 3 | SW4,SW3,SW1 | Druckschalter | 3 | SW_DIP_x01 |
| 4 | D1,D2,D3 | D_DO-15_P5.08mm_Vertical_KathodeUp | 3 | LED |
| 5 | J1 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Front |
| 6 | J2 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Connector_Front |
| 7 | R7 | R_0805_2012Metric | 1 | 22ÄŸR |
| 8 | J3 | LCD_Dobrovits | 1 | LCD-HDD4478 |
| 9 | R8,R1,R6 | R_0805_2012Metric | 3 | 10K |
| 10 | R2,R4 | R_0805_2012Metric | 2 | 660R |
| 11 | R3,R5,R7 | R_0805_2012Metric | 2 | 220R |

Modul2

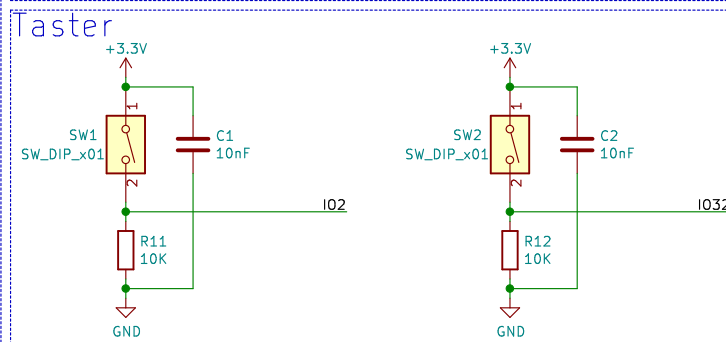
Motor Driver



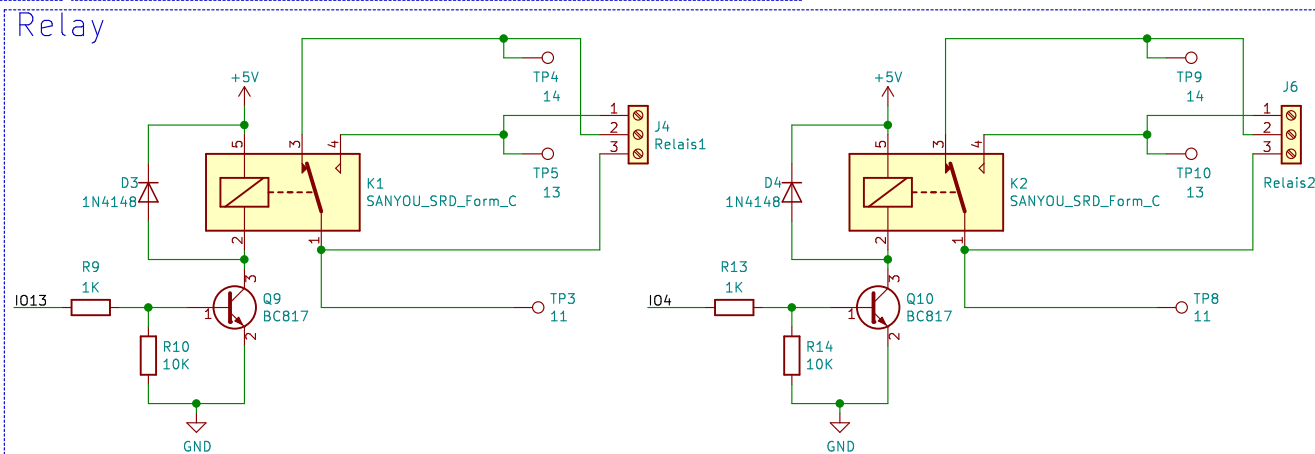
Stecker



Taster



Relay



Modul 3

Sheet: /
File: Schaltplan_Modul3.sch

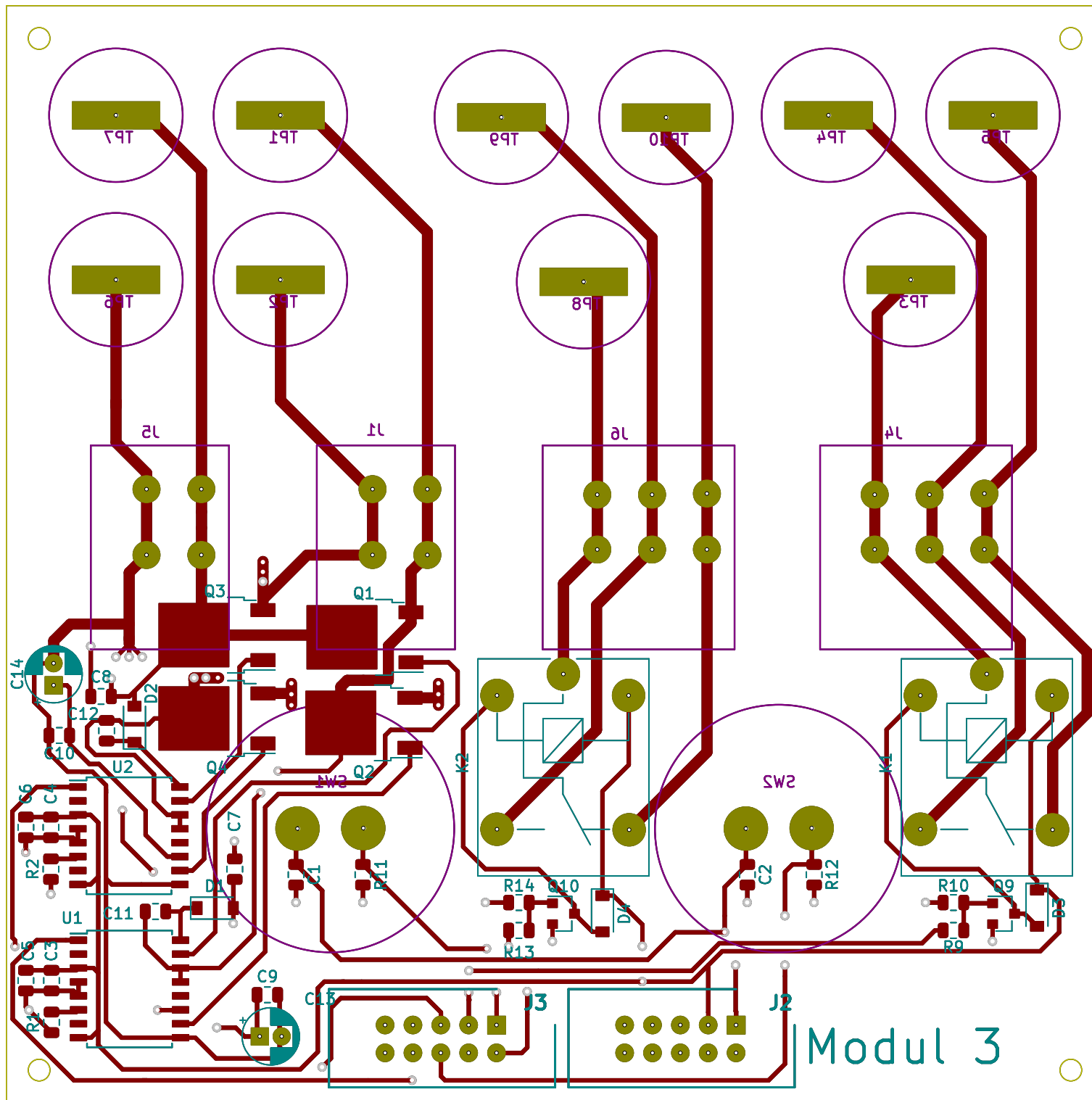
Title:

Size: A4
KiCad E.D.A. kicad (5.0.0)

Date:

Rev:

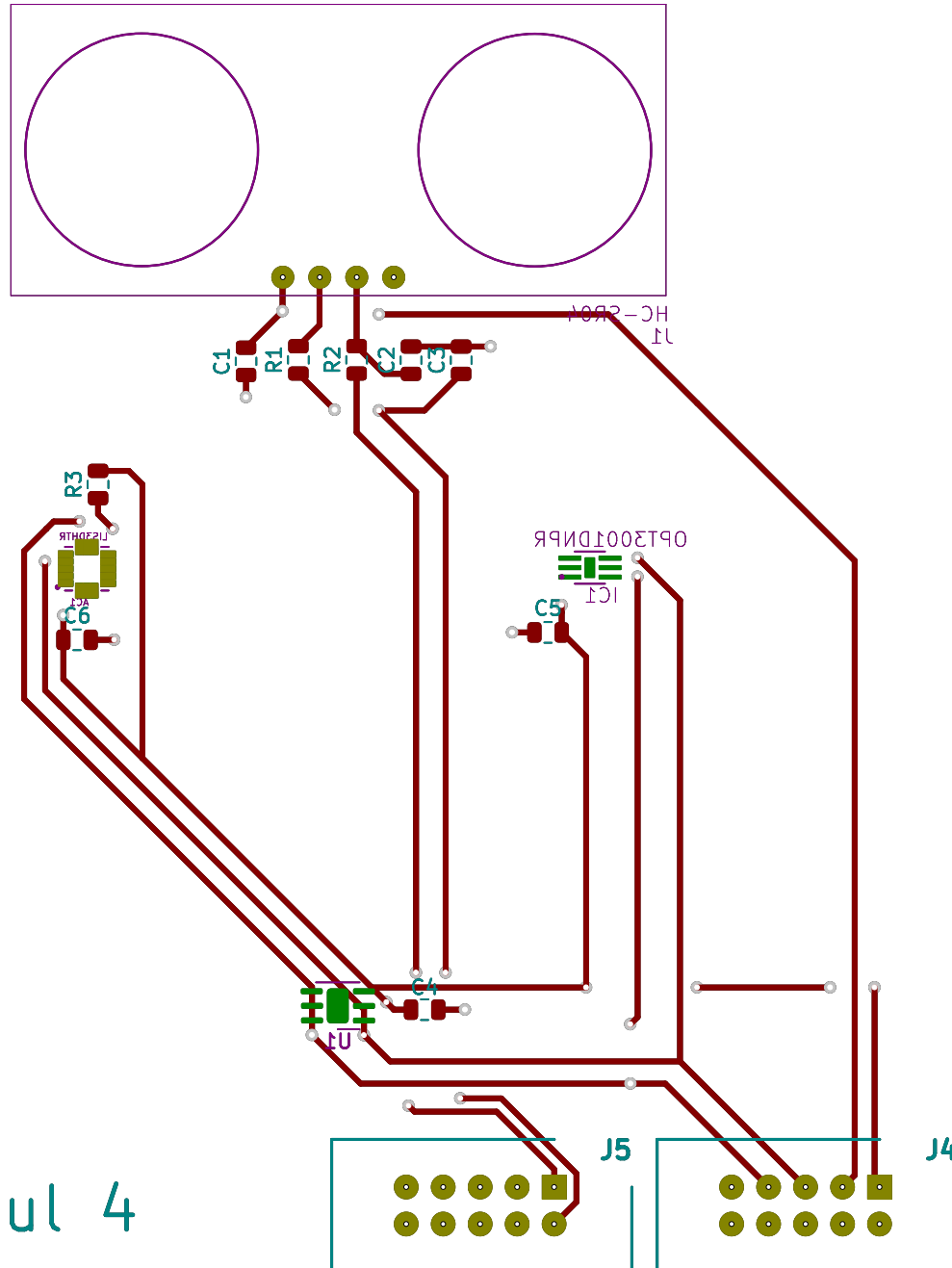
Id: 1/1



| ID | Bezeichner | Gehäuse | Stückzahl | Bezeichnung |
|----|---------------------|-------------------------------------|-----------|---------------------|
| 1 | SW1,SW2 | Druckschalter | 2 | SW_DIP_x01 |
| 2 | C12,C11,C8,C7,C6,C5 | C_0805_2012Metric | 6 | 1uF |
| 3 | C10,C9,C4,C3 | C_0805_2012Metric | 4 | 0,1uF |
| 4 | C14,C13 | CP_Radial_D5.0mm_P2.00mm | 2 | 10uF |
| 5 | D1,D2,D3,D4 | D_SOD-123 | 4 | 1N4148 |
| 6 | U1,U2 | SOIC-16W_7.5x10.3mm_P1.27mm | 2 | si8234bb |
| 7 | Q1,Q2,Q3,Q4 | TO-252-2 | 4 | NVD5C454NT4G |
| 8 | R1,R2 | R_0805_2012Metric | 2 | 100K |
| 9 | J3 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Connector_Rechts |
| 10 | C1,C2 | C_0805_2012Metric | 2 | 10nF |
| 11 | Q9,Q10 | SOT-23 | 2 | BC817 |
| 12 | K1,K2 | Relay_SPDT_SANYOU_SRD_Series_Form_C | 2 | SANYOU_SRD_Form_C |
| 13 | R13,R9 | R_0805_2012Metric | 2 | 1K |
| 14 | R12,R11,R10,R14 | R_0805_2012Metric | 4 | 10K |
| 15 | TP4,TP9 | BannaJack | 2 | |
| 16 | J5 | TBL_127B 2 | 1 | Versorgung |
| 17 | J2 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Rechts |
| 18 | J4 | TBL_127B 3 | 1 | TBL_127B 2 |
| 19 | J6 | TBL_127B 3 | 1 | TBL_127B 2 |
| 20 | TP1,TP2 | BannaJack | 2 | BannaJack |
| 21 | TP8,TP3 | BannaJack | 2 | BannaJack |
| 22 | TP5,TP10 | BannaJack | 2 | BannaJack |
| 23 | TP7 | BannaJack | 1 | BannaJack |
| 24 | TP6 | BannaJack | 1 | BannaJack |
| 25 | J1 | TBL_127B 2 | 1 | TBL_127B 2 |

Modul3

Modul 4



| ID | Bezeichner | Gehäuse | Stückzahl | Bezeichnung |
|----|-------------|-------------------------------------|-----------|---------------------|
| 1 | R3 | R_0805_2012Metric | 1 | 10K |
| 2 | J5 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | Conn_02x01 |
| 3 | J4 | SHDR10W64P254X254_2X5_2032X880X915P | 1 | ConnectorBUS_Rechts |
| 4 | U1 | DFN-6-1EP_3x3mm_P1mm_EP1.5x2.4mm | 1 | Si7020-A20 |
| 5 | C6,C5,C4,C1 | C_0805_2012Metric | 4 | 1pF |
| 6 | IC1 | OPT3001DNPR | 1 | OPT3001DNPR |
| 7 | AC1 | XDCR_LIS3DHTR | 1 | LIS3DHTR |
| 8 | C3,C2 | C_0805_2012Metric | 2 | 47pF |
| 9 | R2,R1 | R_0805_2012Metric | 2 | 47R |
| 10 | J1 | XCVR_HC-SR04 | 1 | HC-SR04 |

Modul4

| Zeilenbeschriftungen | Summe von Stückzahl |
|---|---------------------|
| BannaJack | 18 |
| BannaJack | 18 |
| C_0805_2012Metric | 64 |
| 0,1uF | 7 |
| 10nF | 15 |
| 1pF | 4 |
| 1uF | 11 |
| 47pF | 27 |
| CP_Radial_D5.0mm_P2.00mm | 2 |
| 10uF | 2 |
| D_DO-15_P5.08mm_Vertical_KathodeUp | 3 |
| LED | 3 |
| D_SOD-123 | 5 |
| 1N4148 | 4 |
| MMSZ5231B-7-F | 1 |
| DFN-6-1EP_3x3mm_P1mm_EP1.5x2.4mm | 1 |
| Si7020-A20 | 1 |
| Druckschalter | 5 |
| SW_DIP_x01 | 5 |
| ESP32-WROOM-32U | 1 |
| EP32-WROOM-32D | 1 |
| LCD_Dobrovits | 1 |
| LCD-HDD4478 | 1 |
| OPT3001DNPR | 1 |
| OPT3001DNPR | 1 |
| Potentiometer_Bourns_PRS11S_Vertical | 1 |
| 10K | 1 |
| QFN-24-1EP_4x4mm_P0.5mm_EP2.6x2.6mm | 1 |
| CP2102N-A01-GQFN24 | 1 |
| R_0805_2012Metric | 61 |
| 100K | 2 |
| 100R | 1 |
| 10K | 16 |
| 1K | 2 |
| 1K6 | 2 |
| 22,1K | 1 |
| 220R | 2 |
| 22R | 3 |
| 2K | 1 |
| 47,5k | 1 |
| 47R | 2 |
| 4K7 | 4 |
| 660R | 2 |
| R47 | 22 |
| Relay_SPDT_SANYOU_SRD_Series_Form_C | 2 |
| SANYOU_SRD_Form_C | 2 |
| SHDR10W64P254X254_2X5_2032X880X915P | 14 |
| Conn_02x01 | 1 |
| Conn_Rechts | 1 |
| Connector_Front | 2 |
| Connector_Links | 2 |
| Connector_Rechts | 1 |
| ConnectorBUS_Front | 2 |
| ConnectorBUS_Links | 2 |
| ConnectorBUS_Rechts | 3 |
| SOIC-16W_7.5x10.3mm_P1.27mm | 3 |
| PCF8574 | 1 |
| si8234bb | 2 |
| SOT-143 | 1 |
| SP0503BAHT | 1 |
| SOT-223-3_TabPin2 | 1 |
| AMS1117-3.3 | 1 |
| SOT-23 | 4 |
| BC817 | 4 |
| SW_SPST_B35L-1002P | 2 |
| BOOT Option | 1 |
| Reset | 1 |
| TBL_127B 2 | 6 |
| TBL_127B 2 | 6 |
| TBL_127B 3 | 2 |
| TBL_127B 2 | 2 |
| TO-252-2 | 4 |
| NVD5C454NT4G | 4 |
| TSOT-23-5 | 2 |
| AD8603 | 2 |
| USB_Micro-B_Wuerth_629105150521_CircularHoles | 1 |
| Micro-B_Wuerth_629105150521 | 1 |
| XCVR_HC-SR04 | 1 |
| HC-SR04 | 1 |
| XDCR_LIS3DHTR | 1 |
| LIS3DHTR | 1 |
| Gesamtergebnis | 208 |