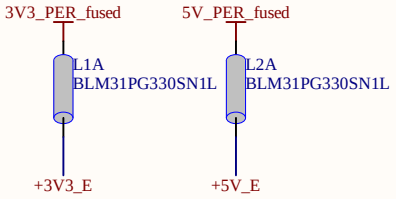
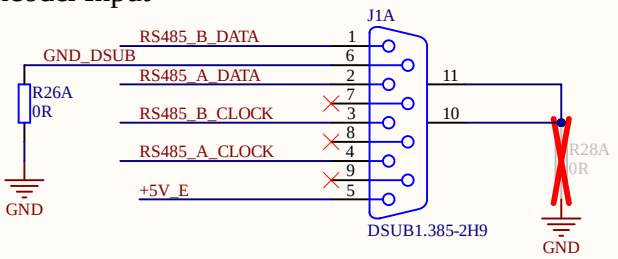
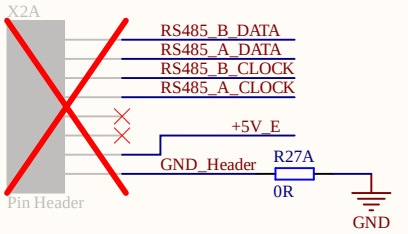
Power Supply Encoder

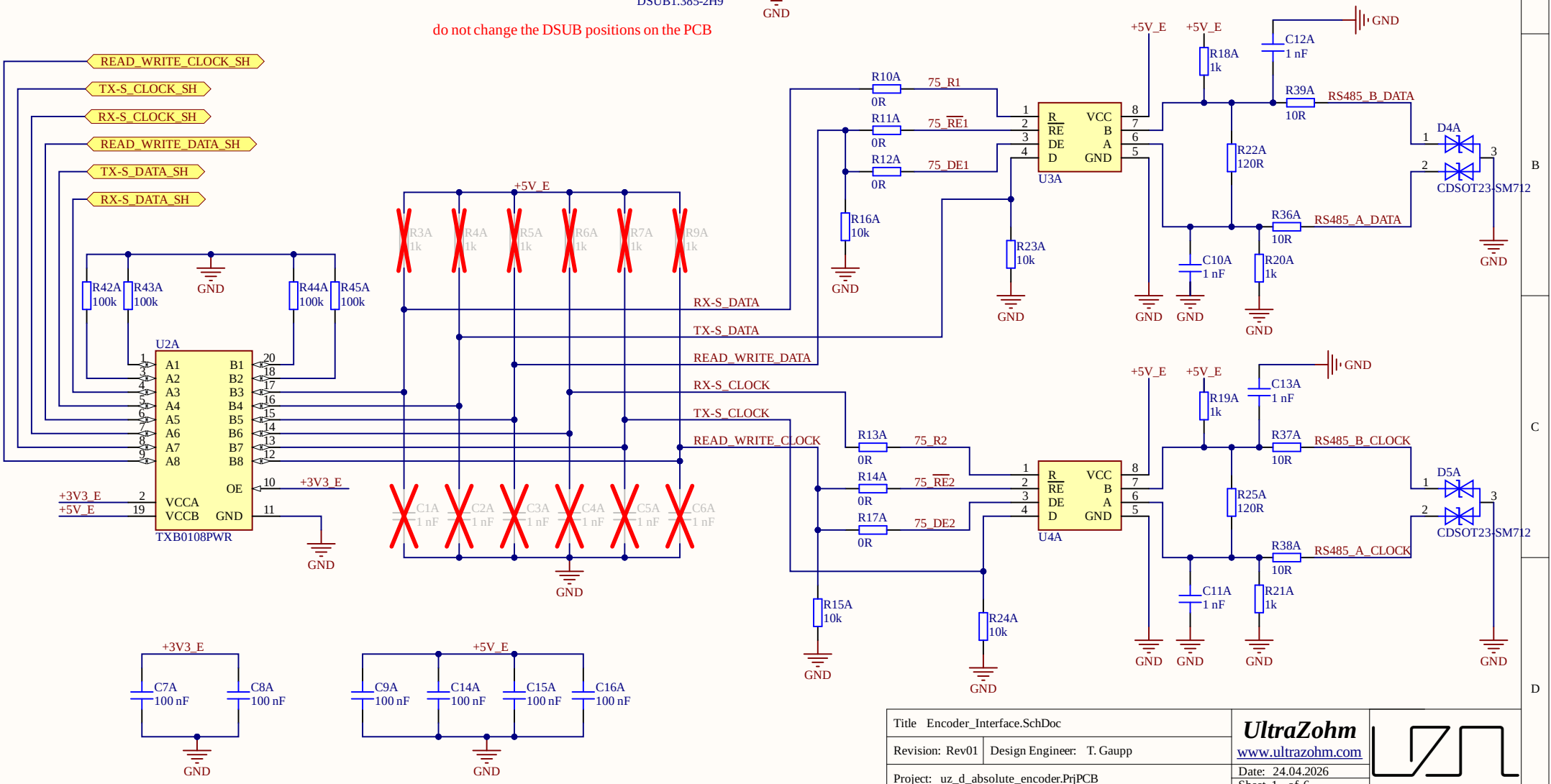


Encoder Input



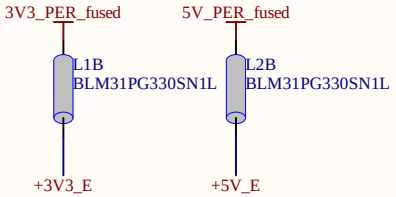
do not change the DSUB positions on the PCB



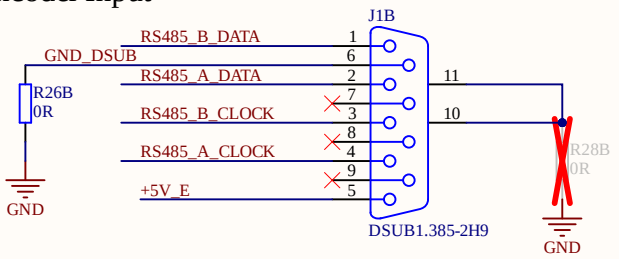


Title Encoder_Interface.SchDoc		UltraZohm www.ultrazohm.com
Revision: Rev01	Design Engineer: T. Gaupp	
Project: uz_d_absolute_encoder.PrjPCB		Date: 24.04.2026 Sheet .1 of 6

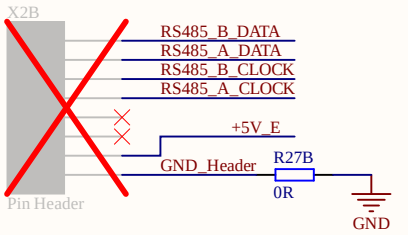
Power Supply Encoder

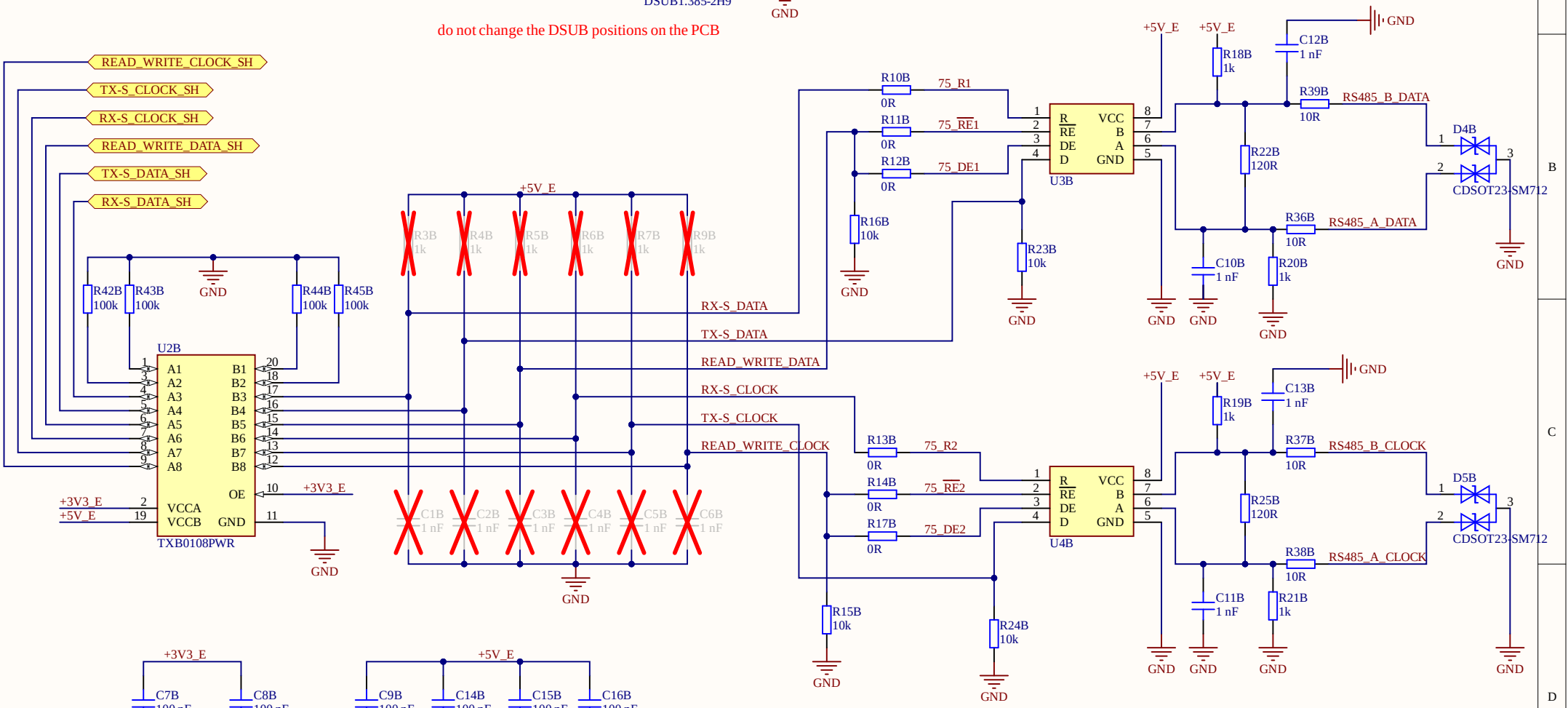


Encoder Input

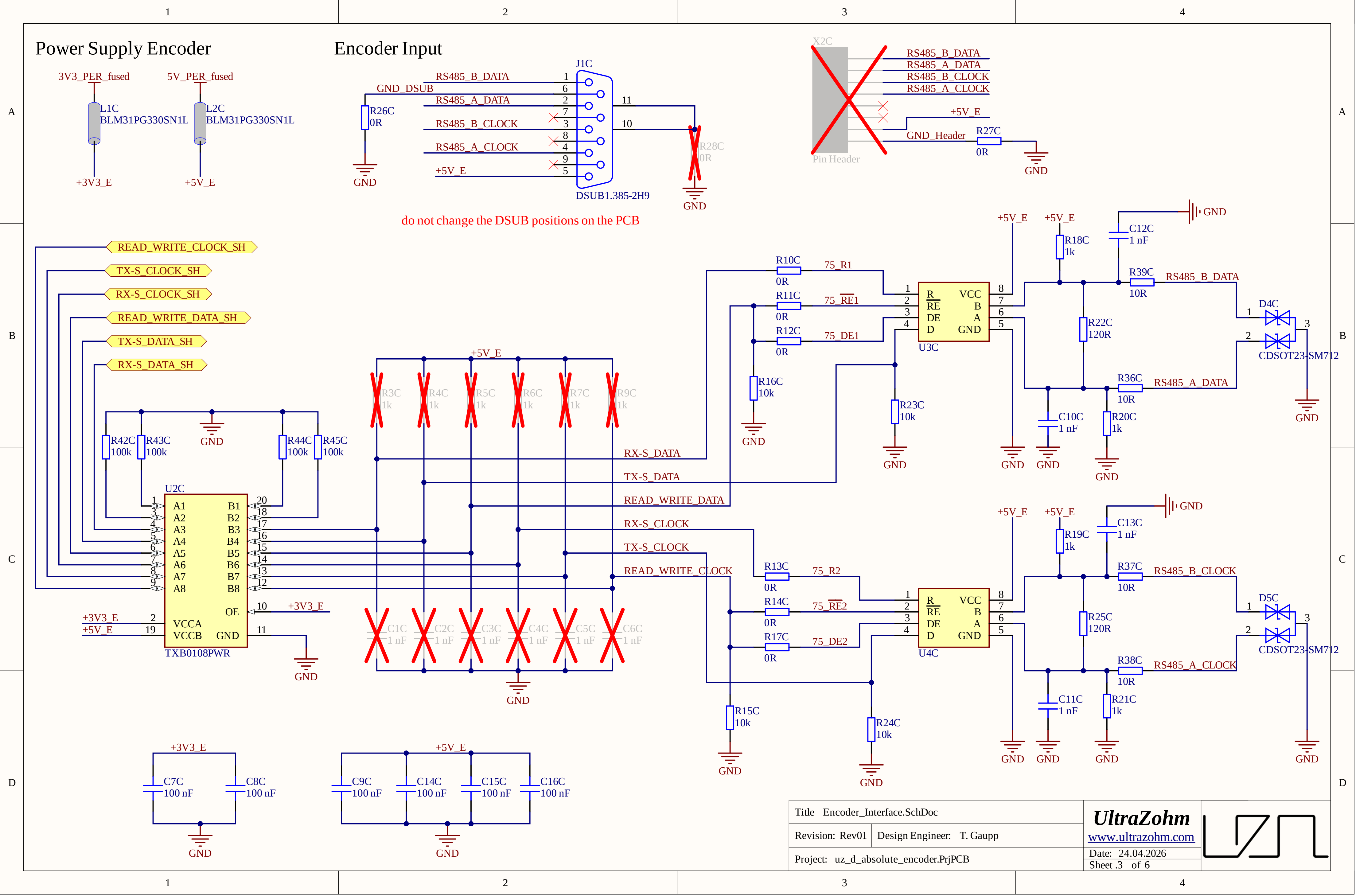


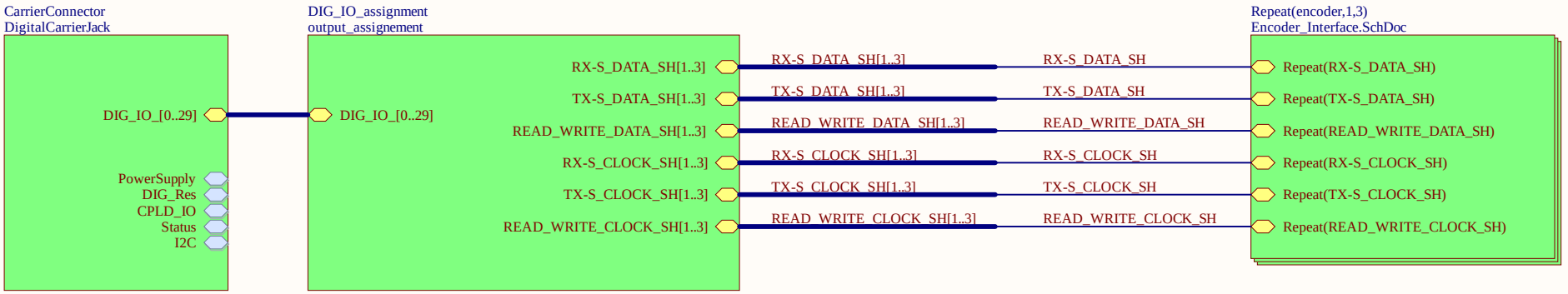
do not change the DSUB positions on the PCB





Title Encoder_Interface.SchDoc		UltraZohm www.ultrazohm.com
Revision: Rev01	Design Engineer: T. Gaupp	
Project: uz_d_absolute_encoder.PrjPCB		Date: 24.04.2026 Sheet .2 of 6


Power Supply Encoder
3V3_PER_fused
5V_PER_fused
L1C BLM31PG330SN1L
L2C BLM31PG330SN1L
+3V3_E
+5V_E
Encoder Input
J1C
RS485_B_DATA
GND_DSUB
RS485_A_DATA
RS485_B_CLOCK
RS485_A_CLOCK
+5V_E
R26C 0R
GND
R28C 0R
DSUB1.385-2H9
do not change the DSUB positions on the PCB
X2C
Pin Header
RS485_B_DATA
RS485_A_DATA
RS485_B_CLOCK
RS485_A_CLOCK
+5V_E
GND_Header
R27C 0R
READ_WRITE_CLOCK_SH
TX-S_CLOCK_SH
RX-S_CLOCK_SH
READ_WRITE_DATA_SH
TX-S_DATA_SH
RX-S_DATA_SH
R42C 100k
R43C 100k
R44C 100k
R45C 100k
U2C
A1 A2 A3 A4 A5 A6 A7 A8
B1 B2 B3 B4 B5 B6 B7 B8
OE
VCCA
VCCB
GND
TXB0108PWR
+3V3_E
+5V_E
R3C 1k
R4C 1k
R5C 1k
R6C 1k
R7C 1k
R9C 1k
C1C 1 nF
C2C 1 nF
C3C 1 nF
C4C 1 nF
C5C 1 nF
C6C 1 nF
RX-S_DATA
TX-S_DATA
READ_WRITE_DATA
RX-S_CLOCK
TX-S_CLOCK
READ_WRITE_CLOCK
R10C 0R
75_R1
R11C 0R
75_RE1
R12C 0R
75_DE1
R16C 10k
R23C 10k
U3C
R RE DE D
VCC B A GND
R18C 1k
R22C 120R
C12C 1 nF
R39C 10R
RS485_B_DATA
R36C 10R
RS485_A_DATA
C10C 1 nF
R20C 1k
D4C
CDSOT23-SM712
R13C 0R
75_R2
R14C 0R
75_RE2
R17C 0R
75_DE2
R15C 10k
R24C 10k
U4C
R19C 1k
R25C 120R
C13C 1 nF
R37C 10R
RS485_B_CLOCK
R38C 10R
RS485_A_CLOCK
C11C 1 nF
R21C 1k
D5C
CDSOT23-SM712
C7C 100 nF
C8C 100 nF
C9C 100 nF
C14C 100 nF
C15C 100 nF
C16C 100 nF
Title Encoder_Interface.SchDoc
Revision: Rev01
Design Engineer: T. Gaupp
Project: uz_d_absolute_encoder.PrjPCB
UltraZohm
www.ultrazohm.com
Date: 24.04.2026
Sheet .3 of 6



Chose size of UZ logo by chosing footprint type

UltraZohm

LOGO

uz_d_absolute_encoder

Project

Rev01

Revision

T. Gaupp

Designer

01/25

Date

Serial

Serial

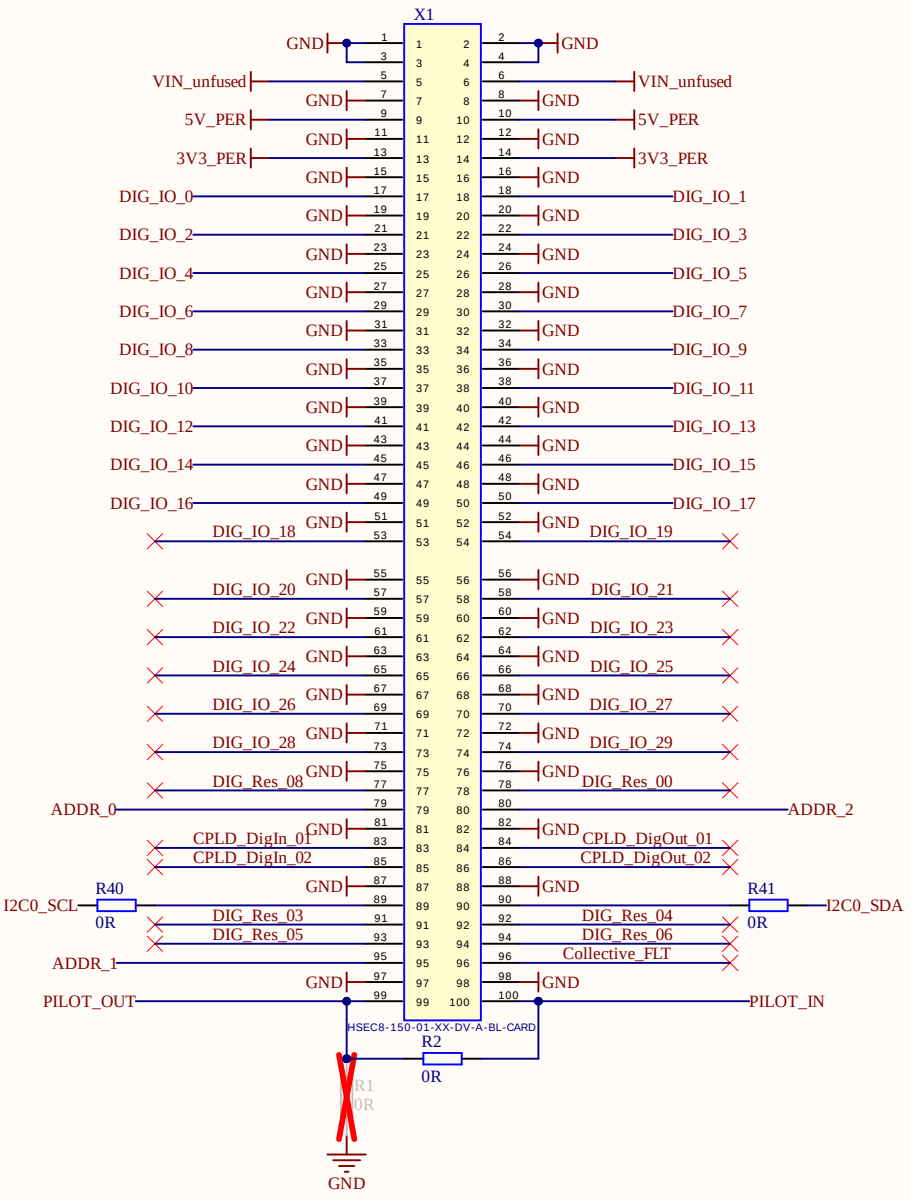
1.0mm

MH1

1.0mm

MH2

Title TopSheet.SchDoc		***UltraZohm***	
Revision: Rev01	Design Engineer: T. Gaupp	www.ultrazohm.com	
Project: uz_d_absolute_encoder.PrjPCB		Date: 24.04.2026	
		Sheet 1 of 6	



DIG_IO_[0..29] DIG_IO_[0..29]

DigCon_Status
PILOT_IN PILOT_IN
PILOT_OUT PILOT_OUT
Collective_FLT Collective_FLT
Status

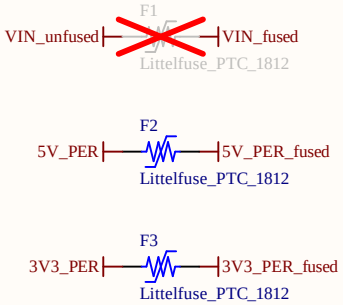
DigCon_DIG_Res
DIG_Res_00 DIG_Res_00
DIG_Res_03 DIG_Res_03
DIG_Res_04 DIG_Res_04
DIG_Res_05 DIG_Res_05
DIG_Res_06 DIG_Res_06
DIG_Res_08 DIG_Res_08
DIG_Res

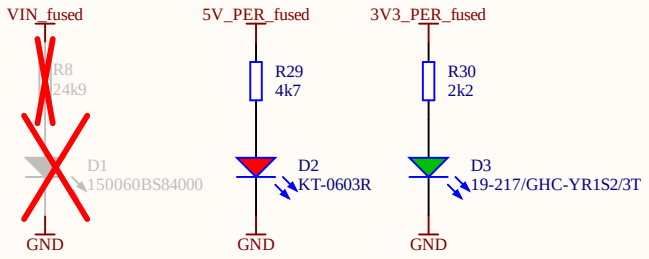
DigCon_PowerSupply
VIN VIN
5V_PER 5V
3V3_PER 3V3
GND GND
PowerSupply

DigCon_I2C
I2C0_SCL I2C0_SCL
I2C0_SCA I2C0_SCA
I2C

DigCon_DCPLD_IO
CPLD_DigIn_01 DCPLD_DigIn_01
CPLD_DigIn_02 DCPLD_DigIn_02
CPLD_DigOut_01 DCPLD_DigOut_01
CPLD_DigOut_02 DCPLD_DigOut_02
CPLD_IO

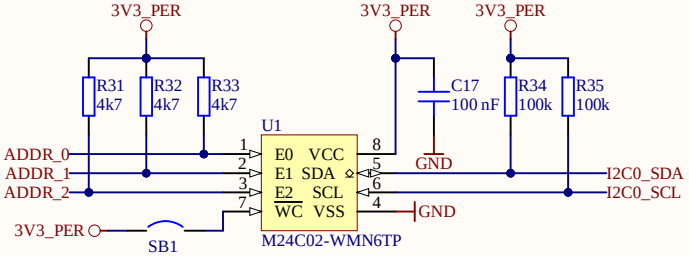
Fused Voltages





EEPROM Interface

(please do not exclude or delete from design)



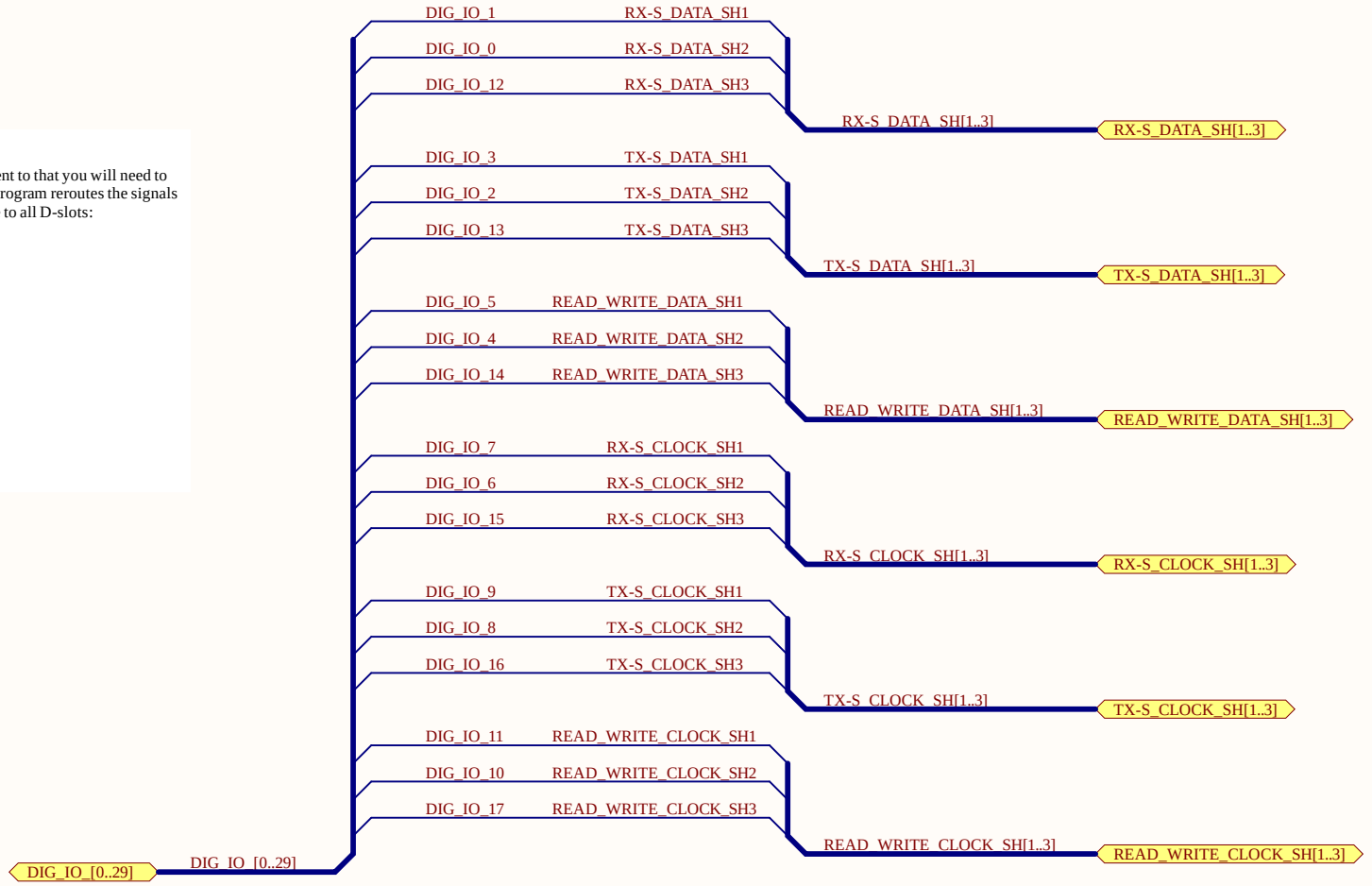
Note: place solder bump to protect EEPROM memory from write access.

Title DigitalCarrierJack.SchDoc		UltraZohm www.ultrazohm.com
Revision: Rev01	Design Engineer: T. Gaupp	
Project: uz_d_absolute_encoder.PrjPCB		Date: 24.04.2026
		Sheet 2 of 6

CPLD program uz_d_abs_encoder_ssi:

Attention! IO Mapping schown here is different to that you will need to respect in the FPGA design, since the CPLD program reroutes the signals in order to make the adapter board compatible to all D-slots:

Adapter Board - FPGA IO Pin - Function
DIG_IO_00 -> Dig_IO_06: RX-Data_2
DIG_IO_01 -> DIG_IO_07: RX-Data_1
DIG_IO_04 <- DIG_IO_10: RW_Data_2
DIG_IO_05 <- DIG_IO_11: RW_Data_1
DIG_IO_08 <- DIG_IO_14: TX-Clock_2
DIG_IO_09 <- DIG_IO_15: TX-Clock_1
DIG_IO_10 <- DIG_IO_16: RW-Clock_2
DIG_IO_11 <- DIG_IO_17: RW-Clock_1
DIG_IO_12 -> DIG_IO_18: RX-Data_3
DIG_IO_16 <- DIG_IO_22: TX-Clock_3
DIG_IO_17 <- DIG_IO_23: RW-Clock_3



Title output_assignement.SchDoc		UltraZohm www.ultrazohm.com
Revision: Rev01	Design Engineer: T. Gaupp	Date: 24.04.2026
Project: uz_d_absolute_encoder.PrjPCB		Sheet of 6