J_HOST
J_CHAIN
J_TERM
J_XT30
J_COIL_SOURCE
J_HOST_ARM
J_TERM1
J_XT30
J_COIL_SOURCE1
J_HOST_ARM1
J_LOAD1
J_LOAD2
J_LOAD3
J_LOAD4
J_LOAD5
J_LOAD6
J_LOAD7
K1
K2
K3
K4
K5
K6
K7
LOCAL GPIO cut link
LOCAL GPIO cut link
LOCAL GPIO cut link
LOCAL GPIO cut link
LOCAL GPIO cut link
LOCAL GPIO cut link
LOCAL GPIO cut link
J_EXT_INPUT
J_EXT_INPUT1
U_ARRAY1
U_ARRAY2
U_ARRAY3
U_OPTO1
U_OPTO2
U_OPTO3
U_OPTO4
U_OPTO5
U_OPTO6
U_OPTO7
U_TERM1
U_XT30
U_COIL1
U_HOST1
U_HOST2
U_HOST3
U_HOST4
U_HOST5
U_HOST6
U_HOST7
U_ISO1
U_ISO_BLOCK1
U_ISO_BLOCK2
U_VS1
U_VS2
D_FLY1
D_FLY2
D_FLY3
D_FLY4
D_FLY5
D_FLY6
D_FLY7
D_TERM1
D_XT30
D_ISO_BLOCK1
D_ISO_BLOCK2
D_VS1
D_VS2
D_GND1
D_GND2
D_GND3
D_GND4
D_GND5
D_GND6
D_GND7
R_HOST_ILM1
R_HOST_UV_TOP1
R_HOST_UV_BOT1
R_HOST_OV_TOP1
R_HOST_OV_BOT1
R_HOST_PG_TOP1
R_HOST_PG_BOT1
R_COIL_ILM1
R_COIL_UV_TOP1
R_COIL_UV_BOT1
R_COIL_OV_TOP1
R_COIL_OV_BOT1
R_COIL_PG_TOP1
R_COIL_PG_BOT1
R_COIL_BLEED1
R_ISO_PRE1
R_ISO_BYP1
R_BASE1
R_BASE2
R_BASE3
R_BASE4
R_BASE5
R_BASE6
R_BASE7
R_BASE_PD1
R_BASE_PD2
R_BASE_PD3
R_BASE_PD4
R_BASE_PD5
R_BASE_PD6
R_BASE_PD7
R_GATE_SER1
R_GATE_SER2
R_GATE_SER3
R_GATE_SER4
R_GATE_SER5
R_GATE_SER6
R_GATE_SER7
R_GATE_PD1
R_GATE_PD2
R_GATE_PD3
R_GATE_PD4
R_GATE_PD5
R_GATE_PD6
R_GATE_PD7
R_IND1
R_IND2
R_IND3
R_IND4
R_IND5
R_IND6
R_IND7
R_LED1
R_LED2
R_LED3
R_LED4
R_LED5
R_LED6
R_LED7
R_OPTO_PULL1
R_OPTO_PULL2
R_OPTO_PULL3
R_OPTO_PULL4
R_OPTO_PULL5
R_OPTO_PULL6
R_OPTO_PULL7
C_HOST_IN1
C_HOST_OUT1
C_HOST_DVDT1
C_HOST_ITIMER1
C_COIL_IN1
C_COIL_OUT1
C_COIL_DVDT1
C_COIL_ITIMER1
C_ISO_IN1
C_ISO_PRE1
C_ISO_BYP1
C_ISO_OUT1
C_ARRAY1
C_ARRAY2
C_ARRAY3
HOST_3V3
HOST_5V
HOST_BUS_CMD_1
HOST_BUS_CMD_2
HOST_BUS_CMD_3
HOST_BUS_CMD_4
HOST_BUS_CMD_5
HOST_BUS_CMD_6
HOST_BUS_CMD_7
HOST_GND
TERM_RAW_12V
XT30_RAW_12V
ISO_RAW_12V
COIL_GND
COIL_12V
COIL_SELECTED_12V
HOST_ARMED_5V
HOST_FUSED_5V
TERM_BLOCKED_12V
TERM_FUSED_12V
XT30_BLOCKED_12V
XT30_FUSED_12V
ISO_BLOCKED_12V
HOST_UV_DIV
HOST_OV_DIV
HOST_PGTH_DIV
HOST_ILM
HOST_ITIMER
HOST_DVDT
HOST_PG
COIL_UV_DIV
COIL_OV_DIV
COIL_PGTH_DIV
COIL_ILM
COIL_ITIMER
COIL_DVDT
HOST_LED_A_1
HOST_LED_K_1
HOST_LED_A_2
HOST_LED_K_2
HOST_LED_A_3
HOST_LED_K_3
HOST_LED_A_4
HOST_LED_K_4
HOST_LED_A_5
HOST_LED_K_5
HOST_LED_A_6
HOST_LED_K_6
HOST_LED_A_7
HOST_LED_K_7
OPTO_COLLECTOR_1
OPTO_EMITTER_1
OPTO_COLLECTOR_2
OPTO_EMITTER_2
OPTO_COLLECTOR_3
OPTO_EMITTER_3
OPTO_COLLECTOR_4
OPTO_EMITTER_4
OPTO_COLLECTOR_5
OPTO_EMITTER_5
OPTO_COLLECTOR_6
OPTO_EMITTER_6
OPTO_COLLECTOR_7
OPTO_EMITTER_7
COIL_MINUS_1
COIL_MINUS_2
COIL_MINUS_3
COIL_MINUS_4
COIL_MINUS_5
COIL_MINUS_6
COIL_MINUS_7
LOAD_1_NO
LOAD_1_NC
LOAD_1_C
LOAD_2_NO
LOAD_2_NC
LOAD_2_C
LOAD_3_NO
LOAD_3_NC
LOAD_3_C
LOAD_4_NO
LOAD_4_NC
LOAD_4_C
LOAD_5_NO
LOAD_5_NC
LOAD_5_C
LOAD_6_NO
LOAD_6_NC
LOAD_6_C
LOAD_7_NO
LOAD_7_NC
LOAD_7_C
LED_ANODE_1
LED_ANODE_2
LED_ANODE_3
LED_ANODE_4
LED_ANODE_5
LED_ANODE_6
LED_ANODE_7
LED_ANODE
LED_CATHODE
LED_ANODE_1_2_3_4_5_6_7
LED_CATHODE_1_2_3_4_5_6_7
GATE_1
GATE_2
GATE_3
GATE_4
GATE_5
GATE_6
GATE_7
GATE_1_2_3_4_5_6_7
COIL_DVDT
COIL_GND
COIL_ILM
COIL_ITIMER
COIL_PGTH
COIL_UV_DIV
COIL_OV_DIV
HOST_ARMED_5V
HOST_ARM_5V
HOST_ARM_SW
HOST_BUS_CMD_1_2_3_4_5_6_7
HOST_GND
HOST_ILM
HOST_ITIMER
HOST_DVDT
HOST_PG
HOST_UV_DIV
HOST_OV_DIV
HOST_PGTH_DIV
HOST_ARMED_5V
HOST_FUSED_5V
HOST_ARM_5V
HOST_ARM_SW
HOST_LED_A_1_2_3_4_5_6_7
HOST_BASE_1_2_3_4_5_6_7
HOST_BUS_CMD_1_2_3_4_5_6_7
HOST_3V3
HOST_5V
HOST_GND
HOST_ILM
HOST_ITIMER
HOST_DVDT
HOST_PG
HOST_UV_DIV
HOST_OV_DIV
HOST_PGTH_DIV
HOST_ARMED_5V
HOST_FUSED_5V
HOST_ARM_5V
HOST_ARM_SW
HOST_LED_A_1_2_3_4_5_6_7
HOST_BASE_1_2_3_4_5_6_7
HOST_BUS_CMD_1_2_3_4_5_6_7
COIL_12V
COIL_GND
COIL_ILM
COIL_ITIMER
COIL_PGTH
COIL_UV_DIV
COIL_OV_DIV
COIL_MINUS_1_2_3_4_5_6_7
COIL_SELECTED_12V
LED_ANODE_1_2_3_4_5_6_7
LED_CATHODE_1_2_3_4_5_6_7
GATE_1_2_3_4_5_6_7
OPTO_COLLECTOR_1_2_3_4_5_6_7
OPTO_EMITTER_1_2_3_4_5_6_7
LOAD_1_NO
LOAD_1_NC
LOAD_1_C
LOAD_2_NO
LOAD_2_NC
LOAD_2_C
LOAD_3_NO
LOAD_3_NC
LOAD_3_C
LOAD_4_NO
LOAD_4_NC
LOAD_4_C
LOAD_5_NO
LOAD_5_NC
LOAD_5_C
LOAD_6_NO
LOAD_6_NC
LOAD_6_C
LOAD_7_NO
LOAD_7_NC
LOAD_7_C
TERM_RAW_12V
XT30_RAW_12V
ISO_RAW_12V
HOST_ARMED_5V
COIL_SELECTED_12V
HOST_5V
HOST_GND
TERM_RAW_12V
XT30_RAW_12V
HOST_ARMED_5V
COIL_SELECTED_12V
CERN OHL / KiCad only / design prototype. fabrication release blocked.
Factory: HOST_ARM OPEN, EXT_INPUT OFF, COIL_SOURCE EXT: change shunts only unpowered.
HOST_GND and COIL_GND isolated: contact groups individually floating.
PWR_FLAG on selected rails assumes the corresponding manual power shunt fitted and valid external source; factory OFF is not energized.
Passive/fuse/module/terminal procurement, thermal and physical fit gates remain unverified.
Unqualified / physical acceptance pending
Retained isolated relay CAD study
Smoothieware / CERN-OHL-S-2.0
Sheet: /
File: seven-channel-dc-mechanical-relay.kicad_sch
Title: SEVEN-CHANNEL-DC-MECHANICAL-RELAY TPL7407L STUDY
Size: A1
Date: 2026-10-11
Rev: v24
KiCad E.D.A. 9.0.8
Id: 1/1