

Project Sunride
The Diamond
32 Leavygreave Rd
Broomhall, Sheffield
United Kingdom
S3 7RD

THIS DRAWING REMAINS THE PROPERTY OF PROJECT SUNRIDE.
COPYRIGHT FOR ALL PURPOSES IS VESTED IN PROJECT SUNRIDE.
THE REPRODUCTION OF THIS DRAWING IN WHOLE OR IN PART IS PROHIBITED WITHOUT EXPRESS CONSENT IN WRITING. THIS DESIGN IS OFFERED
FOR USE ONLY WITH EQUIPMENT MANUFACTURED OR SPECIFICALLY RECOMMENDED BY PROJECT SUNRIDE. RIGHTS ARE RESERVED TO MAKE A
CHARGE FOR THE USE OF THIS DESIGN OR ANY PART THEREOF AND SUCH RIGHT SHALL SUBSIST UNLESS AND UNTIL THE SAME SHALL BE
EXPRESSLY WAIVED IN WRITING. ACCEPTANCE OF THIS DRAWING WILL BE CONSTRUED AS AN ACCEPTANCE OF THESE CONDITIONS.

© 2025

CAD: Altium Designer 25.8

Size: A3

Drawing No: **KDA Rev A1**

Changed by: Nick Angelov

Change reason: First Issue

Change date: 7 Nov 2025

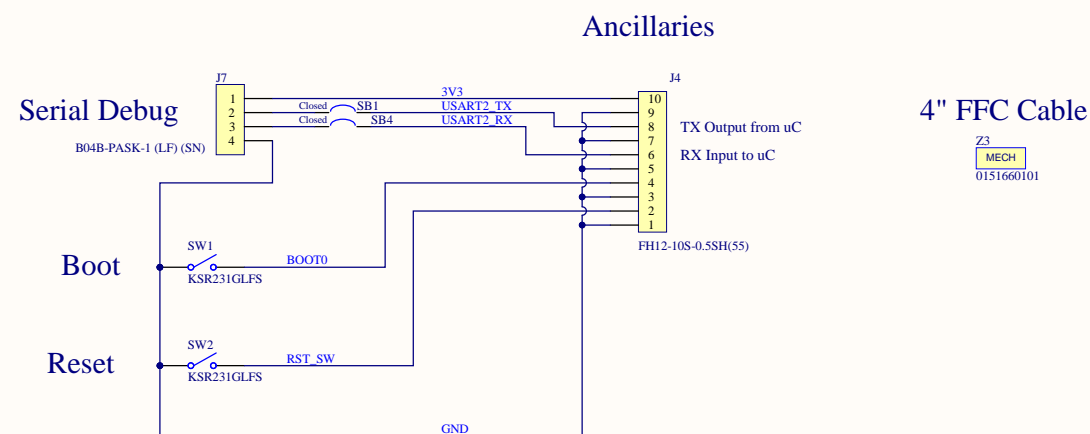
Sheet 1 of 5

Title: **Karman Delta Arming Board**

Sub-Title: **Top Sheet.SchDoc**

Variant: **Standard**

OFF BOARD SERIAL DEBUG, BOOT SW & RESET SW
CONNECTED VIA FFC CABLE - SAME SIDE CONNECTIONS SO CONNECTOR NUMBERS REVERSE



A

B

C

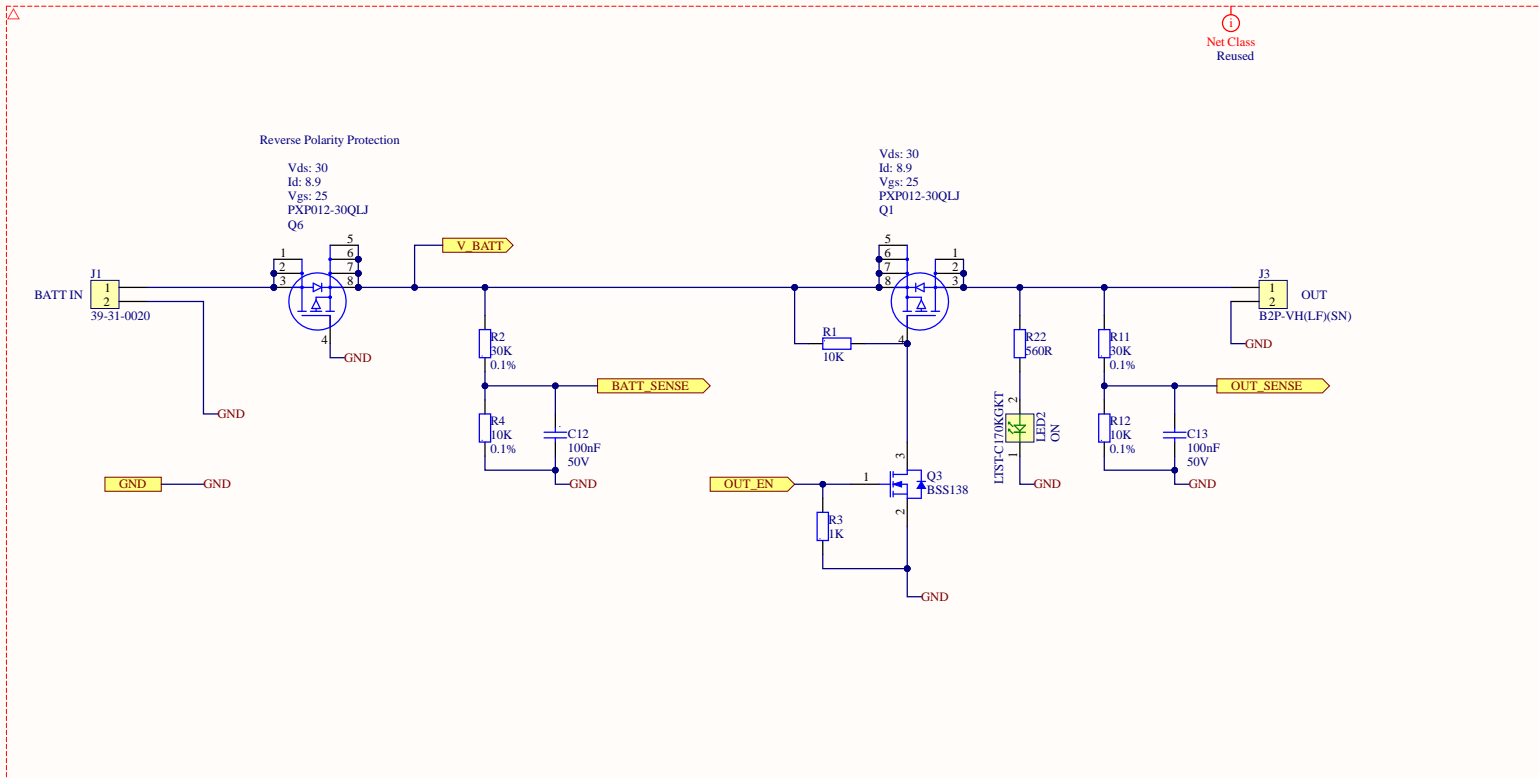
D

A

B

C

D



The schematic diagram illustrates the electrical connections for a CAN transceiver (U5) in a multi-domain system. A vertical dashed line labeled "ISOLATION BARRIER" separates the "PC Comms Domain" (left) from the "Isolated Comms Domain" (right).

PC Comms Domain (Left):

- Serial Debug:** Connected to connector J9 (B04B-PASK-1 (LF) (SN)). Signals include VCC3, GND, and UART2_TX/RX (via SB5 and SB7).
- CAN Transceiver (U5):** An ISO1042DWV transceiver with pins VCC1, TXD, RXD, GND1, VCC2, CANH, CANL, and GND2.
- Power and Grounding:** A 3V3 supply is connected to VCC1 and TXD. A 10K resistor (R15) is connected between TXD and RXD. A 100nF capacitor (C18) is connected between 3V3 and GND. A test point TP21 (S1751-46R) is connected to GND.
- Test Points:** TP19 and TP20 are connected to the TXD and RXD lines, respectively.

Isolated Comms Domain (Right):

- 5V Regulator (U4):** A MIC5239-5.0VYS regulator with pins IN, OUT, GND, and GND. It is connected to a 9V BATT source (TP14) and a 50V source (TP15) via a 100nF capacitor (C15). The output (OUT) provides ISO_5V.
- CAN To Main PCB:** Connected to connector J6 (B06B-PASK-1 (LF) (SN)). Signals include ISO_5V, CANH, CANL, and GND.
- Power and Grounding:** ISO_5V is connected to VCC2 and CANH. A 100nF capacitor (C16) is connected between ISO_5V and GND. A 100nF capacitor (C19) is connected between GND and GND2. A 10K resistor (R15) is connected between CANH and CANL. A 100nF capacitor (C17) is connected between ISO_5V and GND. A test point TP22 (S1751-46R) is connected to ISO_GND.
- Test Points:** TP17 and TP18 are connected to the CANH and CANL lines, respectively.

Line Termination: The CANH and CANL lines are terminated with 62R resistors (R16 and R17) connected to GND and GND2, respectively. A 100nF capacitor (C19) is connected between GND and GND2.

Net Classes: The schematic defines two net classes: "PC Comms Domain" and "Isolated Comms Domain", each represented by a red circle with a dot.