



# U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND

## Small Universal Payload Interface (sUPI) Payload Side Brief

The sUPI Payload interface provides an interchangeable interface to connect payloads to UxS platforms such as drones. The interface is a subset of the Picatinny Common Lethality Interface Kit (CLIK) Design Standard. The interface supports a detect mechanism where the payload signals are controlled by the drones' interface board. The payload interface board provides power to the payload and connectivity for USB and GPIOs passed through the physical / electrical interface.

### Electrical Interface for Platform

The sUPI payload side electronics board has solder pads for connecting wires to the payload interfaces. Connections should be made with 18-22AWG wire for power (VBATT, VBATT\_RET) and 24-30AWG for signals as indicated in the wiring diagram. The payload board will provide regulated power based upon solder bridge placement over the V1 and V2 selections.

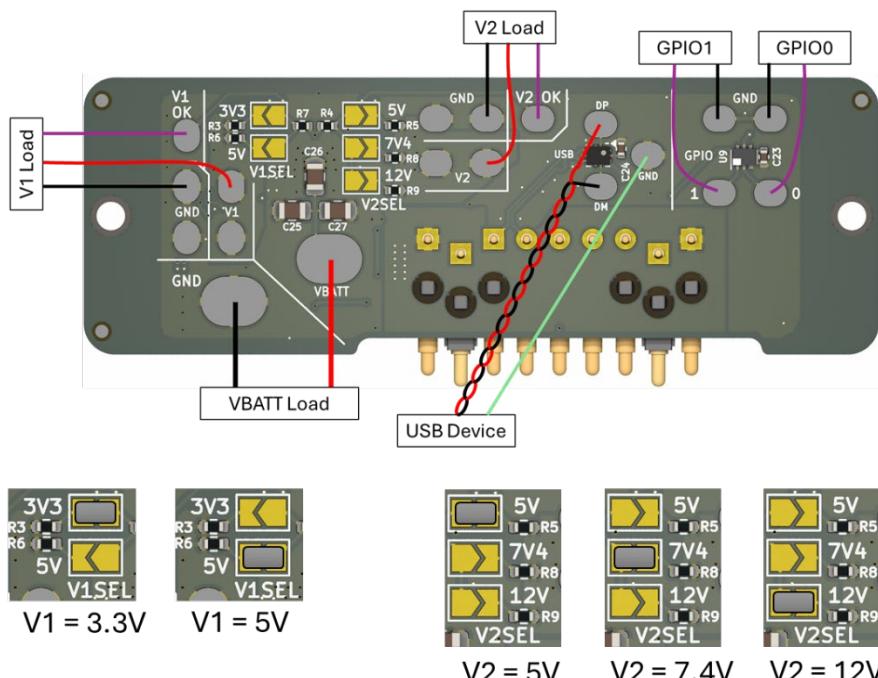
VBATT – Platform Battery Voltage Range 13 to 25.2 vDC

V1 – Regulated Power 3.3 or 5 vDC

V2 – Regulated Power 5, 7.4 or 12 vDC

GPIO – Typically PWM Voltage Range  $\pm 5$  vDC

USB – USB Voltage Range 0 to 3.3vDC





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## Mechanical Interface for Platform

The sUPI Payload Side is intended to be mounted to a payload via 3X M3x 0.5mm thread, 8mm long black-oxide stainless steel phillips flat head screws (e.g. McMaster PN 91698A304). The mounting hole pattern is shown below. Existing payloads should be modified in one of the following ways to install a sUPI Payload Side interface:

- Drill and tap 4X holes into the payload as shown in Figure 9 in the desired location for mounting the sUPI payload side. For a UAV platform, it is recommended that the vehicle CG align as closely as possible with the indicated point.
- Create a custom adapter that includes the sUPI Payload Side hole pattern and enables mounting to an existing mounting interface on a payload.

