MID49 DB-10 Power Distribution Box Instruction Manual

Contents

MID49 DB-10 Power Distribution Box

Product Information

- Install the ARCA Backpack using a 3mm allen wrench.
- Attach the Power Distribution Box to the camera using the ARCA interface.
- For the Remote Start / Stop function (R/S), install a 2.5mm TRS Cable into the DB-10 REMOTE port.
- When using wide batteries, adjust the battery plate position to expose power outputs.
- Install a 4-pin XLR cable into the camera’s DC IN port.
- Install a 2.5mm TRS cable into the camera’s REMOTE port.
- When two valid sources are present (BATT and DC-IN), the DC input will be selected when the voltage is above 12V.
- Set the slide switch set to match or be lower than the maximum sustained current rating of the power source.
- To change from a V-Mount battery plate to a Gold Mount battery plate, follow the instructions provided in the manual.

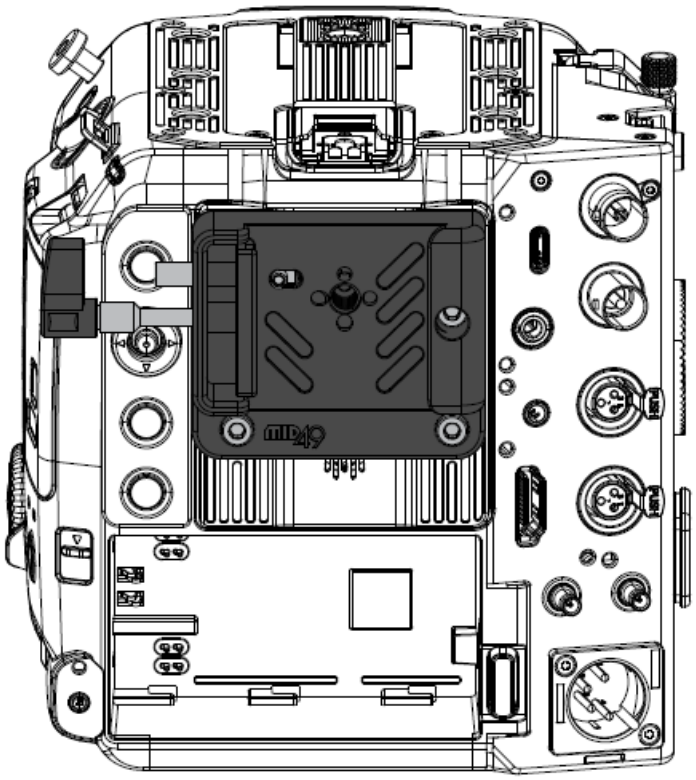
FAQ

- **Q:** What should I do if my accessories lose power when using a Tilta Nucleus lens control system?
- **A:** Remove the second cable and push the DB-10 reset button to resolve the issue caused by Tilta’s design error.

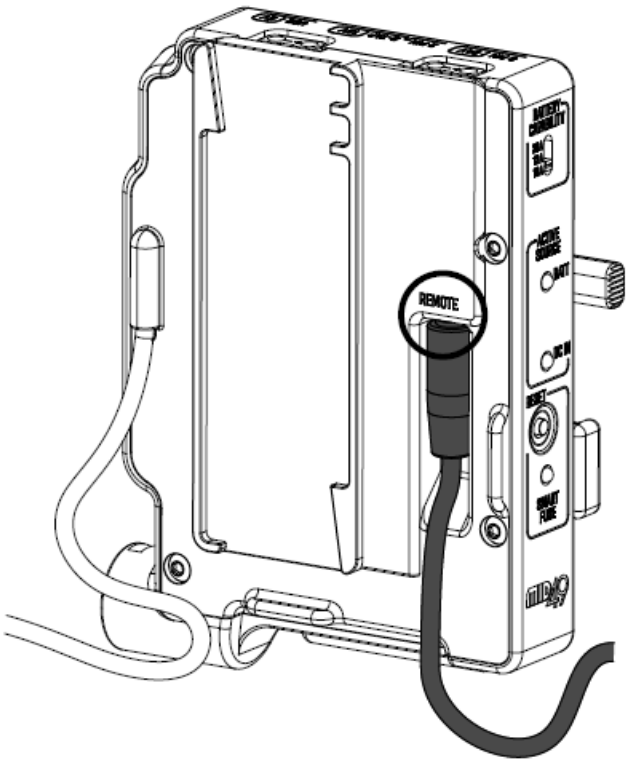
Usage Instructions

Power Distribution Box DB-10 (Canon C400, V-Mount) M49-DB10-V

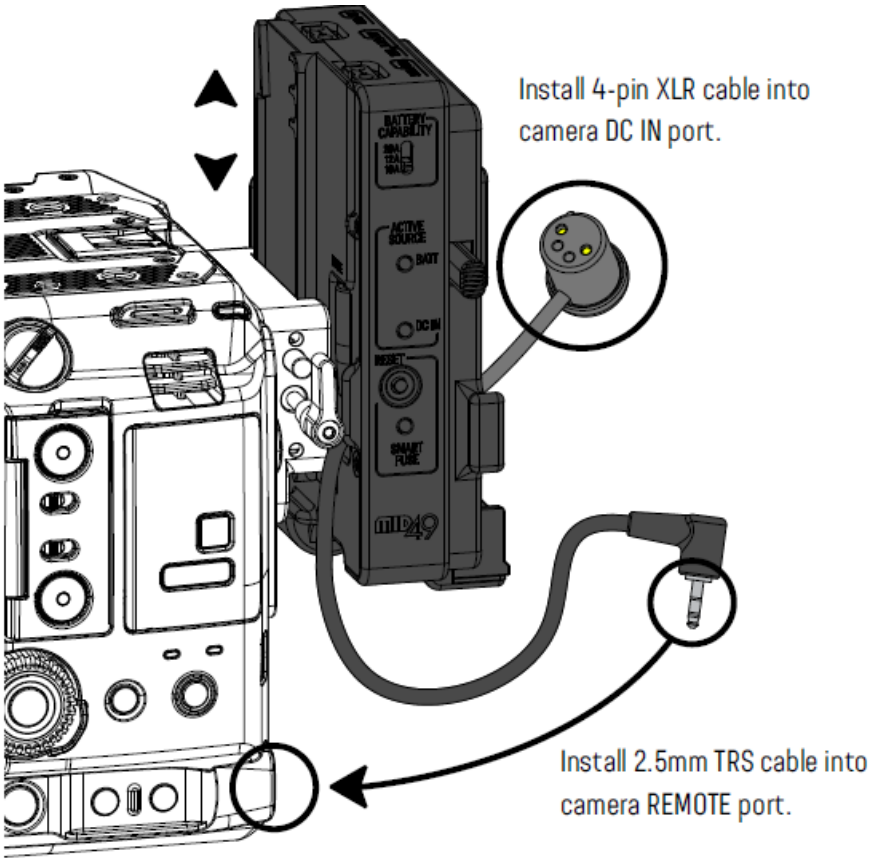
- Install the ARCA Backpack using 3mm allen wrench.



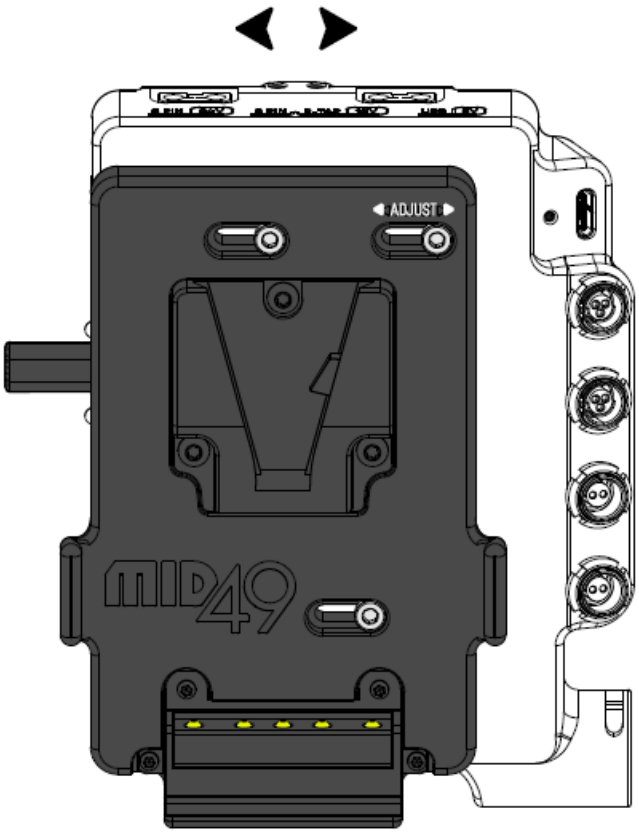
- For the Remote Start / Stop function (R/S), install a 2.5mm TRS Cable into the DB-10 REMOTE port.



- Attach to camera using ARCA interface.
- Adjust vertical position and lock thumbscrew.
- If additional tightening is required, pull out thumbscrew handle to ratchet.



- When using wide batteries, adjust the battery plate position to expose power outputs.



Operating Voltage

Source

- On-board batteries (BATT)
- DC input (DC-IN)

Voltage Range

- 12.5 – 17V
- 11-17V (Note that Canon C400 may shut down below 11.8V)

Power Source Selection

- When two valid sources are present (BATT and DC-IN), the DC input will be selected when the voltage is above 12V.
- When the measured DC input voltage under load is below 12V, and an on-board battery (BATT) is present, DB-10 will switch to BATT.
- Due to the nature of block battery performance, the DC input voltage must be above 14V at initial insertion to be valid.

LED Indicators

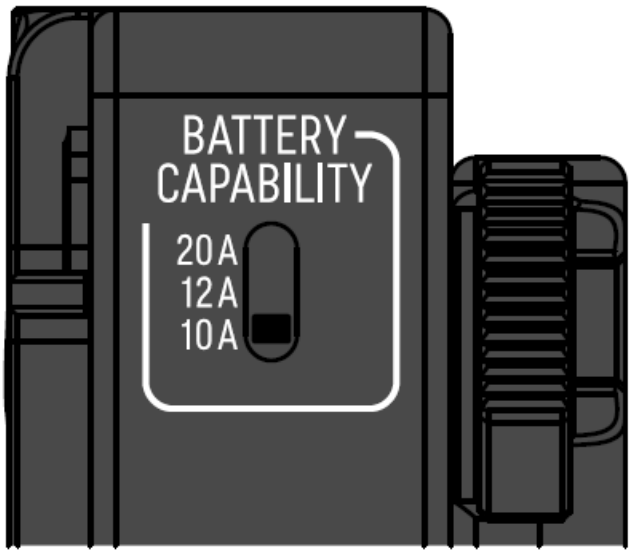
- On the side of the DB-10, LEDs corresponding to the active source are illuminated. When a source is valid and active, the LED will glow GREEN.
- When a source is invalid, either above 17V or below the thresholds described above, the LED will glow RED.

Displayed Voltage

- The C400’s 4pin XLR input does not accept battery data so when using DB-10, the camera will measure and display active source voltage.

Battery Capability

- For DB-10 to intelligently monitor the camera and accessory power and prevent a brownout, the slide switch setting must match or be lower than the maximum sustained current rating of the power source.
- This information is commonly found on the battery or power supply’s label or the manufacturer’s website and is often listed as 10A, 12A, 20A, or similar.



Power Outputs

Type

- D-Tap
- 2-pin LEMO Compatible
- 3-pin Fischer Compatible
- USB-C PD

Voltage

- Source Voltage (11-17V)
- Source Voltage (11-17V)
- Regulated 24V at 2.5A
- Regulated 5V at 3A

Smart Fuse

- Rather than a traditional fuse, DB-10 monitors the current going to the camera and calculates the remaining current budget for accessories.
- For example, the C400 uses approximately 2.2A, so with BATTERY CAPABILITY set to 10A, the remaining 7.8A would be allocated to accessories.
- If that 7.8A accessory limit is exceeded, DB-10 will cut accessory power, leaving the camera running.
- Once the accessories drawing excess current have been removed, the RESET button can be pressed to re-enable accessory power.

Example Calculation with a 12V Battery

Battery Capability	10.0A
Canon C400	- 2.2A
Video Transmitter	- 1.5A
Wireless FIZ	- 3.0A (24V at 1.5A)
Remaining Power Budget	3.3A

Remote Start / Stop

- When the 2.5mm TRS Cable is installed into the C400's Remote Port, the ARRI standard run / stop function is present on 3-pin Fischer connectors.

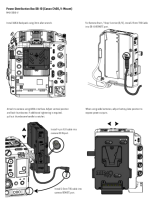
Swapping Battery Plates

- To change from a V-Mount battery plate to a Gold Mount battery plate, remove (3) M3x10mm socket cap screws using a 2.5mm allen wrench and disconnect power and data connections.
- Reverse process for installation. Be careful not to pinch wires during assembly or damage may result.

Tilta Warning

- When using a Tilta Nucleus lens control system, only one 3-pin Fischer cable is required.
- Do not use an additional power cable.
- Due to Tilta's design error, the Nucleus will short-circuit 24V and 12V causing accessories to lose power.
- If this happens, remove the second cable and push the DB-10 reset button.

Documents / Resources

	MID49 DB-10 Power Distribution Box [pdf] Instruction Manual C400, C300mkIII, C500mkII, DB-10 Power Distribution Box, DB-10, Power Distribution Box, Distribution Box, Box

References

- User Manual