

**For the latest instruction manual revisions, software updates, liability policy, and warranty information, visit the KDE Direct website at: <http://www.KDEDirect.com>.**

**All technical inquiries, review the [KDE Resource Center](#).**

**IMPORTANT: To reduce the risk of fire, bodily injury, and damage to the equipment, read through Instruction Manual before operating UBEC and always follow all instructions.**

- ⚠ KEEP OUT OF THE REACH OF CHILDREN.
- ⚠ Pay attention to the maximum voltage allowed:
  - KDEXF-UBEC Series** 7.4V (2S LiPo) – 34.8V (8S LiHV) 34.8V Max.
  - KDE-UBECUVC Series** 14.8V (4S LiPo) – 60.9V (14S LiHV) 60.9V Max.
- ⚠ The KDEXF-UBEC and KDE-UBECUVC Series are high-frequency switching regulators and provide power output for peripheral equipment.
- ⚠ Never operate the UBEC beyond the specifications stated on hardware. Serious injury or property damage can result from misuse.
- ⚠ Ensure the polarity is correct with the power supply to the UBEC power source leads. Reverse polarity may cause fire and serious injury, and will immediately damage the UBEC beyond warranty coverage.
- ⚠ Ensure the UBEC is installed in a safe location and properly insulate all exposed connections.
- ⚠ Always use electronics-grade solder and make sure to use proper soldering techniques and equipment. Poor soldering technique is a common cause of in-flight failure and UBEC damage. Ensure all connectors are protected with insulation and heat-shrink to prevent unwanted conduction and shorts.
- ⚠ Check all connectors for secure connection before flight. Disconnection due to vibration and flight-conditions can result in a dangerous loss of control and potential damage and serious injury.
- ⚠ Do not disassemble or open the UBEC. Opening of the case or removal of shrink-wrap may cause damage to the internal components, will void all warranty claims, and yield unsafe operation.
- ⚠ Install the UBEC in a location with adequate airflow to maintain cool temperatures and increase amperage capability.
- ⚠ Use caution when operating in wet environments or rain. Water can damage the UBEC and cause malfunction and failure of the electrical components.
- ⚠ This is a high-power, electromechanical device with the potential to be very dangerous – always handle with caution and be aware of proper operation.

- ⚠ KDE Direct is not responsible for the use of this Product(s) or for any damages or injuries caused or sustained by its usage. Always observe all laws and instructions regarding the use of this Product(s), and the operation of devices using this Product(s).
- ⚠ This product may contain chemicals known in the State of California to cause cancer and/or birth defects or other reproductive harm. Do not ingest or attempt to ingest this product.
- ⚠ **NOTE:** The KDEXF-UBEC, KDE-UBECUVC Series should never be operated in series or parallel with another Battery Eliminator Circuit or power-supply (such as an external LiPo receiver pack), or damage to the UBEC can occur.
- ⚠ When powered on, the UBEC supplies voltage to all leads and channels.
- ⚠ **THE UBEC UVC STORES THE LAST VOLTAGE SETTING, AND WILL APPLY IT UPON POWERING ON. DISCONNECT ALL PERIPHERALS BEFORE SETTING OR CHANGING VOLTAGE OUTPUT.**

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**The KDE Direct UAS UBEC (Universal Battery Eliminator Circuit) Series is designed to eliminate the need for an external battery pack, and provide voltage-regulated power for the peripheral equipment. The UBEC allows for simple adjustment of the regulated output voltage for direct compatibility to your electronics and power applications.**

**For high-power applications, regulated power-leads are provided to the peripheral equipment for a wide-range of applications - including redundant power to critical items, such as flight-controllers, autopilots, receivers, and video equipment.**

**For UAS applications, dual UBECs can be used: (1) a 5V or 6V power output for the flight-controller electronics and (2) an 8V or 12V output for the professional video and/or industrial equipment.**

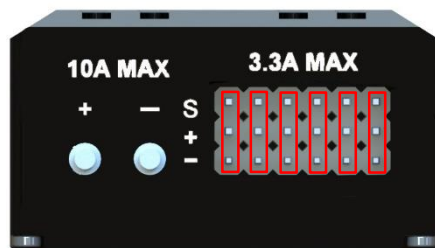
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## LIMITED WARRANTY

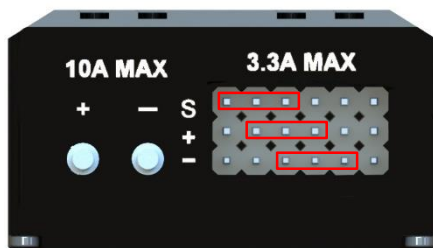
KDE Direct, LLC (KDE Direct) warrants to the original purchaser that the Product(s) will be free from defects in materials and workmanship for a period of one (1) year from the date of purchase. This warranty does not cover abuse, neglect, or damage to the Product(s) from preventable failure methods, such as incorrect wiring, reverse polarity, voltage exceeding the maximum specification, or amperages exceeding the maximum specification (overloading).

The full definition and terms of this limited warranty are available at: <https://www.kdedirect.com/pages/warranty-and-returns-policy>.

## UBEC UVC INSTALLATION AND WIRING



PROPER ORIENTATION OF JST CONNECTORS. ENSURE THAT SIGNAL AND GROUND ARE CONNECTED CORRECTLY



INCORRECT ORIENTATION OF JST CONNECTORS.

Pay close attention to proper wiring as shown in the diagrams above. Ensure the polarity is correct and proper soldering techniques are used when connecting the power source and peripheral equipment to prevent damaging the UBEC UVC.

Failure to correctly connect JST style connectors will result in damaged equipment and void all warranties.

**THE UBEC UVC REQUIRES MANUALLY TURNING ON EACH TIME BEFORE USE.**

**THE UBEC UVC STORES THE LAST VOLTAGE SETTING AND WILL APPLY IT UPON POWERING UP. MAKE SURE TO DISCONNECT ALL PERIPHERALS BEFORE CHANGING OR CHECKING VOLTAGE SETTINGS.**

## UBEC UVC SETUP AND OPERATION

The UBEC UVC Series allows for operation of multiple electronics with high-power requirements; commonly needed when linear BECs are not capable of handling the power required (such as those included in many off-brand ESCs) or when using OPTO-Isolated ESCs (such as the [KDE Direct UAS Electronic Speed Controller \(ESC\) Series](#)).

**Power On/Off** – Press and hold the power button for 3 seconds.

⚠ **NOTE:** The UBEC UVC supplies power immediately upon powering on.

**Voltage Selection Mode** – While on, press the power button twice in quick succession to enter Voltage Selection Mode. There will be a single LED blinking to indicate Voltage Selection Mode.

**Selecting Voltage** – While in Voltage Selection Mode, the blinking LED indicates the current selected voltage. Press the power button to toggle through the voltage options. To select the voltage and exit Voltage Selection Mode, press and hold the power button until all of the lights flash. A single steady LED will remain on over the selected voltage.

⚠ **NOTE:** The UBEC UVC will supply the previously set voltage while in Voltage Selection Mode, and will not supply the newly set voltage until Voltage Selection Mode is exited.

| Voltage Selection | Total Current Limitation |
|-------------------|--------------------------|
| 5V                | 22A                      |
| 6V                | 22A                      |
| 8V                | 21A                      |
| 12V               | 18A                      |

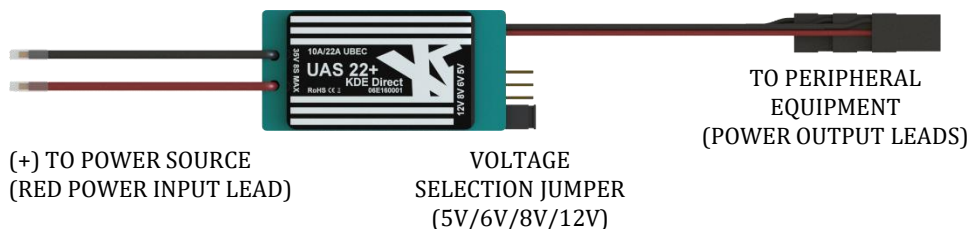
**Overcurrent Warning** - If the peripherals pull more than 26A through the UBEC UVC, the LEDs will flash continuously.

The UBEC UVC has six servo channels and one set of high current leads. Each servo connector is intended to provide a continuous 3.3A max current. Use y-harnesses, multiple power input ports on the peripheral equipment, or replace with alternate connectors to provide more current if required.

Power the UBEC UVC through the power-source leads. The UBEC UVC requires a minimum of 12.6V to send the max voltage to the peripheral equipment leads. In this regard, 4S and higher-cell LiPo batteries, or a capable power supply is recommended.

## UBEC 22 INSTALLATION AND WIRING

(-) TO POWER SOURCE  
(BLACK POWER INPUT LEAD)



Pay close attention to proper wiring as shown in the diagram above. Ensure the polarity is correct and proper soldering techniques are used when connecting the power source and peripheral equipment to prevent damaging the UBEC. Voltage is selected via the two-pin jumper and can be adjusted before or during operation to control the level of voltage to the peripheral equipment.

## UBEC 22 SETUP AND OPERATION

The UBEC 22 Series allows for operation of multiple electronics and other high-power requirements; commonly needed when linear BECs are not capable of handling the power required (such as those included in many off-brand ESCs) or when using OPTO-Isolated ESCs (such as the [KDE Direct UAS Electronic Speed Controller \(ESC\) Series](#)).

- Select the desired output voltage to the peripheral equipment using the included jumper. Simply relocate the jumper to the desired voltage designation and the internal processor will monitor the accurate output.
  - ⚠ **NOTE:** Make sure the connected peripheral equipment is capable of handling the set voltage, or damage to the equipment can occur.
  - ⚠ **NOTE:** If the jumper is misplaced or missing during operation, the voltage will default to 5.0V nominal output immediately to prevent damage to the peripheral electronics.
- The UBEC 22 has three peripheral equipment power output leads. Servo connectors are intended to carry up to 3.3A of current continuously each. Use y-harnesses, multiple power input ports on the peripheral equipment, or replace with alternate connectors to provide the most current if required.
- Power the UBEC 22 through the power-source leads. The UBEC 22 will send the correct voltage to the peripheral equipment leads under these inputs:
  - ⚠ When the 12V selection is used, the input voltage must remain above 12.6V to maintain a consistent output voltage of 12V during use. In this regard, 4S and higher-cell LiPos (or a capable power-supply)

- ⚠ When the 8V selection is used, the input voltage must remain above 8.6V to maintain a consistent output voltage of 8V during use. In this regard, 3S and higher-cell LiPos (or a capable power-supply) are required to maintain consistent voltage during operation.
- ⚠ When the 6V selection is used, the input voltage must remain above 6.6V to maintain a consistent output voltage of 6V during use. In this regard, 2S and higher-cell LiPos (or a capable power-supply) are required to maintain consistent voltage during operation.
- ⚠ If the input voltage drops below the set voltage selection, the voltage will reduce at 0.6V below the level of input.
  - As an example, if a 2S LiPo is used and running at 7.4V, the output will be limited to 6.8V during operation when using the 8V or 12V voltage selection.

## LIMITS OF LIABILITY

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Always observe all laws and instructions regarding the use of this product, and the operation of devices using this product.

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