DROK B0BQBXMH67

DROK 80W Buck Boost Converter Instruction Manual

1. Product Overview

The DROK Buck Boost Converter is an adjustable DC-DC voltage regulator designed to convert an input voltage range of 6.0-36V DC to an output voltage range of 0.6-36V DC. This versatile module can step up or step down the voltage, providing a stable power supply for various applications such as solar panels and RV systems. It features an LCD display for clear parameter monitoring and multiple protection functions to ensure safe operation.

Key Features:

- **Input Voltage:** DC 6.0-36V
- **Output Voltage:** DC 0.6-36V
- **Output Current:** 0-5.0A
- **Output Power:** 80W
- High-resolution LCD display for voltage, current, and power.
- Constant Voltage (CV) and Constant Current (CC) modes.
- Lock function to prevent accidental changes.
- Integrated thickened heat sink and intelligent temperature control fan.
- Comprehensive protection features including reverse connect, backflow, low voltage, over voltage, over current, over power, over temperature, over time, over capacity, and over energy protection.

2. Specifications

Parameter Table:

Parameter	Value
Input Voltage	DC 6.0-36V
Output Voltage	DC 0.6-36V
Output Current	0-5.0A
Output Power	80W
Voltage Resolution	0.01V

Parameter	Value
Current Resolution	0.001A
Voltage Accuracy	±0.5% + 1 digit
Current Accuracy	±0.5% + 3 digits
Conversion Efficiency	88%
Soft Start	Yes

Protection Defaults:

Protection Type	Default Value	Adjustable Range
Low Voltage Protection (LVP)	4.7V	4.7-30V
Over Voltage Protection (OVP)	37V	0-37V
Over Current Protection (OCP)	5.2A	0-5.2A
Over Power Protection (OPP)	82W	0-82W
Over Temperature Protection	100℃/212℉	N/A
Over Time Protection (OHP)	OFF	0-100H
Over Capacity Protection (OAH)	OFF	0-9999AH
Over Energy Protection (OPH)	OFF	0-9999WH

Physical Dimensions:

- **Package Dimensions:** 5.51 x 2.87 x 2.09 inches
- **Item Weight:** 3.84 ounces (0.11 Kilograms)

Image: Physical dimensions of the DROK Buck Boost Converter, showing measurements of 78.6mm/3.1in length, 41.6mm/1.64in width, and 38.6mm/1.5in height, with a knob extending 42.7mm/1.7in.

3. Product Components and Display

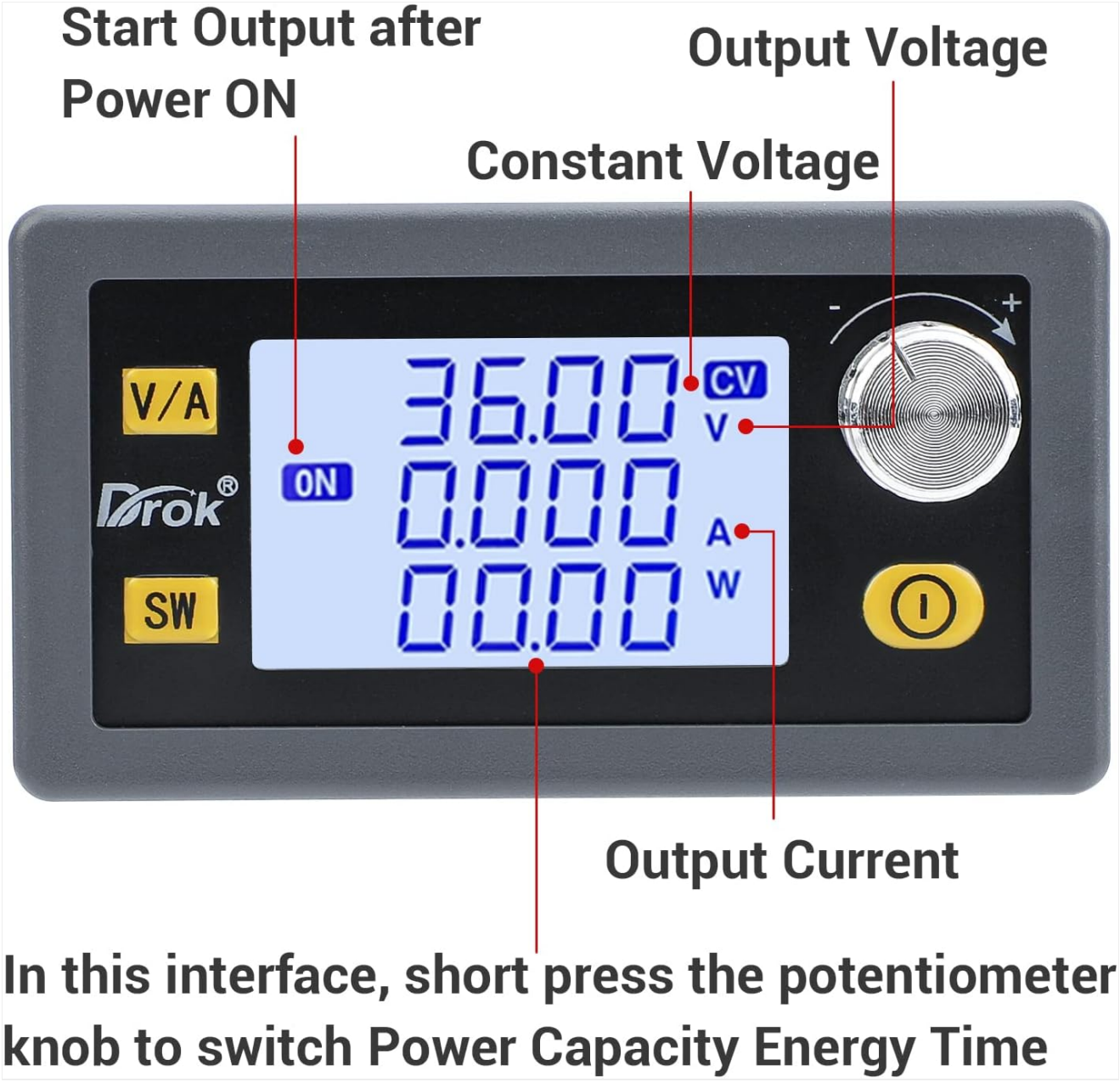

Image: The front panel of the DROK Buck Boost Converter, showing the LCD display and control buttons. The display indicates output voltage (36.00V), output current (0.000A), and output power (00.00W). Indicators for 'Start Output after Power ON' (ON) and 'Constant Voltage' (CV) are visible. The 'V/A' button switches between voltage and current display, and the 'SW' button is for switching display modes. A potentiometer knob is used for adjustment, and a button next to it is for power or menu navigation.

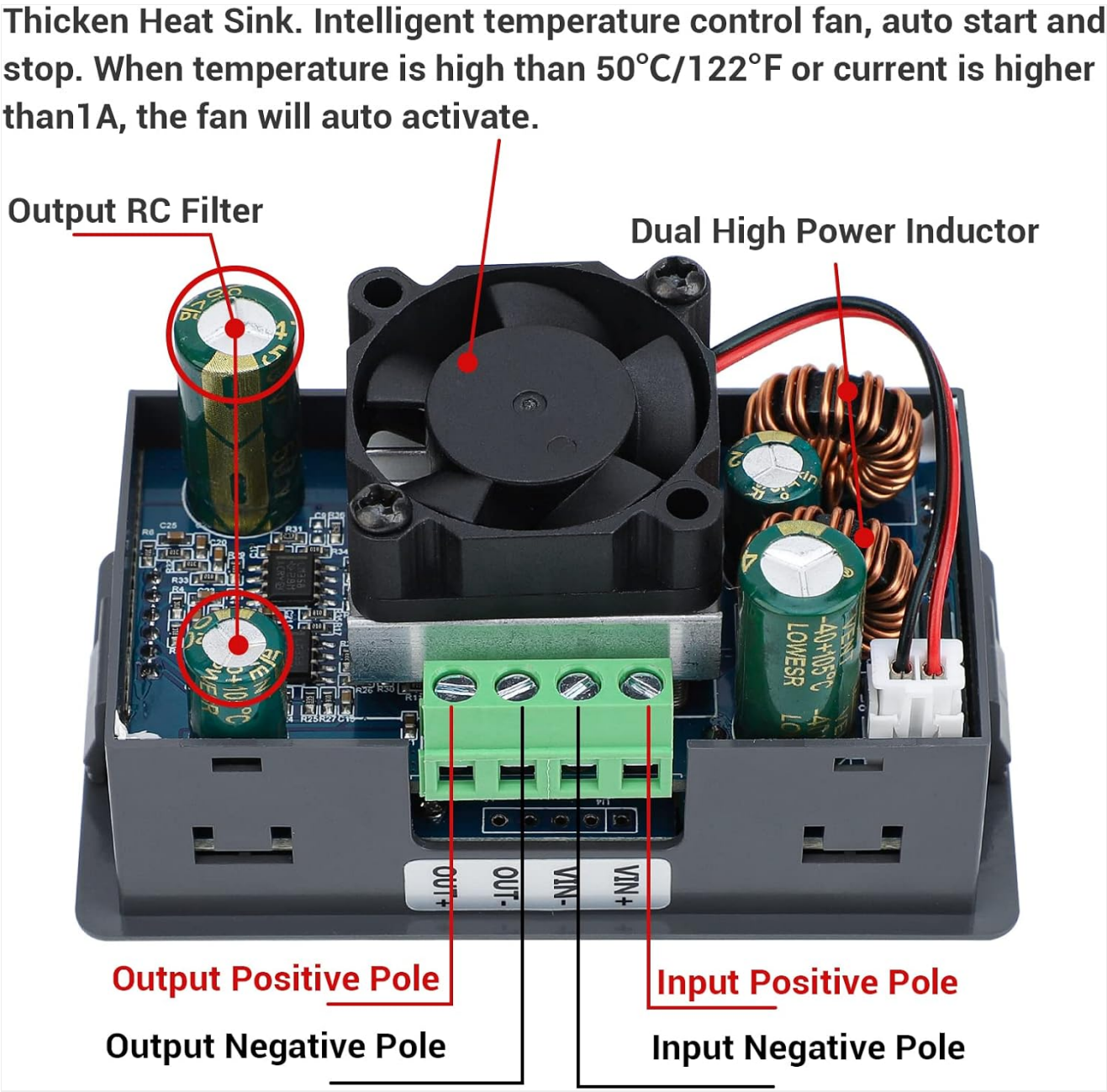

Image: An internal view of the converter, highlighting the input and output terminals, cooling fan, and other components. Clearly labeled are the 'Input Positive Pole' (VIN+), 'Input Negative Pole' (VIN-), 'Output Positive Pole' (OUT+), and 'Output Negative Pole' (OUT-). The thickened heat sink and intelligent temperature control fan are visible, designed to activate automatically when the temperature exceeds 50°C/122°F or current is higher than 1A.

4. Setup and Wiring

Follow these steps to properly set up and wire your DROK Buck Boost Converter:

1. **Power Off:** Ensure all power sources are disconnected before wiring.
2. **Identify Terminals:** Locate the input (VIN+, VIN-) and output (OUT+, OUT-) terminals on the converter. Refer to the "Internal Components and Connection Terminals" image for guidance.
3. **Input Connection:** Connect your DC power source (e.g., battery, solar panel) to the input terminals. Ensure correct polarity: positive to VIN+ and negative to VIN-.
4. **Output Connection:** Connect your load device to the output terminals. Ensure correct polarity: positive to OUT+ and negative to OUT-.
5. **Secure Connections:** Tighten all terminal screws to ensure a secure and stable electrical connection. Loose connections can cause instability or damage.

6. **Initial Power On:** After wiring, apply power to the input. The LCD display should illuminate.

5. Operation

Basic Operation:

1. **Power On/Off:** Press the circular button next to the potentiometer to toggle the output power on or off.
2. **Voltage/Current Adjustment:**
    - Rotate the potentiometer knob to adjust the output voltage or current.
    - A short press of the potentiometer knob switches between adjusting voltage and current.
    - The "V/A" button can also be used to switch the main display between voltage and current.
3. **Display Mode Selection:** Short press the "SW" button to cycle through different display modes, such as output voltage, output current, output power, capacity, energy, and time.
4. **Lock Function:** To prevent accidental changes, press and hold the potentiometer knob for a few seconds to lock the settings. Repeat to unlock.

Protection Settings:

The converter includes various protection features to safeguard the device and connected equipment. These settings can be adjusted as follows:

1. Press and hold the circular button (power button) to enter the protection setting menu.
2. Use the potentiometer to navigate through the protection types (LVP, OVP, OCP, OPP, OHP, OAH, OPH, Power On State, Setting CC CV).
3. Short press the potentiometer to select a parameter, then rotate to adjust its value.
4. Short press again to confirm the setting.
5. Press and hold the circular button to exit the setting menu.

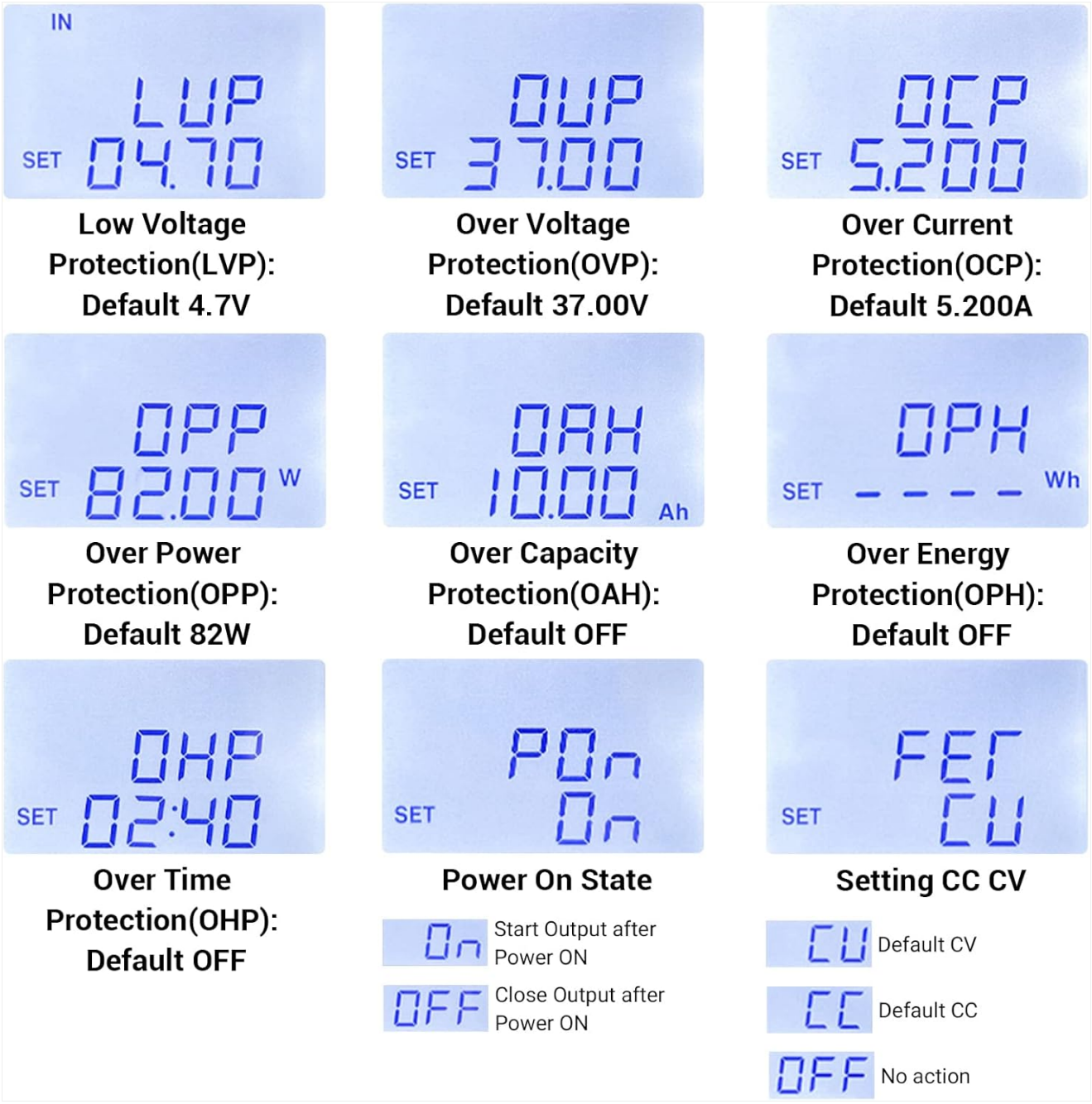

Image: Various protection settings displayed on the LCD menu, including Low Voltage Protection (LVP), Over Voltage Protection (OVP), Over Current Protection (OCP), Over Power Protection (OPP), Over Capacity Protection (OAH), Over Energy Protection (OPH), Over Time Protection (OHP), Power On State (PON), and Constant Current/Constant Voltage (FER CC CV) settings. These parameters can be adjusted by the user.

6. Maintenance

- **Keep Clean:** Regularly clean the device to prevent dust accumulation, especially around the fan and heat sink, to ensure optimal cooling. Use a soft, dry cloth.
- **Ventilation:** Ensure adequate airflow around the converter to prevent overheating. Do not obstruct the fan or ventilation openings.
- **Connection Check:** Periodically inspect all wiring connections for tightness and signs of wear or corrosion.
- **Storage:** When not in use for extended periods, store the converter in a dry, cool environment away from direct sunlight and extreme temperatures.

7. Troubleshooting

- **No Display/No Output:**
  - Check input power supply. Ensure it is within the specified DC 6.0-36V range.
  - Verify all wiring connections for correct polarity and tightness.
  - Check for any activated protection features (e.g., LVP, OVP, OCP) on the display. Adjust settings if necessary.
- **Incorrect Output Voltage/Current:**
  - Ensure the device is not in lock mode. Unlock if necessary.
  - Recalibrate the voltage/current if accuracy is critical and you have a reference meter.
  - Check if the load is drawing more current than the set limit or the device's maximum capacity (5A/80W).
- **Overheating:**
  - Ensure the fan is operating when the device is under load or temperature exceeds 50°C/122°F.
  - Check for obstructions around the fan and heat sink.
  - Reduce the load if the device is consistently running hot.
- **Display Issues:**
  - If the LCD display is unclear or segments are missing, power cycle the device. If the issue persists, contact support.

8. Warranty and Support

Warranty: This product comes with a one-year warranty from the date of purchase. In case of any quality issues, a replacement may be provided according to the warranty terms.

Support: For technical assistance, troubleshooting, or warranty claims, please contact DROK customer support. Refer to the official DROK website or your purchase platform for specific contact details and further assistance.