



U501V Warming + Grounding Underbody Mattress

Scan to
access full
instructions
for use



Getting Started Guide

What's in the Box

- U501V Warming + Return Electrode Underbody Mattress
- Getting Started Guide

Required Accessories

(sold separately)

- For Warming Functionality:
 - (1) WC77V Multiport Controller
 - (1) A112 Blue Mattress Cable
- For Return Electrode Functionality:
 - (1) A136 Green Return Electrode Cable

Optional Accessories

(sold separately)

- A137 Dual ESU/Generator "Y" Cable. This allows for dual ESU use with a single return electrode.
- A138 REM Adapter Cable. This will be needed if your ESU/Generator has safety features such as CQM, REM, NEM, or Nesity.

Purpose

The U501V Warming + Return Electrode Underbody Mattress is a multifunction device that provides active underbody patient warming, return electrode functionality for monopolar electrosurgery, and integrated pressure reduction through its multilayer foam construction. It connects to the WC77V Controller for warming and to an electrosurgical unit (ESU) for return electrode functionality.

Warming devices such as Blankets and Underbody Mattresses are reusable for up to 2-years.

The full instructions for use can be accessed by scanning the QR code located at the top of this page, the back of this guide, or by visiting vetwarming.com/manuals.

Identify & Check Your Mattress

1. Locate the short blue warming, and green return electrode cables extending from the Mattress.
2. Note the:
 - a. Serial number
 - b. Expiration date (2 years after ship date, printed on the blue cable).

Note: Always check the expiration date on the applicable short cable prior to each use — remove from service and replace if expired.

3. Why our Warming Mattresses Expire:
 - a. The conductive fabric naturally oxidizes over time, increasing resistance and reducing heating performance after ~24 months.
 - b. Normal wear, repeated cleaning, and handling can cause components to degrade or the outer shell to become damaged, affecting safe, consistent use.

Connect for Warming Function

1. Connect the short blue Mattress cable to the blue A112 extension cable:
 - Align red dots.
 - Push straight in — do not twist.
2. Connect the other end of the A112 extension cable to a blue port on the WC77V Controller (red dot facing up).
3. Listen for the beep — this means the safety systems are active.

Connect for Return Electrode Function

1. **Connect Mattress to Return Electrode Cable:**
 - Single ESU use: connect the short green Mattress cable → Green A136 cable.
 - Dual ESU use: connect the short green Mattress cable → Green A137 “Y” cable.
2. Connect to ESU/Generator:
 - REM-compatible ESU: A136/A137 → ESU return electrode port.
 - Non-REM-compatible ESU: A136/A137 → A138 adapter → ESU port.

Note: REM (Return Electrode Monitoring) is a safety feature built into many ESUs. If your generator has REM, CQM, NEM, or Nessy, the A138 adapter is required for proper connection.

3. Confirm Connection:
 - Ensure all connectors are fully seated.
 - Route cables safely to avoid disconnection.
 - Power on the ESU and verify it recognizes the return electrode.

Positioning for Safe Use

- Place the Mattress black side up under the patient.
- Ensure the patient is positioned over the warming sensor area so the controller can regulate temperature safely. Sensor contact is not required if the warming functionality is not in use.
- Always use a thin barrier (like bed sheet between the patient and the Mattress.
- Maximize overall patient contact with the Mattress surface to ensure effective return electrode functionality.
- Avoid direct patient/Pad contact with metal or other grounded objects. Place a non-conductive barrier (e.g., table pad) between the Mattress and any metal surface.
- Do not fold the Mattress — handle flat or roll gently for storage.
- For wet procedures:
 - The warming surface is waterproof.
 - Avoid fluid pooling over the surface, particularly near the sensor area.
 - If the patient barrier becomes wet or soaked, replace it promptly.
 - Tilt the table slightly for drainage.
 - Keep connectors dry at all times.

Do Not: Place sharp objects or hard items between the patient and Mattress.

Patient Size Guidelines for Safe Return Electrode Use

The U501V can be used for patients ≥ 4.4 lb (2 kg). for safe, effective performance, follow these guidelines:

Zone	Patient Mass*	Pad-Contact Expectation	Action
Green	≥ 5 kg (≥ 11 lb)	Torso + limbs cover ≥ 65 % of pad	Proceed as normal.
Yellow	2 – < 5 kg (4.4 – < 11 lb)	Aim for ≥ 50 % pad coverage; spread limbs.	Use low-to-moderate ESU power. If cutting feels weak $\rightarrow$ improve contact, don't raise power first.
Red	< 2 kg (< 4.4 lb) OR contact area < ~ 120 cm ²	Very small torso footprint (< $\frac{1}{2}$ pad)	Do NOT use U501V Mattress. Switch to adhesive pad or bipolar technique.

*Weights are approximate. Always assess actual pad contact area.

Tips for Best Performance

- Spread patient anatomy to maximize body contact.
- To bolster normothermia results, utilize HotDog Warming Blankets above body (over the patient).
- For patients < 2 kg (4.4lbs) or with inadequate contact area, use an adhesive return pad or alternative surgical technique. **Please review the instructions for use located at vetwarming.com/manuals for a complete list of warnings and precautions.*

Troubleshooting

For a complete list of error codes and step-by-step troubleshooting instructions, please refer to the IFU.

Code	What It Means	What to Do
E1	Over-temp	Unplug warming device, wait 5 min, reconnect. Stop use if repeats.
E2	Warming Device not heating	Check sensor contact, reconnect, verify expiration date on yellow/blue cable. Replace if expired.
E4	Sensor/cable issue	Try a different cable or warming device; stop use if repeats.
E8	Over-temp sensor (secondary)	Disconnect warming device, check expiration date on yellow cable, and contact Customer Service.

For persistent issues, call Customer Service: 952-465-3500.

Cleaning & Maintenance

After each use:

1. Inspect the Mattress for signs of damage/wear. Discontinue use if damage is observed.
2. Wipe Mattress with an approved cleaner:
 - Diluted Alcohol-based(per manufacturer guidelines)
 - Diluted bleach (per manufacturer guidelines)
 - Diluted chlorhexidine (per manufacturer guidelines)
3. Avoid spraying solutions into cable ports or openings.
4. Wipe with damp cloth to remove residue; dry completely before next use.

Storage & Lifespan

- Store Controller in a dry, ventilated area away from direct sunlight.

- Coil cables loosely; use cable-retention loop for storage.
- Warming devices (blankets/Mattresses) have an average lifespan of 18–24 months and expire 2 years after shipping.
 - Expiration ensures safe, effective heating — replace before this date.

FAQ – Frequently Asked Questions

1. How does HotDog Patient Warming work?

HotDog Warming Mattresses use a conductive polymer ThermAssure™ fabric. A low-voltage DC current flows over this light, flexible fabric, and the resistance generates uniform warmth. They do not contain carbon fiber or ink, which could break and cause hot spots.

2. Why is HotDog Warming safe?

The WC7xV Controller is a microprocessor with multiple built-in safety features. It continuously monitors the connected warming device at the patient and will automatically stop operation if readings are outside safe parameters. The system uses low-voltage, floating, isolated DC current, and the flexible conductive polymer fabric generates uniform heat with no hot spots.

3. Why do HotDog Mattresses expire?

Over time, oxidation of the conductive fabric increases electrical resistance, reducing heating performance. After about 24 months, the Mattress may no longer reach set temperature quickly enough, triggering the controller's safety shutdown. In addition, normal wear, repeated cleaning, and handling can cause components to degrade or the outer shell to become damaged. Any Mattress that is worn, damaged, or past its expiration date should be removed from service and replaced to ensure safe, effective functionality.

4. Is the Mattress difficult to clean?

No. Cleaning takes 30 seconds or less. Wipe with an approved cleaner such as diluted alcohol, bleach, chlorhexidine, or ammonium chloride-based solutions. Do not use hydrogen peroxide-based cleaners or abrasive products.

5. How do I get the best warming results?

- Body Surface Area: Warm as much surface area as possible. Warming the core is more effective than warming the periphery.
- Sensor Contact: Ensure the Mattresses' sensor is in direct contact with the patient for accurate temperature control and safety system activation.

5. What is a return electrode and why is it needed for electrosurgery?

During monopolar electrosurgery, an electrical current passes from a small, active electrode through the patient. The return electrode (the U501V Mattress) is a large pad that safely collects this current and returns it to the electrosurgical unit (ESU), completing the circuit.

7. How do I know if I need the A138 REM Adapter?

You need the A138 adapter if your electrosurgical unit (ESU) has a built-in safety feature that monitors the return electrode connection. This feature is often called **REM** (Return Electrode Monitoring), **CQM**, **NEM**, or **Nessy**. Check your ESU's manual if you are unsure.

8. How do I position the Mattress?

Always place the Mattress black side up directly under the patient. Ensure the patient is positioned over the warming sensor area so the controller can regulate temperature safely.

Always use a thin barrier between the patient and the Mattress

9. Why is it so important to maximize the patient's contact with the Mattress?

Maximizing surface area contact is critical for both functions. For **warming**, it ensures efficient heat transfer. For the **return electrode**, it ensures the electrical current from the ESU can return safely and effectively.

10. Can the HotDog System be used in x-ray?

Yes. The heater fabric is radiolucent, but the parallel busbars along the long edges and the sensor area are radio-opaque. Position the Mattress so these areas are outside the imaging field.

11. How do I manage pressure reduction?

The U501V Mattress includes integrated foam construction designed to provide pressure reduction during use. Place the Mattress on the intended procedure surface and position the patient appropriately for the planned procedure. Follow institutional protocols for patient positioning and monitoring throughout use.

12. What should I do if the patient is too small for the Mattress?

If the patient weighs less than 2 kg (< 4.4 lb) or cannot cover a significant portion of the Mattress surface, you should **not** use the U501V as a return electrode. Instead, switch to a traditional adhesive return pad or use an alternative surgical method like bipolar electrosurgery.

Contact Us

Augustine Surgical Inc.
HotDog Patient Warming
Customer Service:
Toll Free +1 (866) 484-3505
Domestic +1 (952) 465-3500
Email: cs@aug surg.com
Online: www.vetwarming.com



Scan to access the full instructions for use located at www.vetwarming.com/manuals