



SMARTDUMMY™ THERMAL

[USER'S MANUAL



TABLE OF CONTENTS

- 1. WHAT IS A SMARTDUMMY™ THERMAL? 2
- 2. SMARTDUMMY THERMAL SPECIFICATIONS 3
- 3. USING YOUR SMARTDUMMY THERMAL 5
 - 3.1 Prepping the Manikin5
 - 3.2 Starting up.....5
 - 3.3 Starting your training.....6
- 4. OPERATING 7
- 5. CHARGING 8
- 6. SMARTDUMMY THERMAL VOICE BOX CONTROLS 10
- 7. INSPECTION AND MAINTENANCE 12
- 8. SAFETY MEASURES AND INSTRUCTIONS 13
- 7. WARRANTY INFORMATION 14
- 8. CONTACT INFORMATION..... 16

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

FOR YOUR SAFETY

1. Do NOT perform training or attempt to operate the SmartDummy™ Thermal without reading the entire “**User’s Manual**”,
2. To prevent injury when handling or lifting the SmartDummy Thermal, two people must be employed and only approved and tested methods for hauling and lifting should be utilized.
3. Do NOT alter the SmartDummy Thermal without approval from LION. *Alteration of the SmartDummy Thermal without approval will void the warranty.*
4. Do NOT use SmartDummy Thermal for water rescue training.
5. Do NOT expose SmartDummy Thermal to direct flame or use in live fire training.



WARNING

6. The SmartDummy Thermal should be thoroughly inspected and cleaned on a regular basis by trained personnel. *See the **Inspection and Maintenance** section of this manual.*
7. Do NOT drop SmartDummy Thermal more than 20" (50 cm) as it may cause damage to the battery.
8. The SmartDummy Thermal should be kept face up during charging. It should never be charged upside down or on its side.
9. Ensure the SmartDummy Thermal is turned off before charging.
10. **Serious injury or damage to property may occur if the above guidelines are not followed exactly.**

1. WHAT IS A SMARTDUMMY™ THERMAL?

The SmartDummy Thermal is designed to facilitate search and rescue operations with a thermal imaging camera. The manikin emits a realistic thermal signature which closely resembles a real victim.

They can be located and dragged/carried out of smoke-filled areas, tunnels or training buildings and can play the role of victim during literally thousands of rescue training evolutions. Additional training opportunities include aerial drone assisted technical rescue.

Other features include durable construction, even weight distribution, no pinch points and an interactive programmable Voice Box.



FIGURE 1: SMARTDUMMY THERMAL



FIGURE 2: IMAGE OF THE "SMARTDUMMY THERMAL" ON A THERMAL IMAGING CAMERA

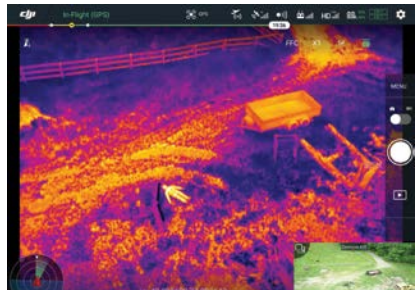


FIGURE 3: IMAGE OF THE "THERMAL MANIKIN" ON A THERMAL IMAGING CAMERA

2. SMARTDUMMY™ THERMAL SPECIFICATIONS

The SmartDummy Thermal is made with tough canvas and is reinforced in key areas with polypropylene to make it durable enough for search and rescue drills. Rubber boots have been added to prevent damage caused by dragging across the ground.

On the front side of the manikin, a layer of heating material is built into the Thermal Manikin to make it look like a human victim on a standard thermal imaging camera.

The Manikin has a cavity for Voice Box on the left side of its head. This cavity is accessible by opening the Velcro® fitted flap. The control panel of the Thermal Manikin is located on the right side of the head and is accessible by opening the Velcro fitted flap.

DIMENSIONS AND WEIGHT

Total Length of SmartDummy Thermal (Including Boots)	Approximately 5 ft. 7 in. (ca. 170 cm)
Total Weight	Approximately 65 lb. (ca. 30 kg)
Color	Blue/black

CONDITIONS SUITABLE FOR USE

PERMISSIBLE AMBIENT TEMPERATURE	
Continuous Exposure	95°F (35°C)
Brief Periods (no more than 10 minutes)	140°F (60°C)

BE AWARE OF RADIANT HEAT; THE SURFACE TEMPERATURE OF THE SMARTDUMMY THERMAL CAN RISE VERY QUICKLY, POTENTIALLY CAUSING CONTACT BURNS TO UNPROTECTED SKIN AND DAMAGE TO THE MANIKIN.

NOTE

SmartDummy Thermal are not suitable for water rescue training.

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NOTE

Dragging the SmartDummy™ Thermal on abrasive surfaces without protective clothing may cause extra wear and tear on the outer layer. Fitting the SmartDummy Thermal with LION Protective Overalls will prolong the life of the mannequin.

The SmartDummy Thermal will turn itself off when moved forcefully. The heating function is operational only when the manikin is still.

DIMENSIONS AND WEIGHT

Battery	24V - 18Ah
Charging Time	4 to 5 hours
Usage Time Per Charge	Approximately 2.5 hours with a full battery
Charger Input	230V @ 1.5A or 115V @ 3.0A 50/60 Hz
Charger Max Power Output	4.3A @ 27.6VDC
Heater	160 Watt
Warm Up Time	5 to 10 minutes (Dependent on ambient temperature)
Temperature	20–30°F (10–20°C) above ambient temperature
Safety Features	Temperature sensor in the chest Motion sensor Battery under voltage detection

3. USING YOUR SMARTDUMMY™ THERMAL

Search and rescue drills should be done using a manikin. A person role-playing as the victim exposes the role-player to dangerous situations.

The SmartDummy Thermal can be used for most exercises except water rescue and extreme temperature conditions. The front of the manikin has a thermal layer so that it can be used to teach thermal imaging camera techniques.

POSSIBLE USES FOR THE SMARTDUMMY THERMAL

- Trainings where the manikin is used as a dragging manikin. This allows you to practice various lifts and victim situations.
- Thermal imaging camera trainings. Challenge your trainees to properly use a thermal imaging camera to locate and rescue victims in low visibility environments. The manikin can be placed on the floor or behind furniture to increase the difficulty of the scenario.

3.1 PREPPING THE MANIKIN

Place the SmartDummy Thermal face up on a dry, stable floor where no sharp or hot materials are present.

The manikin must be kept face up during use. Laying it face down will cause it to overheat and turn itself off. The back and the sides of the Thermal Manikin have no heaters and will not warm up to a victim's body temperature.

Do not place anything on the manikin as this can cause overheating.

3.2 STARTING UP

Charge batteries before use.

Press the "ON" button on the control panel for 1 second. The indication LED will light up and the manikin will start heating up. It takes 5-10 minutes before the manikin is noticeably hot.

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3.3 STARTING YOUR TRAINING

Make sure that the manikin is not plugged into the charger.

During training, the manikin can stay hot for over 2.5 hours on full charge.

To conserve battery, any movement or vibrations will activate a built-in sensor, causing the manikin to switch itself off.

When multiple trainings are staged during the day, it is recommended to charge the manikin between each evolution.

4. OPERATING

OPERATING PANEL OF THE “THERMAL MANIKIN”

TURNING ON

Push the “ON” button (4) for a second. The Warming up LED (3) will come on. The manikin will be warming up.

TURNING OFF

Press the “OFF” button (5). The Warming up LED (3) turns off and the manikin stops warming up.



FIGURE 4: OPERATING PANEL “THERMAL MANIKIN”

- 1 FUSE
- 2 CHARGER SOCKET
- 3 WARMING UP LED
- 4 ON
- 5 OFF

5. CHARGING

“THERMAL MANIKIN” CHARGER (FIGURE 5):

CHARGING

Charge the battery of the Thermal Manikin before each event to maximize the time you can spend training. Once the battery runs low, the manikin will turn itself off to maintain a minimal charge. The Warming up LED (3) will go out and the manikin cannot be turned back on with the “ON” button (4) until the battery is charged.

In order not to adversely affect the life of the batteries, they must be charged as soon as possible. A charge cycle takes 4 to 5 hours.

- Pay attention that the 115V/230V switch (E) is set to the correct setting.
- Attach the cable (C) to the charge connector (2) of the manikin.
- Turn the On/Off switch (D) to “ON”.

The manikin should be kept face up during charging. It should never be charged while being bent over (head pointing downwards), placed on its side or hung upside down. To charge the Thermal Manikin, it needs to be turned off.

The LED Charge Indicator (A) will light up red to indicate that the battery is charging. Once the charge is complete, the indicator (A) will light up green.

When the battery is completely empty, the charger will start a drip-charge cycle to ensure no damage comes to the battery. When this happens, the LED Charge Indicator (A) will turn red. Leave the charger connected and the charger will safely charge the battery. A full charging cycle lasts about 4 hours.

When the battery is fully charged, the charger will switch instantly to a drip-charge cycle.



FIGURE 5: 'THERMAL MANIKIN' CHARGER

- A LED CHARGE INDICATOR (GREEN/RED)**
- B FUSE**
- C XLR CONNECTOR**
- D ON/OFF SWITCH**
- E 115V/230V SWITCH**
- F CABLE CONNECTOR WITH SAFETY**

6 SMARTDUMMY™ THERMAL VOICE BOX CONTROLS

ON AND OFF

These switches are for turning the Voice Box on and off. The red light above the ON switch is lit when the Voice Box is powered on. Each time the Voice Box is turned to the “on” position, the recorded message will play a single time.

REC.

Pressing this switch activates the recording function, enabling the user to record a message or sound effect. Keep the switch depressed to record. The maximum recording time is 15 seconds. The red light above the switch indicates that the recording function is activated.

ACTIV.

Press this button to play the recorded message once.

SINGLE AND CONT.

When the Voice Box is switched on, the setting SINGLE is activated automatically and the message is played once. This mode will play the message whenever the microphone is triggered.

If the CONT. setting is switched on, the red light above the switch will be lit. The message will then be repeated continuously while the Voice Box is powered on.

SENS.

The sensitivity of the microphone can be adjusted with a small screwdriver. The user can then decide how loud the triggering sound has to be before the Voice Box reacts. Adjust the dial carefully; remove gloves before adjusting the dial.

VOL

The user can adjust the volume of the speaker with a small screwdriver. Adjust the dial carefully; remove gloves before adjusting the dial.

NOTE

The Voice Box uses four AA batteries. LION recommends alkaline batteries. Be careful when adjusting the sensitivity of the microphone and volume.

OVERTURNING THE DIALS WILL BREAK THEM AND ELIMINATE THE ABILITY TO ADJUST THE VOLUME AND/OR SENSITIVITY.



7. INSPECTION AND MAINTENANCE

INSPECTION BEFORE AND AFTER USE

Inspect the SmartDummy™ Thermal for damage before and after each use. Minor damage can often be repaired. However, if a damaged SmartDummy Thermal is used for a training exercise, the damage may increase to the extent that it will no longer be possible to repair.

CLEANING AND STORING THE SMARTDUMMY THERMAL

The SmartDummy Thermal exterior is made of strong canvas material designed for easy cleaning. Protective overalls are recommended to enhance the durability of the SmartDummy Thermal. For spot cleaning, a cloth moistened with water or an all-purpose cleaner may be used.

Heavy-duty cleaners or solvents should not be used. If the SmartDummy Thermal becomes wet or damp during use or while being cleaned, avoid storing it until it has completely dried. To dry, LION recommends suspending the SmartDummy Thermal from a heavy-duty hanger or hook in a neutral temperature setting.

DECONTAMINATION

If the SmartDummy Thermal is exposed to a hazardous substance during a training exercise, it should be decontaminated in a manner appropriate for the material concerned.

REPAIRS

If repairs are necessary, contact your distributor or LION for assistance.

8. SAFETY MEASURES AND INSTRUCTIONS

SAFETY MEASURES

The SmartDummy™ Thermal is a valuable training tool which should be handled properly. It has been designed for routine training operations. Dragging the SmartDummy Thermal in a manner that would cause injury to a person may cause damage to the SmartDummy Thermal. Allowing the SmartDummy Thermal to fall from a considerable height may compromise the structural integrity of the outer layer and cause it to be torn open. High ambient temperatures can also cause permanent damage. If the SmartDummy Thermal is exposed to a hazardous substance, it should be decontaminated before further use.

Adding extra weight other than LION optional accessories could cause permanent damage and void the warranty.

When making preparations for a training exercise, ensure that no sharp or hot materials are in proximity to the SmartDummy Thermal.

RECOMMENDATIONS AND SAFETY INSTRUCTIONS

Before starting an exercise and/or training session, all participants should be instructed that the SmartDummy Thermal is to be moved in accordance with normal transport techniques. If a weighted jacket is used, participants should be notified of the weight amount to ensure proper lifting procedures.

The weights used in combination with an incorrect transport technique can cause back problems and/or muscle damage.

The SmartDummy Thermal is not suitable for continued exposure to high temperatures. High ambient temperatures or radiant heat from a fire can damage the outer layer. The outer layer is constructed of fire-resistant material and is self-extinguishing. However, the SmartDummy Thermal is not fireproof. See the following guidelines for using the SmartDummy Thermal in live fire training.

9. WARRANTY INFORMATION

The warranty period commences on the ship date and continues for one full year. LION will cover premature failure of any of our products caused by a defect in the original materials or workmanship. Labor charges related to warranty repair are 100% covered during the warranty period. Repair work requires the prior approval of an authorized company representative. LION labor costs are based on a predetermined rate schedule and any repair work must be done through an authorized LION dealer. This warranty covers labor and parts-related defects. This warranty does not cover neglect, accidents, misuse, or negligence on the part of the user. This is not a warranty against general “wear and tear” that may need to be repaired during general usage.

CONDITIONS AND LIMITATIONS

LION warrants its products against manufacturing defects to the original purchaser only – i.e., the individual or legal entity (registered customer) whose name appears on the invoice – provided that the purchase was made through LION or an authorized LION dealer and is subject to the following conditions and limitations:

This factory warranty is nontransferable and may not be extended whatsoever by any of our representatives. Assembly and use must be done in accordance with the instructions included with the product. This Limited Warranty does not cover any damage caused by misuse, lack of maintenance, hostile environments, accident, alterations, abuse or neglect, and parts installed by other manufacturers will nullify the warranty.

Abrasive and chemical cleaner damage is not covered under the Limited Warranty. In the first year only, this warranty extends to the repair or replacement of warranted parts which are defective in material or workmanship provided that the product has been operated in accordance with the operation instructions and under normal conditions.

After the first year, LION will not be responsible for replacement part expense, installation, labor or any other costs or expenses related to the reinstallation of a replacement part, and such expenses are not covered by this warranty.

Notwithstanding any provisions contained in this Limited Warranty, LION's responsibility under this warranty is defined as above and it shall not in any event extend to any incidental, consequential or indirect damages.

This warranty defines the obligations and liability of LION with respect to the LION product and any other warranties expressed or implied with respect to this product.

This Limited Warranty does not cover damages resulting from the use of components not supplied with the product.

Any damages to the product due to weather, long periods of dampness, condensation, damaging chemicals or cleaners will not be the responsibility of LION.

The bill of sale or copy will be required when making any warranty claims from LION or authorized dealer.

LION reserves the right to have its representative inspect any product or part thereof prior to honoring any warranty claim. LION or its representatives shall not be liable for ANY transportation charges, labor charges or duties.

8. CONTACT INFORMATION

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