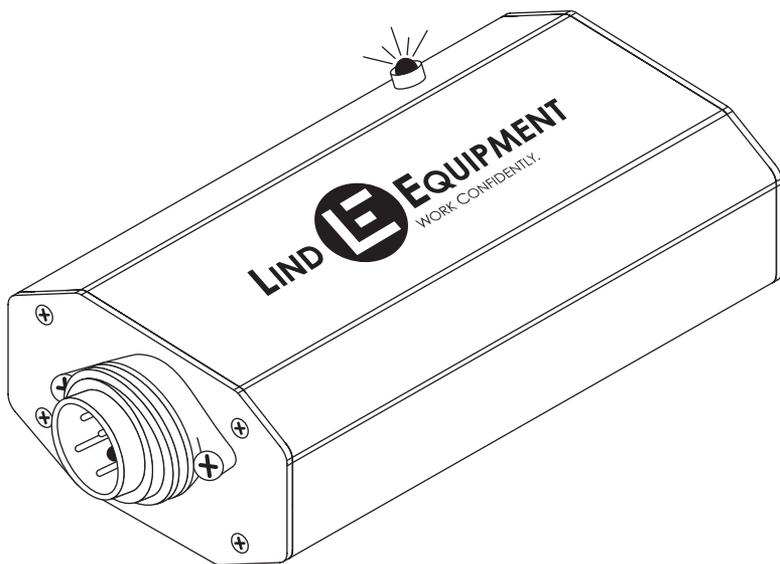


# STATIC SURE

## PORTABLE STATIC MONITORING SYSTEM OPERATING MANUAL



LIND  EQUIPMENT

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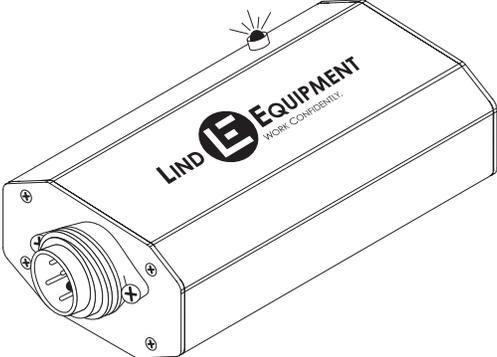


## PRODUCT DESCRIPTION

The movement of flammable material generates static electricity. If not properly controlled, this static can discharge in a hazardous location and cause an explosion or fire. OSHA, NFPA, Canadian Fire safety codes, and many corporate safety policies mandate the use of bonding and grounding to eliminate the build-up of static charges when dealing with flammable or explosive gases, liquids and other materials.

The StaticSure product is an intrinsically safe device designed to help you comply with safety regulations and maintain a safe working environment. When used with proper bonding and grounding clamps and cables, StaticSure helps to ensure that a static bond has been achieved prior to handling flammable materials.

**WARNING:** Substitution of components may impair intrinsic safety or proper operation and performance of the device.



## HOW THE StaticSure OPERATES

The device is self-powered and works by constantly measuring the resistance between its end points to ensure that proper bonding is being achieved. The device can be used to either provide the static electricity with a path to a known ground point such as a ground bus, or to provide a bond between two objects that allows the electrical potential to equalize, thus reducing the risk of static discharge between the two objects.

To ensure that there is a proper bond, the StaticSure tests whether resistance in the circuit is below the industry standard of 10 Ohms. At 10 Ohms or less, static electricity can flow very easily to be dissipated or equalized. If the device senses that there is greater than 10 Ohms of resistance, a red light will flash to warn that there is a potential danger of static discharge. **If everything is connected properly, no light will flash.**

**Note:** This product does **NOT** test whether a ground has been achieved. It determines whether a bond has been made between two items or between an item and the known grounding point.

## HOW TO USE THE StaticSure

### STEP 1: ASSEMBLY

Assembling the StaticSure is fast and easy.

- + Plug each of the two (2) cables into opposite ends of the StaticSure device and tighten them securely.
- + Either cable can be plugged into both sides of the device - there is no right or wrong side.
- + Ensure that the ridge (FIGURE 1) on the device connector aligns with the groove in the cable connector prior to pushing and tightening.

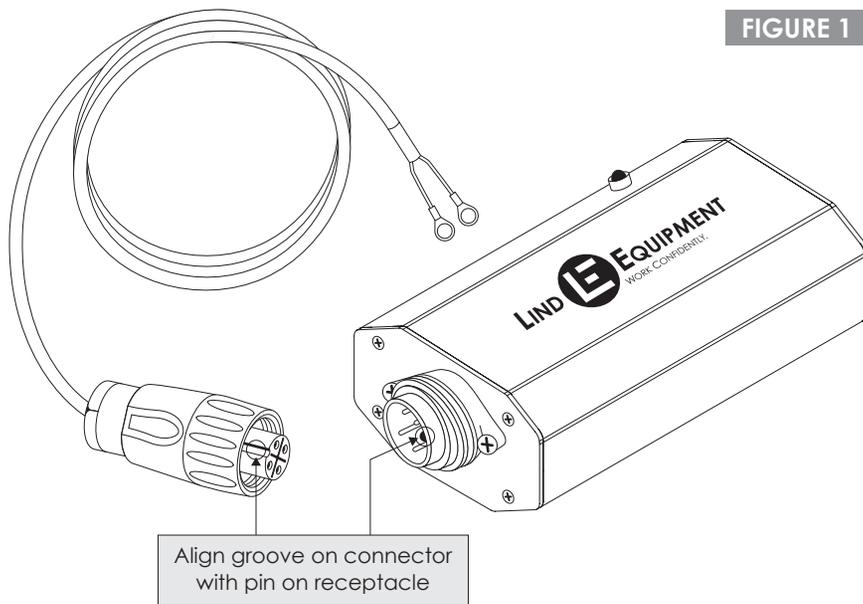


FIGURE 1

## HOW TO USE THE StaticSure

### STEP 2: SET UP

**a) Bonding Applications:** Bonding refers to creating a link between two objects using a conductive material (e.g. a wire) in order to ensure that they remain at the same electrical potential, thus reducing risk of static discharge between the objects.

- + The device can be attached to the objects that you wish to bond using either a lug terminal which can be bolted to an object, or a hand clamp.
- + Once the cables have been assembled per STEP 1, you should attach one side of the StaticSure assembly to one of the objects you wish to bond using either a clamp or a lug termination.
- + You must ensure that metal to metal contact is made by either the jaws of the clamp or the lug terminal in order to establish proper continuity.
- + If the red light is flashing after attaching this side, you do not have good metal to metal contact and should reattach this side until the light goes off.
- + The other side of the assembly is now ready to be attached to the second object that you wish to bond (FIGURE 2), **but first the device should be tested.**
- + See STEP 3 for testing instructions.

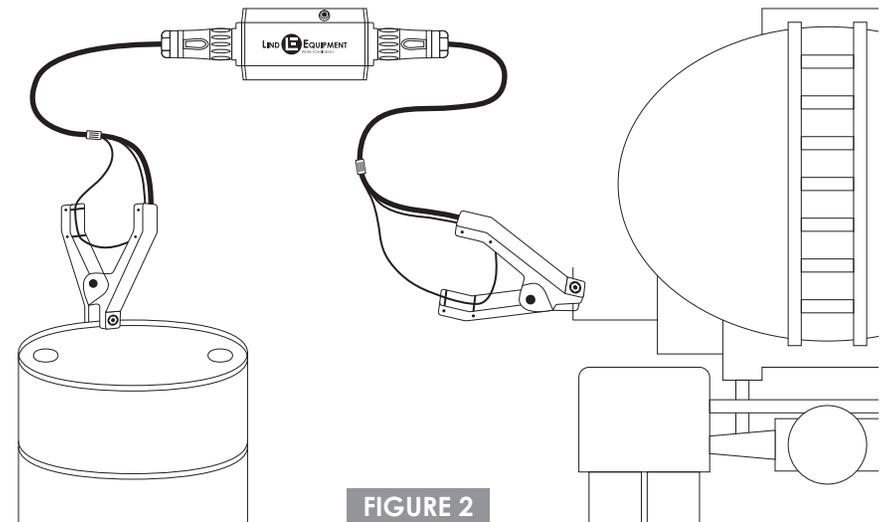


FIGURE 2

## HOW TO USE THE StaticSure

### STEP 2: SET UP (continued)

**b) Grounding Applications:** Grounding refers to the act of connecting an object via a conductive material (e.g. a wire) to a known ground point such as a ground bus or ground rod, thus allowing static electricity to dissipate to ground.

- + The device can be attached to the ground point using either a lug terminal, which can be bolted to the ground point, or a hand clamp.
- + Once the cables have been assembled per STEP 1, you should attach one side of the StaticSure to your known ground point.
- + You must ensure a good metal to metal contact between either the jaws of the clamp or the lug terminal and the ground point.
- + If the red light is flashing after attaching this side, you do not have good metal to metal contact and should reattach this side until the light goes off.

**Note:** If the ground point is not the grounding rod itself, continuity between the ground point and the ground rod should be checked regularly.

- + The other side of the assembly is now ready to be attached to the object that you wish to ground (FIGURE 3), **but first the device should be tested.**
- + See STEP 3 for testing instructions.

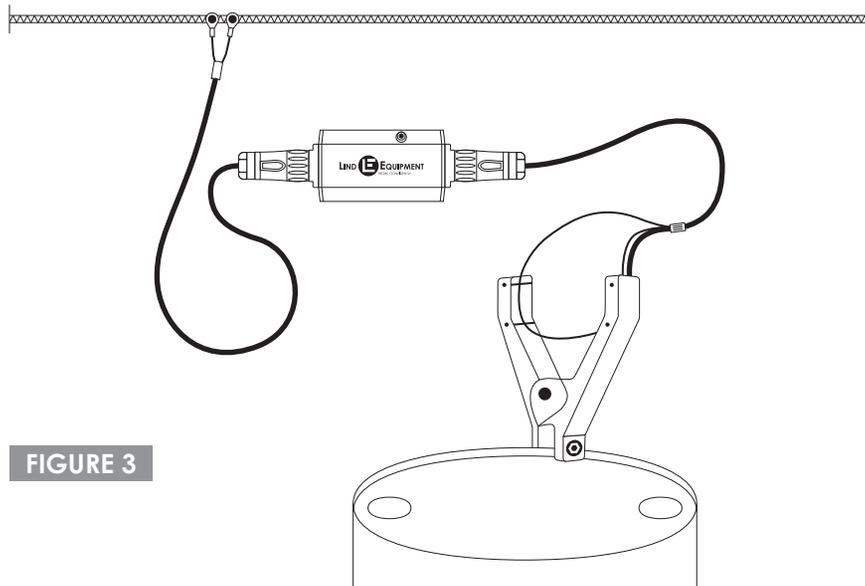


FIGURE 3

## HOW TO USE THE StaticSure

### STEP 3: TESTING

Testing of the device is simple and **should be done before each usage.**

- + Once the device has been assembled and set up properly, you can test it by simply opening the clamp on the unattached side (simulating a break in the continuity).
- + If the device is working properly a red warning light should immediately start to blink (FIGURE 4).

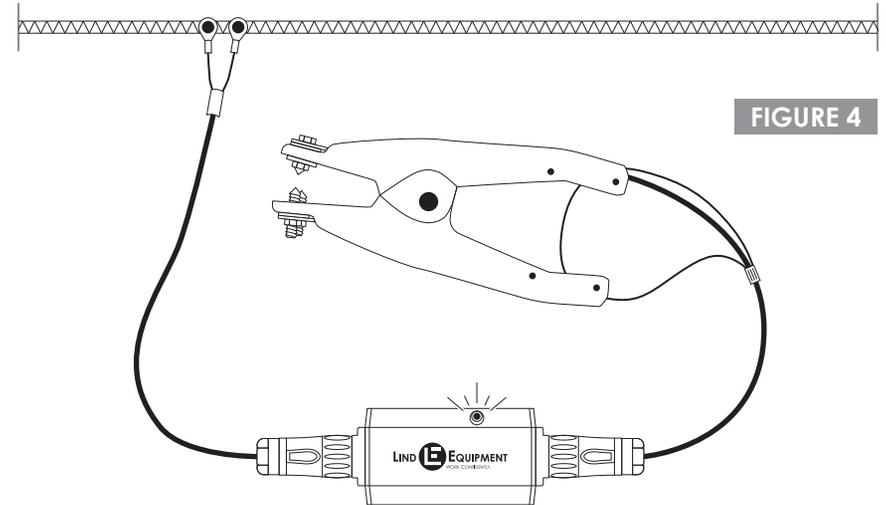


FIGURE 4

If the light does not come on during the testing phase, there is a problem and the following actions should be taken:

1. Check the assembly to ensure that all cables are properly fastened per the instructions in STEPS 1 and 2.
2. Ensure that the wire that is attached to the isolated point has not been dislodged so that it is touching the clamp itself.
3. If the above issues are not present, then the battery may be depleted. See page 11 for battery life information.
4. If problem persists, or you suspect a depleted battery; do not use clamp. Please contact your distributor or Lind Equipment.

## HOW TO USE THE StaticSure

### STEP 4: OPERATION

Once the device has been assembled, set up, and tested, it will be ready for use.

- + One end of the assembly will be attached to the known ground point or the first object, as per STEP 2.
- + The other end of the assembly can now be attached to the equipment that you wish to ground or bond to using the hand clamp (FIGURE 5).
- + You must ensure that good metal to metal contact is made between the object and the points of the clamp.
- + This connection should always be made prior to beginning the transfer process to ensure that no flammable gasses are in the environment until after the connection is made.

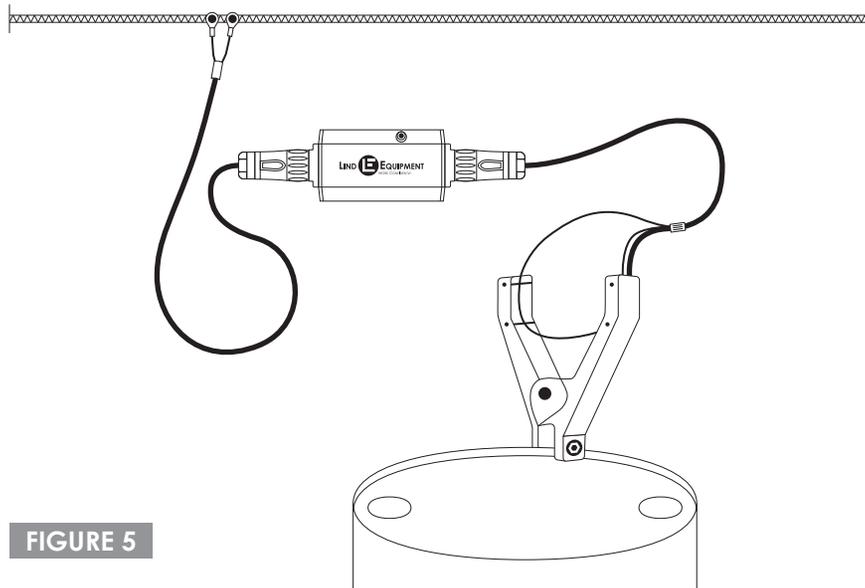


FIGURE 5

## HOW TO USE THE StaticSure

### STEP 4: OPERATION (continued)

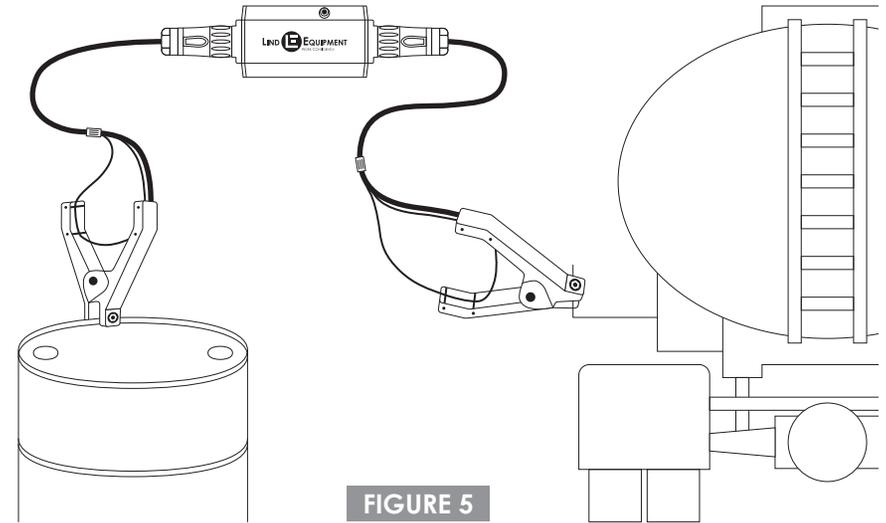


FIGURE 5

#### If the warning light does not come on following the connection:

You have a safe connection and can proceed with your operation.

#### If the warning light starts blinking following the connection, take the following actions:

1. Check the assembly to ensure that all cables are properly fastened per instructions in STEPS 1 and 2.
2. Ensure that there is proper metal to metal contact on the attached end.
3. Ensure that the item you are attempting to bond is electrically conductive (i.e. metal).

**NOTE:** Plastic totes, drums or barrels generally cannot be grounded.

4. Ensure that the points of the clamp have penetrated any paint, rust or other debris which may inhibit metal to metal contact between the points on the clamp and the item you are grounding.

5. If problem persists, contact your distributor or Lind Equipment.

## MAINTENANCE

It is important to properly maintain the StaticSure device in order to make sure that it continues to operate effectively. You should undertake the following maintenance steps on a regular basis:

- + Check that the connectors are free of dust, dirt and other substances and that the pins are not broken or damaged.
- + Inspect the cable assemblies to ensure that the wire has not been damaged or cut.
- + Inspect clamp spring pressure by opening and closing it to ensure that it offers sufficient pressure to cut through any paint or rust that may be found on equipment.
- + Inspect the points on the clamp to ensure they remain sharp and able to cut through rust and paint to obtain metal to metal contact.

## MOUNTING

While the LE600i StaticSure can be used as a portable device, the option of mounting the unit is also offered.

The pair of U-clamps provided in the package allows the mounting of the StaticSure:

- + Place the U-clamp around the plug of the Static Sure as close to the frame as possible.
- + Use the screws of your choice based on the surface to which you wish to mount the unit (FIGURE 6).



**Note:** Screws are not supplied with the U-clamps.

- + Use spacers if necessary to reduce the distance between the mounting surface and the clamp base to ensure that a secure and proper mounting is achieved.

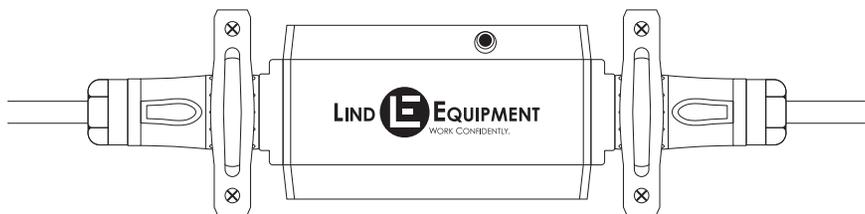


FIGURE 6

## SPECIFICATIONS

The LE600i StaticSure is a portable intrinsically safe device.

**Approvals:** cULus Hazardous locations Class I, Division 1, Groups A, B, C, D and Class II, Division 1, Groups F, G

**Temperature Code:** T4

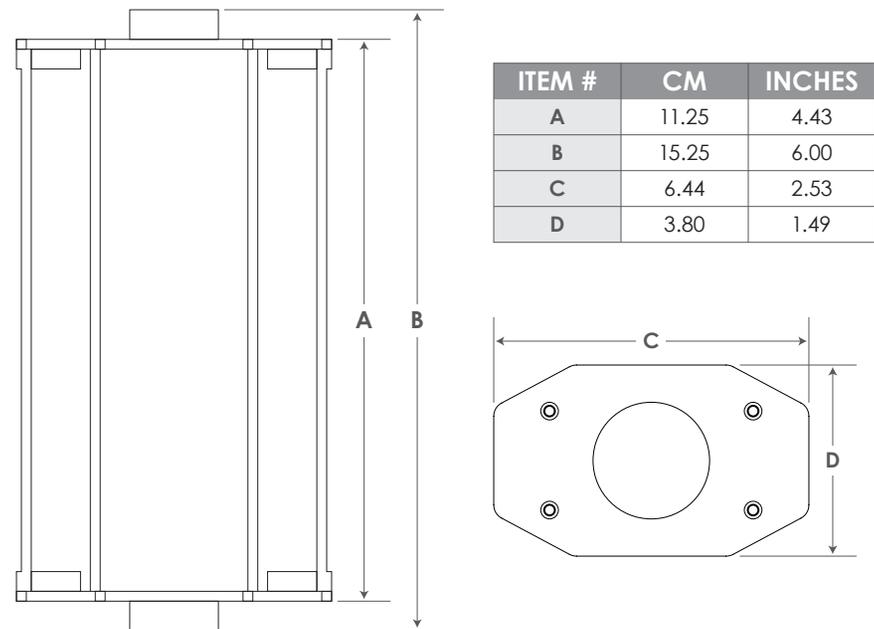
**Ambient Temperature (Ta):** -40°C ≤ Ta ≤ +50°C    -40°F ≤ Ta ≤ +122°F

**Resistance Setting:** 10 Ohms

**Life Expectancy:** The battery is designed to last for approximately 3 - 4 years based on average industry usage parameters

**Environmental Rating:** IP65

## DIMENSIONS



# STATIC SURE

## PARTS LIST

PART NO.	DESCRIPTION
<b>LE600i</b>	StaticSure monitoring device
<b>LE600-20CG-2SL</b>	Assembly containing the LE600i: + 20' 18/2 SOW coiled cord with GAT-PIP clamp + 2' 18/2 SOW straight cord with lugs
<b>LE600-20CR-2SL</b>	Assembly containing the LE600i: + 20' 18/2 SOW coiled cord with REB-IP clamp + 2' 18/2 SOW straight cord with lugs
<b>LE600-2SG-20CL</b>	Assembly containing the LE600i: + 2' 18/2 SOW straight cord with GAT-PIP clamp + 20' 18/2 SOW coiled cord with lugs
<b>LE600-2SR-20CL</b>	Assembly containing the LE600i: + 2' 18/2 SOW straight cord with REB-IP clamp + 20' 18/2 SOW coiled cord with lugs
<b>LE600-P-2SL</b>	Replacement cable assembly: + 2' 18/2 SOW straight cord with lugs and connector
<b>LE600-P-20CL</b>	Replacement cable assembly: + 20' 18/2 SOW coiled cord with lugs and connector
<b>GAT-PIP</b>	GAT hand clamp with isolated points (no cable)
<b>REB-IP</b>	REB hand clamp with isolated points (no cable)



**NOTE:** Other hand clamps and cable combinations are available; please contact Lind Equipment for more information.

To create your own custom spare cable assembly please use the following guide:

