Sherlock® II Tip Location System

- Do not operate in the presence of flammable anesthetics
- BF Type Equipment
- Contains No Latex
- Warning: Refer to Manual Before Use
- Medical Electrical Equipment Classified by ETL with respect to Electric Shock, Fire, and Mechanical Hazards only in accordance with UL60601-1 and CAN/CSA C22.2 No. 601.1
- Operating Humidity Parameters: 85% (unpackaged)
- Storage Humidity Parameters: 95% (packaged)
- Federal (U.S.A.) law restricts this device to sale by or on the order of a physician
Instructions For Use

Keep Dry

Fragile

Storage Temperature Parameters (unpackaged)

Do not dispose with ordinary municipal waste

Operating Temperature Parameters

Federal Communications Commission

Manufacturer
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1 Overview

1.1 Indications for Use

The Sherlock* II Tip Location System (TLS) detector quickly locates the position of specially designed, magnet-tipped Peripherally Inserted Central Catheters (PICCs) and Central Venous Catheters (CVCs) during initial placement. This device may be used by appropriate caregivers in hospitals, long-term care facilities or home-care settings.

The Sherlock* II TLS detector provides rapid feedback to the caregiver but was not designed to replace conventional methods of placement verification. Users are urged to confirm correct placement according to their established institutional protocol and clinical judgment.

1.2 Sherlock* II TLS Description

The Sherlock* II TLS is designed to aid in the placement of central venous catheters by providing real-time catheter tip location information relative to external anatomical landmarks. It is designed to operate with Bard Access Systems’ catheter kits labeled "with Tip Location System (TLS) Stylet" and "Sherlock*".

The Sherlock* II TLS consists of a display, a sensor, a sensor holder, and a magnet-tipped stylet. No magnetic energy is generated by the display or the sensor. Permanent magnets are encapsulated within the tip of the Sherlock* TLS stylet. The Sherlock* II TLS displays the relative position of the magnet-tipped stylet to the sensor. It does this in two steps:

1. Sherlock* II TLS takes a background measurement of the ambient magnetic field during the calibration cycle.
2. Sherlock* II TLS senses changes in the magnetic field. When the Sherlock* II TLS detects the stylet, it displays the stylet tip location and orientation.

Note: Sherlock* II TLS displays the location of the magnetic tip relative to the sensor module. There is no definite correlation between the displayed location and the internal anatomy of the patient.

Note: The Sherlock* II TLS can be used on patients who have implanted cardiac rhythm devices such as pacemakers and defibrillators. When a cardiac rhythm device is present, it is recommended that the Sherlock* TLS stylet be placed on the contralateral side.

Note: The Sherlock* II TLS sensor must only be used with Bard Access Systems central venous catheters that contain the Sherlock* TLS stylet.
1.3 System Components

The Sherlock* II TLS connects to the Site-Rite* 5 or 6 Ultrasound System. The Sherlock* II TLS uses the Site-Rite* Ultrasound System display and power source.

The Sherlock* II TLS and authorized accessories include:
- Site-Rite* 5 or 6 Ultrasound System
- Sherlock* II TLS sensor
- Sherlock* II TLS sensor holster
- Sherlock* TLS stylet (included with specially marked central venous catheter kits)
- Sherlock* II TLS sensor holder (ordered separately or included with specially marked central venous catheter kits)

To order, contact your Bard Access Systems' Sales Representative or Customer Service at (800) 545-0890.

1.4 Warnings and Precautions

This section specifies warnings and precautions specific to the functionality of the Sherlock* II TLS.
- See the Site-Rite* 5 or 6 Ultrasound System Instructions for Use for system level warnings, precautions, and notes.
- See the Bard Access Systems' catheter Instructions for Use for possible complications associated with central venous catheter placements.

Warnings

Warning: This product should only be operated by qualified medical personnel.

Warning: Do not power the Sherlock* II TLS sensor in the presence of flammable anesthetic gases. Explosion may result.

Warning: The Sherlock* II TLS provides rapid feedback to the caregiver but was not designed to replace conventional methods of placement verification. Users are urged to confirm correct placement according to their established institutional protocol and clinical judgment.

Warning: Temporary disruption of a cardiac rhythm device may occur if the Sherlock* TLS stylet passes within .4 in (1 cm) of the cardiac rhythm device. Use care if placing the Sherlock* TLS stylet on the same side as the cardiac rhythm device.

Warning: Do not attempt to sterilize the Sherlock* II TLS sensor. Damage to the equipment may occur.

Warning: Bard Access Systems' catheters are not right atrium catheters. Avoid positioning the catheter tip in the right atrium. Placement or migration of the catheter tip into the right atrium may cause cardiac arrhythmia, myocardial erosion or cardiac tamponade. The risk of these complications may be more likely in neonatal patients.
Warning: The following actions void the warranty of the Sherlock* II TLS and may result in injury or equipment damage:
- Opening or servicing the Sherlock* II TLS sensor housing by anyone other than Bard Access Systems' authorized service personnel.
- Removal of system labels by anyone other than by Bard Access Systems' authorized service personnel.
- Connecting the Sherlock* II TLS sensor to any unauthorized system or accessory. Refer to section 1.3.

Warning: Only Bard Access Systems’ authorized service personnel should attempt to service this equipment. The Sherlock* II TLS contains static sensitive components and circuits. Failure to observe proper static control procedures may result in damage to the system.

Warning: If the Sherlock* II TLS sensor module is damaged in any way, discontinue use immediately. Use of a damaged sensor may result in personal injury or damage to the Site-Rite* system.

Warning: Do not submerge the Sherlock* II TLS sensor or allow fluid to enter the connector. Damage to system may occur.

Warning: As with all ferromagnetic equipment, these products must not be used in the presence of strong magnetic fields such as Magnetic Resonance Imaging (MRI) devices. The high magnetic field created by an MRI device will attract the equipment with a force sufficient to cause death or serious personal injury to persons between the equipment and the MRI device. This magnetic attraction may also damage the equipment. Consult the MRI manufacturer for more information.

Cautions

Caution: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

Caution: Do not allow any ferromagnetic objects, e.g. wired undergarments, metal instruments, watches, jewelry, electronic detectors, metal bedrails, etc. to be within 12 in (30 cm) of the Sherlock* II TLS sensor once the calibration process is complete. These items may interfere with the sensor’s ability to accurately locate the Sherlock* TLS stylet tip.

Caution: Active electric motor driven equipment, such as pumps, should not be used within 5 feet (1.5 m) of the Sherlock* II TLS sensor during the catheter insertion procedure as it may interfere with detection of the stylet.

Caution: Equipment operating in close proximity may emit strong electromagnetic or radio frequency interference (RFI) which could affect the performance of this device. Avoid operating the device near cautery, diathermy equipment, cellular phones, or other portable and mobile RF communications equipment. Maintain equipment separation of at least 5 ft (1.5 m).
**Caution:** Do not pull the cable to disconnect the Sherlock* II TLS sensor from the Site-Rite* scanner. Pulling the cable may damage the cable, cable connection or scanner.

**Caution:** Do not twist or bend the Sherlock* II TLS sensor cable in excess of that required during normal use. Excessive twisting or bending of the cable may cause system failure, intermittent or unpredictable behavior.

**Caution:** Use only Bard Access Systems’ cleaning and disinfection procedures. Failure to do so may damage the device.
2 Assembling the Sherlock* II TLS

2.1 Attaching the Sherlock* II TLS sensor holster to the roll stand

The Sherlock* II TLS sensor can be placed in the holster when not in use. To attach the Sherlock* II TLS sensor holster to the Site-Rite* 5 or 6 Ultrasound System roll stand, see illustrations below.

2.2 Connecting the Sherlock* II TLS Sensor to the Site-Rite* 5 or 6 Ultrasound System

The Sherlock* II TLS sensor connects to a USB port on the back of the Site-Rite* 5 or 6 Ultrasound System scanner.

Note: Do not connect the Sherlock* II TLS sensor to the USB ports on the Site-Rite* 6 keyboard.
3 Sherlock* II TLS Information

3.1 Switching from Ultrasound to TLS

Press simultaneously to switch from Ultrasound to TLS.
3.2 Front Panel Controls

- **AUDIO on/off.**
- **CALIBRATE**
  - Initiate system calibration.
- **SiteRite**
- **POWER**
  - System on/off.
- **ULTRASOUND**
  - Press and hold to switch to ultrasound.
- **PRINT**
  - Send the current image to a printer if connected. If a USB storage device is connected to the system, this button will also save the current screen image to the storage device.
3.3 Probe Controls

- **POWER**: System on/off.
- **AUDIO**: on/off.
- **SITE RITE**: Press and hold to switch to ultrasound.
- **CALIBRATE**: Initiate system calibration.
3.4 Display Screen Information
Calibration Indicator

Sherlock® II TLS requires calibration.

Audio Indicator

On
Off

Storage Device Indicator

Storage Device Error
Storage Device Full
Writing to Storage Device
Storage Device Connected
No Storage Device Connected

A/C Power Indicator

Connected to AC Wall Power
Not Connected to AC Wall Power

Printer Indicator

Printer Device Error
Printing in Progress
No Printer Connected

Battery Indicator

There are 5 charge levels on each battery indicator. When the unit is recharging, the indicator is green for all 5 levels. When the unit is operating on battery power, the console battery indicator changes to yellow at 40% and red/blink at 20% of the remaining battery life.

Battery Malfunction
Cart Battery Indicator
Console Battery Indicator
Cart Battery Not Connected
3.4 Audio Information

When the audio is on, there are three possible tones:
- Tone 1: stylet tip detected and the tip is not under the sensor.
- Tone 2: stylet tip is under the sensor and at or above the Bard logo.
- Tone 3: stylet tip is under the sensor and below the Bard logo.
3.5 Parallax

When a patient’s chest is not flat, the sensor will rest at an angle, causing an effect known as parallax. Parallax is the difference in the apparent location of an object from two different points of view. The difference between the point of view of the sensor and the user can be several centimeters. This effect may cause a deeper placement of the catheter tip. Therefore, it is important to rely on the catheter measurement and clinical judgement for final placement.

**Warning:** The Sherlock* II TLS provides rapid feedback to the caregiver but was not designed to replace conventional methods of placement verification. Users are urged to confirm correct placement according to their established institutional protocol and clinical judgment.

**Warning:** Bard Access Systems’ catheters are not right atrium catheters. Avoid positioning the catheter tip in the right atrium. Placement or migration of the catheter tip into the right atrium may cause cardiac arrhythmia, myocardial erosion or cardiac tamponade. The risk of these complications may be more likely in neonatal patients.
4 Sherlock* II TLS Catheter Guidance

4.1 Device Preparation

- Plug the Sherlock* II TLS sensor into the USB port on the back of the Site-Rite* 5 or 6 Ultrasound System scanner.
- Power on the Site-Rite* 5 or 6 Ultrasound System. **Note:** The system powers up in ultrasound mode.
- Verify there is enough battery power available for the procedure or plug the system into wall A/C.
- Ensure the Bard Access Systems’ catheter kit is labeled with the Sherlock* TLS logo and contains the Sherlock* TLS stylet.
- Place Sherlock* II TLS sensor in the sensor holder and tighten the cinch ring.
4.2 Patient Preparation

- Position the patient for the procedure and perform ultrasound pre-scan
- Take catheter length measurement.
- Ensure no metal is in the area where the sensor will be placed (monitor leads, necklace, etc.).
- Remove the adhesive backing from the sensor holder.
- Place the sensor adhesive side down directly on the skin and as flat as possible for best results.

**Note:** The sensor should be placed the same for left or right side placements.

- Move active electric motor driven equipment at least 5 feet (1.5 m) away from the patient if possible
- Remove metal objects such as watches, cell phones, pagers, name tags, jewelry, etc. that may move during the procedure at least 5 feet away (1.5 m)
- Lower bed rails
- Calibrate the Sherlock* II TLS prior to setting up the sterile field to ensure there is no environmental interference.
**Tips**
- External measurements for catheter length can never exactly duplicate the internal venous anatomy. Consider patient body habitus, making adjustments in catheter length for extremes in body weight and/or height.
- Prior to securing the sensor holder to the patient, it may be necessary to clean the skin and remove excess hair.
- Do not move the Sherlock* II TLS sensor after it is secure. Best results will be achieved if the patient remains still and the sensor is not placed on open wounds, over bandages, drapes, gowns or other coverings.

4.3 **Catheter Preparation and Introduction**
- Refer to Bard Access Systems' catheter instructions for use.
- For open-ended polyurethane catheters: Ensure the tip of the Sherlock* TLS stylet is not trimmed and is within 1 cm of the end of the catheter prior to catheter insertion. If the magnetic tip of the Sherlock* TLS stylet is accidentally removed by trimming, the stylet cannot be detected by the Sherlock* II TLS.

4.4 **Sherlock* II TLS Calibration**
- Press the depth [CM] and gain up [▲] buttons simultaneously to switch from ultrasound to TLS. TLS mode can be accessed via the scanner buttons or the ultrasound probe buttons.
  **Note:** During TLS mode, no ultrasound energy is emitted from the Site-Rite* Ultrasound System probe.
- Ensure the catheter is at least 12 inches (30 cm) away from the sensor before calibrating.
- Press the calibration button immediately before advancing the catheter.
- Once calibration is complete, ask the patient to remain still and do not reposition the patient.

4.5 **Catheter Guidance**
- Initially the display will indicate “NO SIGNAL” signifying that the stylet tip is outside the sensor range.
- Use a slow steady motion while advancing the catheter.
- As the stylet tip approaches the Sherlock* II TLS sensor, an icon appears at the edge of the screen indicating the approach of the stylet tip.
- When the stylet is under the sensor, the stylet and depth icons will display the location, orientation, and depth of the stylet in relation to the Sherlock* II TLS sensor.
- When the stylet icon is in the desired position, the Sherlock* II TLS can be powered off or remain operational for the remainder of the procedure.
- It is important to rely on catheter measurement and clinical judgement for final placement.
**Tips**

- Advance the catheter slowly to achieve optimal performance (1 cm per second). There may be a slight delay from the time the catheter is moved until the icon moves on the display. Advancing the catheter too quickly may result in erratic movements of the stylet icon on the display.
- The Sherlock* II TLS has a depth range between 3 and 11 cm below the sensor. As the catheter tip approaches the maximum depth, the stylet icon may be erratic or disappear and display “NO SIGNAL”.

**4.6 Complete Catheter Placement**

- Complete catheter insertion and securement procedure according to the catheter instructions for use and facility protocol.
- Remove the sensor from the patient.
- Loosen the cinch ring on the sensor holder and remove the sensor. Dispose of the sensor holder according to facility protocol.
- Confirm catheter tip location by radiography or facility protocol.

**5 Troubleshooting and Error Screens**

**5.1 Error Screens**

| Sherlock* II TLS Sensor Disconnected | **Cause:** Sherlock* II TLS sensor not connected to the Site-Rite* scanner.  
**Solution:** Ensure the Sherlock* II TLS sensor is properly connected. |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Sensor Error                        | **Cause:** Sherlock* II TLS sensor cannot be detected by the Site-Rite* scanner.  
**Solution:** Call the technical support hotline (800) 443-3385. |
| System Error                        | **Cause:** System is not operating within normal parameters.  
**Solution:** 1. Turn off and restart the system.  
2. If the error continues, discontinue use and call the technical support hotline (800) 443-3385. |
<table>
<thead>
<tr>
<th>Issue</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnet Error (during calibration)</td>
<td>Interference caused by magnetic field changes or by sensor movement.</td>
<td>1. Move all metal objects at least 12 inches (30 cm) away from the sensor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Lower bed rails.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Move all active electronic devices at least 5 feet (1.5 m) away.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Ensure the sensor does not move during calibration.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Ensure catheter is at least 12 inches (30 cm) away from the sensor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Recalibrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. If the error continues, discontinue use and call the technical support</td>
</tr>
<tr>
<td>Magnet error (during catheter guidance)</td>
<td>Interference caused by magnetic field changes or by sensor movement.</td>
<td>1. Ensure no metal objects have moved within 12 inches (30 cm) of the sensor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Move all active electronic devices at least 5 feet (1.5 m) away.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Ensure that the sensor, or the patient have not moved.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Pull back the catheter at least 12 inches (30 cm) from the sensor and recalibrate.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. If the error continues, discontinue use and call the technical support hotline (800) 443-3385.</td>
</tr>
<tr>
<td>Battery empty</td>
<td></td>
<td>Solution: Connect system to an A/C outlet for operation and battery recharge.</td>
</tr>
<tr>
<td>Battery malfunction</td>
<td></td>
<td>Solution: Call the technical support hotline (800) 443-3385.</td>
</tr>
<tr>
<td>Storage Device error</td>
<td></td>
<td>Solution: Replace storage device.</td>
</tr>
<tr>
<td>Printer error</td>
<td></td>
<td>Solution: 1. Check printer paper. Load paper if necessary.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Refer to printer’s operating manual.</td>
</tr>
</tbody>
</table>
### 5.2 Procedural troubleshooting

<table>
<thead>
<tr>
<th>Issue</th>
<th>Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Sherlock* II TLS will not power on or powers on but immediately turns off. | **Cause:** Sensor incorrectly oriented.  
**Solution:** Orient sensor correctly. Refer to section 4.2 | **Solution:** Press and hold the power button for at least 3 seconds  
**Solution:** Connect system to an A/C outlet for operation and battery recharge.  
**Solution:** If the power problems continue call the technical support hotline (800) 443-3385. |
| Sensor does not detect stylet | **Cause:** Stylet tip in sensor field during calibration.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. | **Cause:** Sensor incorrectly oriented.  
**Solution:** Orient sensor correctly. Refer to section 4.2  
**Cause:** Stylet tip in sensor field during calibration.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Solution:** If the power problems continue call the technical support hotline (800) 443-3385. |
| Stylet icon has erratic behavior | **Cause:** Stylet at edge of sensor’s depth range (3 to 11 cm).  
**Solution:**  
1. Pull catheter back until stylet icon is stable.  
2. Verify catheter is moving in the correct direction and continue placement. | **Cause:** Stylet at edge of sensor’s depth range (3 to 11 cm).  
**Solution:**  
1. Pull catheter back until stylet icon is stable.  
2. Verify catheter is moving in the correct direction and continue placement.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. |
| Stylet icon disappears. “NO SIGNAL” displayed. | **Cause:** Stylet at edge of sensor’s depth range (3 to 11 cm).  
**Solution:**  
1. Pull catheter back until stylet icon is stable.  
2. Verify catheter is moving in the correct direction and continue placement. | **Cause:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Cause:** Stylet not at the catheter tip.  
**Solution:** Ensure stylet tip is within 1 cm of distal end of catheter. Adjust as necessary.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. |
| **Cause:** Stylet didn’t advance under the sensor  
**Solution:** Pull catheter back and re-advance. | **Cause:** Stylet at edge of sensor’s depth range (3 to 11 cm).  
**Solution:**  
1. Pull catheter back until stylet icon is stable.  
2. Verify catheter is moving in the correct direction and continue placement.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. |
| **Cause:** Stylet magnet trimmed off.  
**Solution:** Replace catheter with a new Bard Access Systems’ catheter with Sherlock* TLS stylet. | **Cause:** Stylet at edge of sensor’s depth range (3 to 11 cm).  
**Solution:**  
1. Pull catheter back until stylet icon is stable.  
2. Verify catheter is moving in the correct direction and continue placement.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Solution:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. |
| **Cause:** Incompatible catheter  
**Solution:** Verify that the Bard Access Systems’ catheter has a Sherlock* TLS stylet. | **Cause:** Magnetic interference.  
**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter.  
**Solution:** Magnetic interference.  
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**Solution:** Pull catheter back at least 12 inches (30 cm) from the sensor, recalibrate, and re-advance catheter. |
6 Cleaning and Disinfection

6.1 Cleaning Procedure
To clean the Sherlock* II TLS sensor:
1. Turn off the system.
2. Dampen a nonabrasive cloth with either warm water or rubbing alcohol.
3. Gently wipe the dampened cloth over exterior surfaces.

6.2 Disinfection Procedure
For a list of disinfectants recommended for use on the Site-Rite* 5 or 6 Ultrasound system and Sherlock* II TLS sensor, contact Bard Access Systems for the “Site-Rite* Ultrasound System Compatible Disinfectants” document.

Warning: Do not submerge the Sherlock* II TLS sensor or allow fluid to enter the connector. Damage to system may occur.
Warning: Do not attempt to sterilize the Sherlock* II TLS sensor. Damage to the equipment may occur.

7 Warranty
The manufacturer, Bard Access Systems, warrants this product against defects in material and workmanship for a period of one year from the date of original purchase, and during such period agrees to repair, or at Bard Access Systems’ discretion, replace any defective unit free of charge. The warranty on the repaired or replaced unit continues from the purchase date of the original unit. This warranty does not cover damages resulting from misuse, abuse, modification, or alteration of the Sherlock* II TLS.

The following actions void the warranty of the Sherlock* II TLS:
- Opening or servicing the Sherlock* II TLS sensor housing by anyone other than Bard Access Systems’ authorized service personnel.
- Removal of system labels by anyone other than by Bard Access Systems’ authorized service personnel.
- Connecting the Sherlock* II TLS sensor module to any unauthorized system or accessory.
Refer to section 1.3.
TO THE EXTENT ALLOWABLE BY APPLICABLE LAW, THIS LIMITED PRODUCT WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT WILL Bard Access Systems BE LIABLE TO YOU FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM YOUR HANDLING OR USE OF THIS PRODUCT.

Some states/countries do not allow an exclusion of implied warranties, incidental or consequential damages. You may be entitled to additional remedies under the laws of your state/country.

8 Service and Repair

For servicing information or to return your Sherlock* II TLS for repair, please contact Bard Access Systems’ technical support hotline at (800) 443-3385.

Warning: Only qualified personnel should attempt to service this equipment. The Sherlock* II TLS contains static sensitive components and circuits. Failure to observe proper static control procedures may result in damage to the system.

9 Technical Specifications

9.1 Sherlock* II TLS Sensor Operational and Storage Conditions

Operating Temperature: 15˚C to 38˚C (59˚F to 100˚F)
Storage Temperature (unpackaged): 10˚C to 38˚C (50˚F to 100˚F)
Operating Humidity: 5% to 85% non-condensing
Storage Humidity (unpackaged): 5% to 85% non-condensing
Storage Humidity (packaged): 5% to 95% non-condensing
9.2 Sherlock* II TLS Sensor Specifications

Dimensions: 7.5” W x 7.5” H x .8” D (19 cm W x 19 cm H x 2 cm D)
Cord Length: 6 feet (1.8 m)
Connector type: USB
Power consumption: 2.5 watts maximum
IEC 60601-1: Type BF Applied Part, IPX1

9.3 Site-Rite* 5 or 6 Ultrasound System Technical Specifications

See the Site-Rite* 5 or 6 Ultrasound System Instructions for Use.

10 Disposal Information

To return the Sherlock* II TLS for end of life recycling, please contact your nearest Bard sales or distributor office in the country of purchase.
Sherlock® II Tip Location System
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An issued or revision date for these instructions is included for the users information. In the event two years have elapsed between this date and product use, the user should contact Bard Access Systems, Inc. to see if additional product information is available.

Revision date: October, 2007

*Bard, Site-Rite, and Sherlock are trademarks and/or registered trademarks of C. R. Bard, Inc. or an affiliate.

U.S. Patents Pending.

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