### 5A. TEMPERATURE PROBE CHECK

For M9-001 thru -019 & M11-001 thru -019, see 5A below. For M9-020 & -022, see 5B to the right.

5A. For M9-001 thru -019 & M11-001 thru -019

A shorted Temperature Probe can cause the following symptoms:

- The sterilizer will not "boot up" and will sound a steady beep.
- The display will show a steady temperature reading of ~30°C without changing (this is not normal). The sterilizer will then continue into the sterilize mode and will ultimately heat up, causing an error code to be displayed.

Disconnect the Temperature Probe from the Control PC Board and measure the resistance at room temperature:

- The resistance between the BLACK and WHITE wires should read between 3.0 Meg Ohms and 6.0 Meg Ohms. If resistance readings are not met, replace the Temperature Probe.
- The resistance between the BLACK and RED wires should read between 3.0 Meg Ohms and 6.0 Meg Ohms. If resistance readings are not met, replace the Temperature Probe.
- The resistance between the WHITE and RED (ground) wires.

DON'T FORGET ...

VERIFY PRESENCE OF 5VDC ON THE TEMPERATURE PROBE BETWEEN THE BLACK AND WHITE (GROUND) WIRES.

Before shipping a non-operational Temperature Probe to RPI, or installing a replacement Temperature Probe, please read inside "TROUBLESHOOTING GUIDE TO PROTECT YOUR REPLACEMENT PC BOARD". The information presented explains simple diagnostics that MUST BE PERFORMED and evaluated before removing the non-operational Temperature Probe and before installing the new replacement Temperature Probe. The non-operational Temperature Probe may have been damaged because of the failure of another component. Failure to properly identify the cause of damage to the existing Temperature Probe may cause the replacement Temperature Probe to be damaged as well, potentially VOIDING THE WARRANTY for the replacement Temperature Probe.

Follow these shipping instructions to be eligible for the $100 Quick Start Credit from RPI.

Include the Mounting Bracket with the new Style PC Board.

If returning a new Style PC Board, do not cover the UPS return label. If shipping an old Style PC Board it must be covered with the UPS return label.

DO NOT REMOVE PARTS OR SERIAL NUMBER FROM THE MOUNTING BRACKET, THEN A TOTAL CREDIT OF ONLY $75 WILL BE ISSUED.

Follow these shipping instructions to be eligible for the $100 Quick Start Credit from RPI.

Include the Mounting Bracket with the new Style PC Board.

### 5B. TEMPERATURE SENSOR CHECK

5B. M9-020 & -022 and M11-020 & -022

- Disconnect the Temperature Sensor from the Control PC Board and measure the resistance between the RED and WHITE wires. Resistance should read ~1.07K to 1.1K Ohms at room temperature. If readings are out of range, replace the Temperature Sensor.
- Connect the Temperature Sensor to the Control PC Board and power up the sterilizer. Place the black meter lead to TP2 on the PC Board, and the red meter lead to TP4. The voltage should read 5 VDC ± 1 VDC. If voltage reading is out of range, replace the Control PC Board (RPI Part #MIB129).

**Temperature Sensor available from RPI:**

- M9-020 & -022: Temperature Sensor (RPI Part #MIS121)
- M11-020 & -022: Temperature Sensor (RPI Part #MIS121)

### INSTALLING THE REPLACEMENT CONTROL PC BOARD

**RPI PART #MIB129, MIB130 & MIB131**

**IMPORTANT NOTE**

Before shipping a non-operational PC Board to RPI, or installing a replacement PC Board, please read inside "TROUBLESHOOTING GUIDE TO PROTECT YOUR REPLACEMENT PC BOARD". The information presented explains simple diagnostics that MUST BE PERFORMED and evaluated before removing the non-operational PC Board and before installing the new replacement PC Board. The non-operational PC Board may have been damaged because of the failure of another component. Failure to properly identify the cause of damage to the existing PC Board may cause the replacement PC Board to be damaged as well, potentially VOIDING THE WARRANTY for the replacement PC Board.

### 5B. TEMPERATURE SENSOR CHECK

5B. M9-020 & -022 and M11-020 & -020

- Disconnect the Temperature Sensor from the Control PC Board and measure the resistance between the RED and WHITE wires. Resistance should read ~1.07K to 1.1K Ohms at room temperature. If readings are out of range, replace the Temperature Sensor.
- Reconnect the Temperature Sensor to the Control PC Board and power up the sterilizer. Place the black meter lead to TP2 on the PC Board, and the red meter lead to TP4. The voltage should read 5 VDC ± 1 VDC. If voltage reading is out of range, replace the Control PC Board (RPI Part #MIB129).

### DON’T FORGET ...

ALSO AVAILABLE FROM RPI

**Main Harness**

RPI Part #MH238

- The RPI Main Harness includes both the main harness and the hi limit jumper.

**Fits Models:**

- M9-020 & -022
- M11-020 & -022

**RPI Field Service Calibration Kit**

RPI Part #MK074

- This Kit was designed to calibrate and service the M9-001 thru -019 and M11-001 thru -019 sterilizers, and contains detailed instruction on the calibration of those older sterilizers. Detailed instructions are also available on the RPI website, under RPI Field Service Calibration Kit (RPI Part #MK074).
- This Kit also includes a Test Pressure Gauge (RPI Part #PGE1) and a Max Register Thermometer (RPI Part #PMB13) which will aid in verification of the new Midmark M9/M11 PC Boards.

**Fits Models:**

- M9-001 thru -019
- M9-020 & -022
- M11-001 thru -019
- M11-020 & -022

**INSTALLING THE REPLACEMENT CONTROL PC BOARD**

**Removal of old PC Board:**

1) Please read the "IMPORTANT NOTE" at the top of the page.
2) Disconnect power to sterilizer.
3) Disconnect wire harnesses and ribbon cable. Cut the tie on the pressure sensor hose and disconnect the hose. Remove the old PC Board.
4) Important Note: If shipping the non-operational PC Board to RPI for Core credit, please refer to the shipping instructions above. Depending on the model, you may or may not need to include the Mounting Bracket to be eligible for the $100 Core credit.

**Installation of replacement PC Board:**

1) To ensure proper grounding, inspect and clean the ground contact points on the sterilizer chassis and on the mounting bracket.
2) Install the replacement PC Board onto mounting bracket (if not already assembled), connect wire harnesses and ribbon cable. Attach the pressure hose using a High Temp Cable Tie (RPI Part #RF4440). Note: Although both the M9-030 and M11-030 PC Board (M9-001 thru -019 and M11-001 thru -019) have already been calibrated, additional calibration may be necessary after installation. (See back page for information about the RPI Smart Kit (RPI Part #MK074) which includes the tools needed to calibrate and service these sterilizers.)
3) Move Switch #2 (located on the "OPTIONS" switch bank on the PC Board) to the "ON" position.
4) Connect power to the sterilizer and power up.
5) Once Switch #2 is set to "ON", the following configuration steps will automatically be displayed: STEP 1: [CHAMBER DIAMETER] for M9 enter [9 INCH] and for M11 enter [11 INCH]. Following the prompts on the display, use the Touch Pad. [+] [-] [ ] buttons to select settings then press the [P] button when completed. **STEP 2:** [FULL FEATURED] for the standard M9/M11 and [DEFEATURED] for the M9D/M11D, then press the [P] button when completed. (This feature may not apply to all Control PC Board versions).
6) Disconnect power to the sterilizer and move Switch #2 to the "OFF" position. Further calibration is not necessary.
7) Connect power to sterilizer and run several test cycles.

### Control PC Boards

**RPI PART #MIB129, MIB130 & MIB131**

**IMPORTANT NOTE**

Before shipping a non-operational PC Board to RPI, or installing a replacement PC Board, please read inside "TROUBLESHOOTING GUIDE TO PROTECT YOUR REPLACEMENT PC BOARD." The information presented explains simple diagnostics that MUST BE PERFORMED and evaluated before removing the non-operational PC Board and before installing the new replacement PC Board. The non-operational PC Board may have been damaged because of the failure of another component. Failure to properly identify the cause of damage to the existing PC Board may cause the replacement PC Board to be damaged as well, potentially VOIDING THE WARRANTY for the replacement PC Board.
 CONTROL PC BOARD (REFURBISHED)  
RPI Part #M9132  

• M9-020 & -022  
Serial # Prefixes RN, RR & V  
(OEM Part #022-0762-00)  

• M11-020 & -022  
(OEM Part #022-0762-00)  
Serial # Prefixes RS, RV & V  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M9130  

• M9-001 thru -019  
Serial # Prefixes C2, DA, DB, DX, DF, FO & OM  
(OEM Part #002-0434-00)  

• M9-011 thru -019  
Serial # Prefixes C2, DA, DB, DX, DF, FO & OM  
(OEM Part #002-0434-00)  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M11131  

• M11-001 thru -019  
Serial # Prefixes ES, ET, FR & GB  
(OEM Part #002-0501-00)  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M11130  

• M11-001 thru -019  
Serial # Prefixes ES, ET, FR & GB  
(OEM Part #002-0501-00)  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M9133  

• M9-020 & -022  
Serial # Prefixes RN, RR & V  
(OEM Part #022-0762-00)  

• M11-020 & -022  
(OEM Part #022-0762-00)  
Serial # Prefixes RS, RV & V  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M9134  

• M9-001 thru -019  
Serial # Prefixes C2, DA, DB, DX, DF, FO & OM  
(OEM Part #002-0434-00)  

• M9-011 thru -019  
Serial # Prefixes C2, DA, DB, DX, DF, FO & OM  
(OEM Part #002-0434-00)  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M11132  

• M9-001 thru -019  
Serial # Prefixes RN, RR & V  
(OEM Part #022-0762-00)  

• M11-001 thru -019  
Serial # Prefixes ES, ET, FR & GB  
(OEM Part #002-0501-00)  

CONTROL PC BOARD (REFURBISHED)  
RPI Part #M9135  

• M9-001 thru -019  
Serial # Prefixes RN, RR & V  
(OEM Part #022-0762-00)  

• M11-001 thru -019  
Serial # Prefixes ES, ET, FR & GB  
(OEM Part #002-0501-00)