

# Midmark Diagnostics IQmark EZ Stress Tango M2 Interface Notes

To setup Tango M2 with the IQmark EZ stress software, simply follow the directions below.

## 1. IQmark Stress Output Module Kit

- In order to use the Tango M2 device with EZ Stress, an IQmark Stress Output Module Kit (Midmark part number = 4-000-0320) is required.
- Please refer to the IQmark Stress Output Module Operation Manual for instructions on how to install and configure this device.
- The Stress Output Module provides a digital QRS synchronization pulse to the Tango M2 Device.

## 2. Verify Correct RS-232 and ECG Trigger Cables

- **RS-232 Cable** – used to communicate with the EZ Stress. This cable enables the EZ Stress to prompt Tango M2 when it needs a BP measurement, and allows the Tango M2 BP reading to be transferred to the EZ Stress display and reports.
  - SunTech Part Number = 91-0013-01
  - Connection Ends:

**EZ Stress Connection**  
**9 pin female**

**Tango M2 Connection**  
**9 pin female**



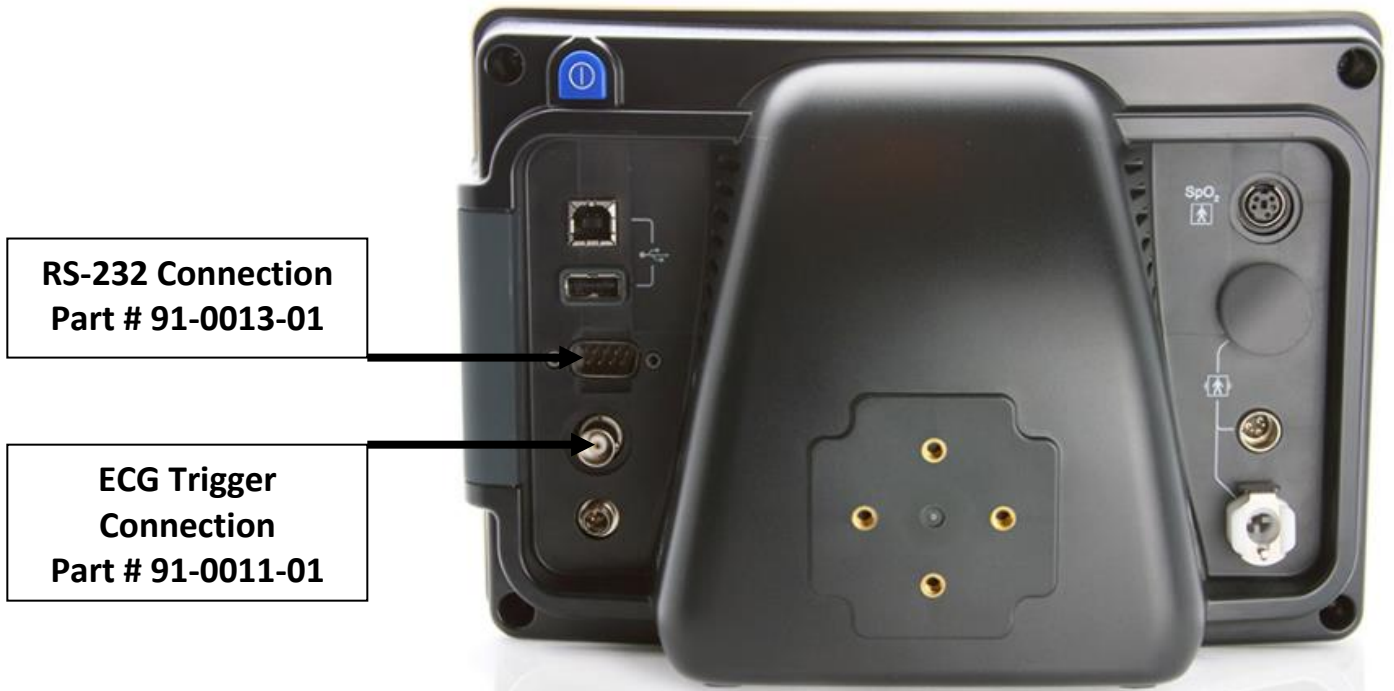
- **ECG Trigger Cable** – provides the ECG signal from the EZ Stress to the Tango M2.
  - SunTech Part Number = 91-0011-01
  - Connection Ends:

**EZ Stress Connection  
BNC male**

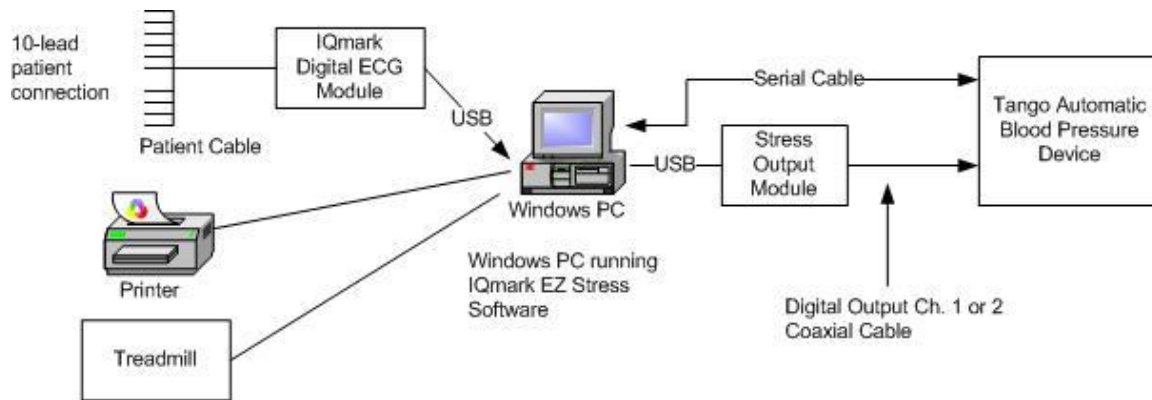
**Tango M2 Connection  
BNC male**



**Tango M2 Monitor**



## CONNECTION DIAGRAM:



### 3. IQmark Stress Output Module Kit Setup

- Connect the stress output module to one of the USB ports on the PC.

### 4. Connect the RS-232 Cable

From: the RS-232 connection on the rear panel of the Tango M2

To: one of the COM ports on the back of the PC\*

**\*Note** – If there are no available COM ports on the PC, then it will be necessary to use a USB to RS-232 serial port adapter for the Tango M2 unit. Install the USB adapter according to the instructions provided by the manufacturer. Then connect the USB adapter to the PC and the Tango M2 to the serial port connector of the USB adapter. A USB to RS-232 cable can be ordered using SunTech Part Number = 98-0057-00.



### 5. Connect the ECG Trigger Cable

From: the BNC External ECG connection on the rear panel of the Tango M2

To: Channel 1 or Channel 2 (digital output BNC connection) on the Stress Output Module

### 6. Tango M2 Monitor Setup

- a. When the main screen is displayed, press the **SELECT** button once. This will bring up the **MAIN MENU** screen.
- b. Using the UP or DOWN arrows, highlight **MONITOR SET UP** and press the **SELECT** button.

- c. Using the UP or DOWN arrows, highlight **STRESS SYSTEM** and press the **SELECT** button.
- d. Using the UP or DOWN arrows, scroll through the list until **IQmark EZ Stress** is highlighted and press the **SELECT** button to confirm the choice.
- e. Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

## 7. IQmark EZ Stress System Setup

- a. Display the EZ Stress Settings dialog and click on the Hardware tab.
- b. Select “SunTech Tango” from the drop down combo box in the Automatic BP module control group.
- c. Select the COM port that the Tango M2 unit is connected to from the Serial Port Combo box.

## 8. Configuration of IQmark EZ Stress System Setup to Control Tango M2

- The EZ Stress software may be configured to control the Tango M2 unit in the following ways:
  - a. Automatic measurements initiated by the EZ Stress software at each stage of the Pre- Exercise phase.
  - b. Automatic measurements at timed intervals of the Exercise phase of the test.
  - c. Automatic measurements at timed intervals of the Recovery phase of the test.

## FAQs for Tango M2

### **Q. The Tango M2 displays a Status Message. What does it mean and what do I do?**

- A.** See the eLibrary within your Tango M2 for quick troubleshooting tips. You can find the eLibrary under the Main Menu; select Monitor Setup → E-Library → Status Messages. You can also look in the Tango M2 User Manual under the *Status Messages & Alarms* section for details on each Status Message and solution.

### **Q. The Tango M2 monitor returns a result of 0/0 after blood pressure (BP) measurements. What do I need to do to get a BP reading?**

- A.** There are certain noisy conditions where the Tango M2 cannot accurately measure BP. When the Tango M2 encounters these situations, it returns a reading of 0/0. Microphone placement is critical for reliable operation of the Tango M2; there are many places to find cuff placement help.
- a. See the eLibrary within your Tango M2 for quick cuff placement tutorials. You can find the eLibrary under the Main Menu; select Monitor Setup → E-Library → Tutorials.
  - b. Look in the Tango M2 User Manual under the *Using Tango M2 during a Stress Test* section for details on each type of cuff; the Orbit-K and the Single Patient Use (SPU) kit.
  - c. Follow the instructions in the **Cuff Tutorial** (located on the SunTech Medical website under Support → Customer Technical Support → Video Tutorials) for correct microphone placement.

### **Q. Can I use a heart rate or blood pressure simulator to test whether the Tango M2 is working correctly with my stress system?**

- A.** You cannot use a heart rate or blood pressure simulator to test whether the Tango M2 is working with your stress system. The Tango M2 monitor requires that the ECG signal and the Korotkoff sounds, collected by the microphone in the cuff, originate from the same source, meaning the patient.

**Q. How can I adjust the brightness of the Tango M2 display?**

- A.** You can adjust the contrast of the Tango M2 display by following these steps:
1. When the operating screen is displayed, press the **SELECT** button once. This will bring up the **Main Menu** screen.
  2. Using the UP or DOWN arrows, highlight **Monitor Setup** and press the **SELECT** button.
  3. Using the UP or DOWN arrows, highlight **Brightness** and press the **SELECT** button.
  4. Using the UP or DOWN arrows, modify the contrast of the screen. When you are finished, and press the **SELECT** button to confirm the choice.
  5. Using the UP or DOWN arrows, select **EXIT** twice to return to the operating screen.

**Q. How can I get MAP on my Tango M2?**

- A.** Register your Tango M2 Monitor online or through mail to receive MAP as a function on your Tango M2 monitor. Please note that due to FDA Regulations MAP is not available to the United States market.

On the web go to SunTechMed.com → Support → Sales Support → Product Registration

**Q. How do I clean the Orbit-K cuff after a stress test?**

- A.** You can do either of the following:
1. Use a medical grade mild disinfectant wipe on the cuff or spray a cleaning solution onto a cloth and wipe the cuff. Afterwards, lay flat or line dry.
  2. Remove the bladder and microphone from the outer shell of the Orbit-K cuff. Machine wash the shell in warm water with a mild detergent (50-140°F or 10-60°C). Lay flat or line dry the cuff. Do not place the cuff in a dryer.

**Q. My Tango M2 displays a message, “Please VERIFY CALIBRATION” or “Equipment Maintenance and Calibration Required.” What do I do?**

- A.** Verification of Pressure Calibration is required every year to maintain the accuracy of the Tango M2’s BP readings. You will need to contact your local SunTech Medical Service Center for help. In addition, the following items will be needed to verify calibration.

**Equipment Required:**

1. Calibrated electronic manometer or equivalent.
2. 500mL volume or the Orbit-K Adult Plus cuff wrapped around something that will not break or crush (no glass).
3. Hand Inflation Bulb with bleed valve.
4. Tubing, Tee pieces, and miscellaneous connectors or you can order the T-Tube Kit (SunTech Part # 98-0030-00).

**Service Centers:**

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