

Touchscreen Console Quick Start Guide

This Guide provides a brief overview of setting up the Thermo Scientific™ HyPerforma™ Single-Use Mixer (S.U.M.) Touchscreen Console. For more detailed information about the features of the Touchscreen Console, refer to the Thermo Scientific HyPerforma S.U.M. with Touchscreen Console User's Guide (DOC0042).

Warnings and safety



**Hazardous voltage inside.
Risk of electrical shock.
Service should be provided
by certified personnel only.**

For complete warnings and safety information, refer to the S.U.M. with Touchscreen Console User's Guide.

Setting up the hardware

1. First, inspect the packaging for damage. Call your Thermo Scientific sales representative if any damage is present. Use the instructions provided in the S.U.M. with Touchscreen Console Unpacking Guide (DOC0061) to unpack your S.U.M. unit. The Touchscreen Console will be attached to a stationary arm on the tank.
2. See Figure 1 for an overview of both the front and back of the Touchscreen Console hardware components.
3. If your unit comes with the optional pump shelves, use a wrench and four bolts per shelf to attach them to the post. The basket (also optional) will be pre-attached. Set any pumps that will be connected to the S.U.M. on the attached shelves, if present (Figure 2). Pumps may also be stored on a cart or other stable surface near the S.U.M.

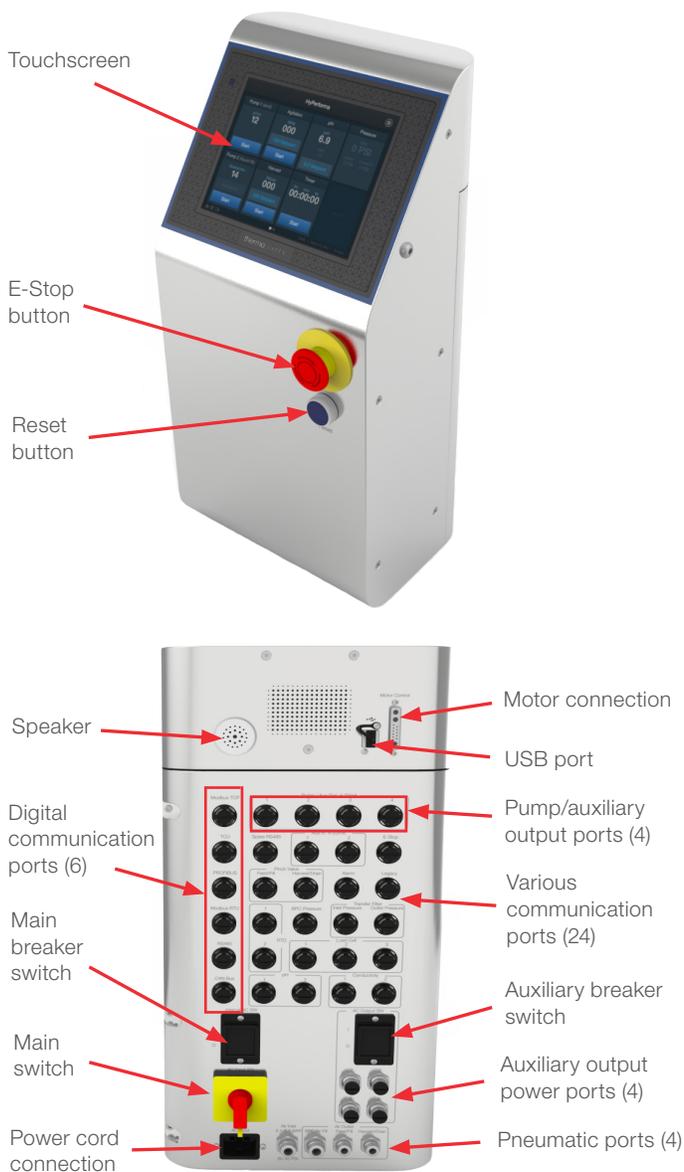


Figure 1. Front and back views of the Touchscreen Console



Figure 2. Placing pumps on shelves

4. Plug the communication cables from the pump(s) into the pump/aux out 4-20 mA ports on the back of the Touchscreen Console. Route the pump cords through the cable management system clips (if present) attached to the handles on the back of the S.U.M. Then plug the pumps into the proper power source.
5. Verify that the main power switch on the back of the Touchscreen Console is in the “Off” position. If the main power switch is in the “On” position (pointing to the “I”), turn the switch counter-clockwise until it is pointing to the “O,” as seen in Figure 3.



Figure 3. Main power switch, shown in the “Off” position

6. Verify that the emergency stop (E-Stop) located on the front of the Touchscreen Console is disengaged, i.e. pulled out. If the E-Stop is pushed in (engaged), an audible buzzer will sound. The AC outlet, pneumatic output (including valves), pumps/auxiliary outputs, and

temperature control unit (TCU) will all be shut off. This will also trigger the Safety Torque Off function (STO) to stop the motor. **Note:** The Touchscreen Console will continue data logging while the E-Stop is activated. To reset the E-Stop and restart system operations, pull out (disengage) the E-Stop button, and press the “Reset” button.

7. Connect all electrical plugs to facility power. Refer to hardware/electrical labels and schematics to ensure proper electrical voltage is connected to the S.U.M.
8. Connect the motor power cable to the motor (Figure 4).



Figure 4. Connecting the power cable to the motor

9. Connect any communication cables you will be using (temperature sensor, pH sensor, load cells, etc.) to the input ports on the back of the Touchscreen Console by pushing the end of the cable into the port, and using the supplied tool to turn the silver ring on the port in a clockwise motion (Figure 5). Make connections to digital communication ports after the rest of the connections have been made. **Note:** To allow visibility of the port labels while you are making connections, it is recommended to begin plugging cables into the Touchscreen Console ports starting at the bottom, and working your way upward. An adapter is available for wiring cables for compatibility (refer to the Thermo Scientific S.U.M. with Touchscreen Console User’s Guide for ordering information).



Figure 5. Connecting communication cables

- Use the auxiliary power ports on the back of the Touchscreen Console as needed. **Note:** Auxiliary power is at the same line voltage as the Touchscreen Console (either 120 or 240 V, depending on your system). Verify that the auxiliary breaker on the back of the Touchscreen Console is in the “On” position before use.

CAUTION: All four auxiliary power ports share the same breaker (8 amps of power out of the Touchscreen Console). To avoid tripping the auxiliary breaker, do not use higher than 8 amps of power for all four of the auxiliary power ports combined.

- When you are ready to operate the system, turn on the main breaker, followed by the main power switch. After the Touchscreen Console has booted up, verify that the E-Stop is disengaged, then press the blue “power on reset” button (Figure 6).



Figure 6. Pushing the power on reset button

Configuring the home screen

When the Touchscreen Console is booted up for the first time, you will see the idle screen below (Figure 7). Confirm that the correct S.U.M. size, date, and time are shown at the bottom right of the screen. If any of the values are incorrect, touch the “Settings” icon in the top right corner and select “Instrument Settings” to adjust the values. Touch “Home Screen.” Then, use the following steps to configure your Touchscreen Console.



Figure 7. Idle screen at initial Touchscreen Console setup

- The “Select Auxiliary Outputs or Pumps” screen that appears allows the user to select a combination of four pumps and/or auxiliary outputs (Figure 8). Touch the pumps and/or auxiliary outputs you would like to use to add them to your home screen. To deselect a pump or auxiliary output, touch the button again. When you are finished, touch “Next.”

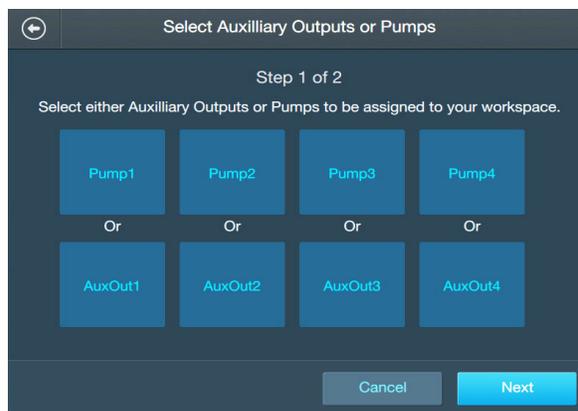


Figure 8. Selecting pumps and/or auxiliary outputs

- The “Home Screen Confirmation” screen that appears (Figure 9) displays the pumps/ auxiliary outputs and other modules you have selected. Click “Confirm” to add them to your home screen. The next screen that appears will look similar, but it will list the modules that have been added to the home screen. Touch “Open Home Screen.”

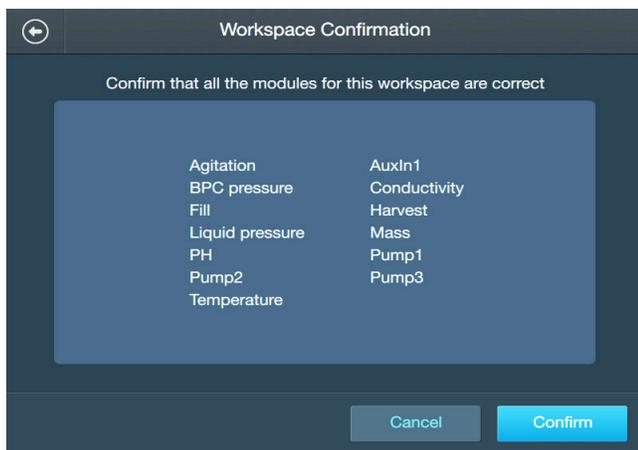


Figure 9. Home Screen Confirmation screen

- Your configured home screen will appear with the modules you selected. Depending on the number of modules added, your home screen may be one or multiple pages. Swipe right-to-left to view other pages.

Using the home screen

Figure 10 on the following page shows an example of a configured Touchscreen Console home screen. Each page of the home screen is comprised of “modules,” which provide various functionality, such as measuring temperature, filling the S.U.M. with liquid, and controlling agitation speeds. The following numbered list provides more information about the features of the home screen.

- Administrator icon:** If an Administrator profile has been created and is currently logged in, this icon will appear blue. If an Administrator is not logged in, the icon will appear gray.
- Alarm icon:** Directs the user to the Alarm Status screen, where alarms can be viewed/ acknowledged.
- Settings icon:** Directs the user to the System Settings screen, where the user can adjust the date/time, set up an Administrator profile, check for software updates, and more.
- Flyout menu bar (not visible in Figure 10):** Shows active modules. Touching the module name in the flyout menu will open the active module.
- Configured modules:** Shows modules that the user has added to the home screen and configured. See the HyPerforma S.U.M. with Touchscreen Console User’s Guide for more information about adding and configuring modules.
- Page navigation:** The home screen can have up to three pages, which are visible at the bottom of the screen as three dots. The dot for the active page will be white while the others are grayed out. The next available page can be accessed by swiping right-to-left across the home screen. The number of pages depends upon the number of modules the user has configured.
- S.U.M. size, date, and time:** Displays the size of the S.U.M. currently in use, and the current date and time.

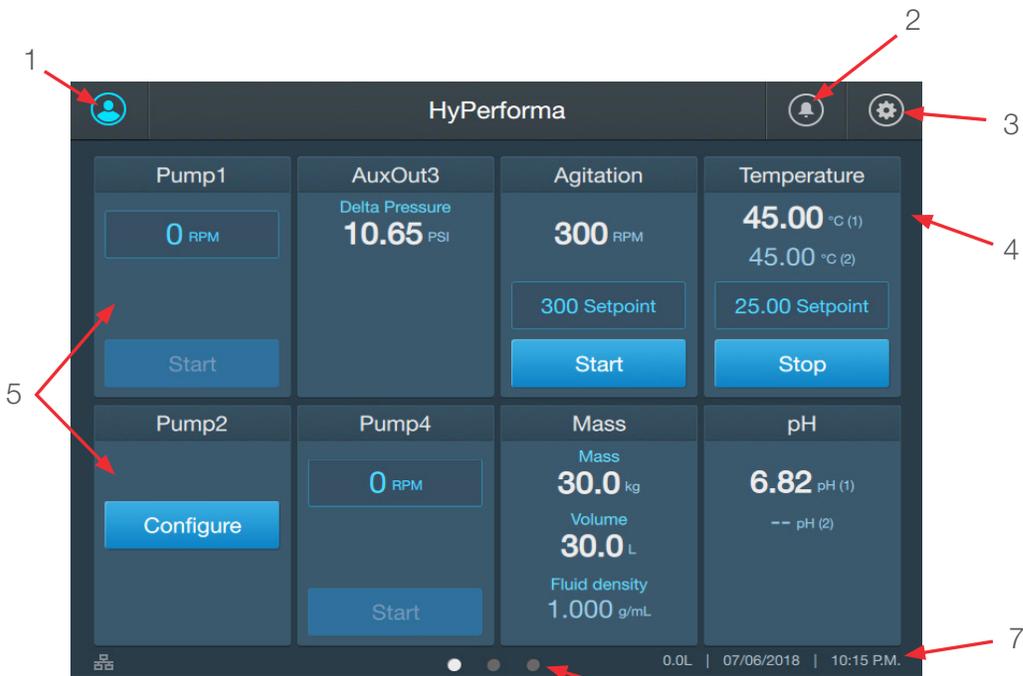


Figure 10. Sample Touchscreen Console home screen

Setting TCU parameters

The flowcharts shown in Figures 11–13 illustrate the order in which TCU parameters should be set, varying by TCU manufacturer and model. Teal-colored boxes represent items from the Settings menu, and gray-colored boxes represent the required parameter inputs.

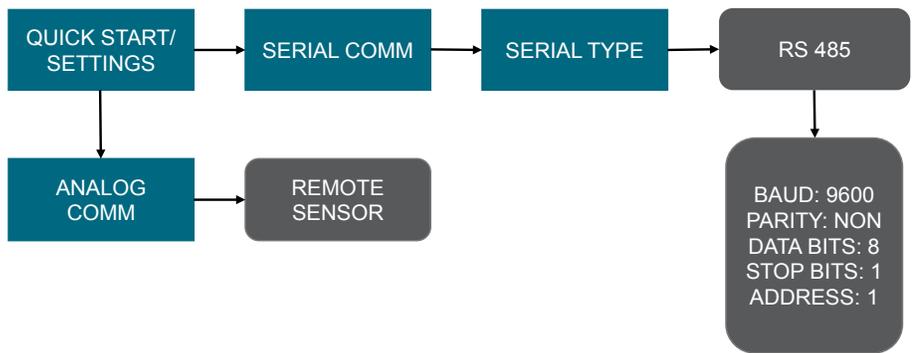


Figure 11. Setup parameters for Neslab TF series TCU

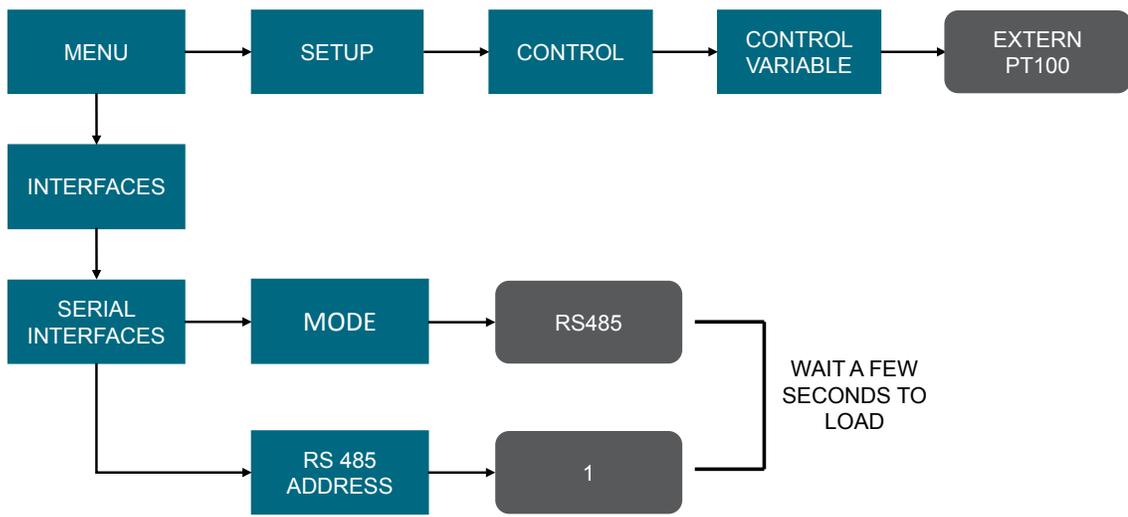


Figure 12. Setup parameters for Lauda Varicool series TCU

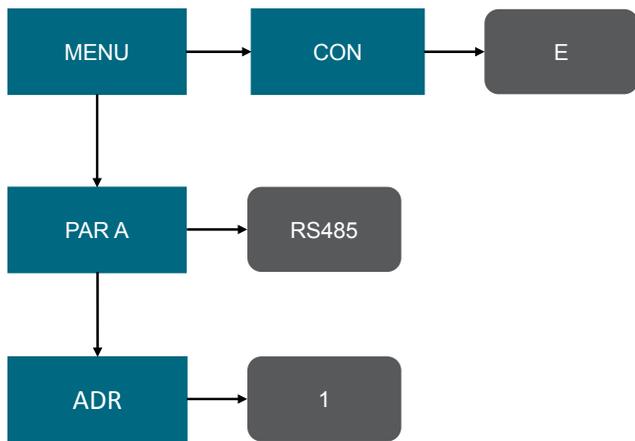


Figure 13. Setup parameters for Lauda Integral T series TCU

TCU calibration procedures

The flowcharts shown in Figures 14–16 illustrate the TCU calibration procedures, varying by TCU manufacturer and model. Teal-colored boxes represent items from the Settings menu, and gray-colored boxes represent the required parameter inputs.

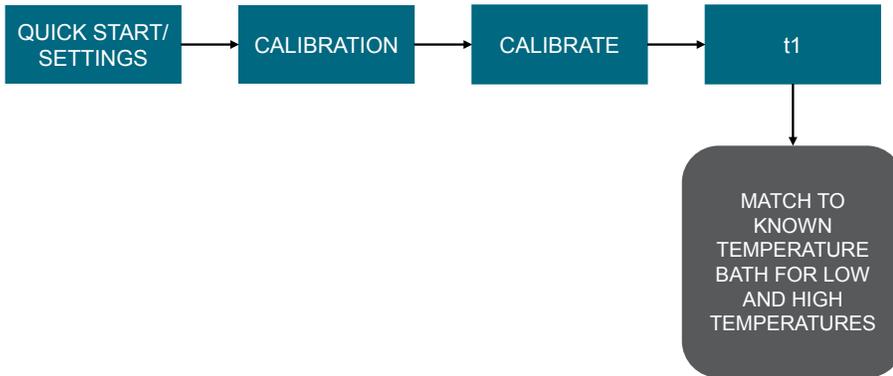


Figure 14. TCU calibration procedures for Neslab TF series

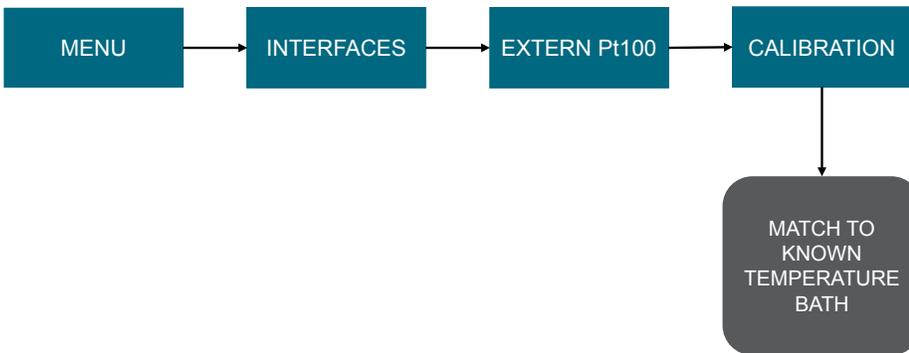


Figure 15. TCU calibration procedures for Lauda Varicool series TCU

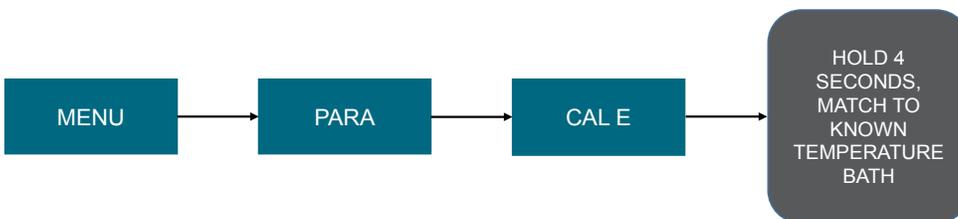


Figure 16. TCU calibration procedures for Lauda Integral T series TCU

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