



Test Meter Instructions



The test meter is a tool to help you quickly troubleshoot a variety of equipment issues with your swim timing system. You can use it to test touchpads, pushbuttons, cable harnesses, deck plates, under-block connection hubs and your timing console's scoreboard output.

Touchpad Test

This test is used to make sure the touchpads are working properly.

- 1) Plug the dual banana plug from the touchpad into the top of the test meter.
- 2) Press the power button (located between the two banana prongs) on the bottom of the test meter.
 - When the touchpad is not being pressed, only the red power light should illuminate. None of the red bar graph lights should come on; if they do, you have a shorted touchpad (a touchpad that always sends a signal). Contact CTS customer support.
 - When a fingertip is pressed against the surface of the touchpad, the entire red bar graph should illuminate; if it does not, you have an open touchpad (a touchpad that will not send a signal). Contact CTS customer support.



There are other, more sophisticated tests you can perform on your touchpads with the test meter. Many touchpad conditions can be corrected with a touchpad needle and a vacuum pump (CTS part number VP-1). See the troubleshooting section of the touchpad manual for more information.

Pushbutton Test



The pushbutton test is used to make sure the pushbuttons are operating properly.

- 1) Plug the dual banana plug from the pushbutton into the top of the test meter.
- 2) Press the power button (located between the two banana prongs) on the bottom of the test meter.
 - When the pushbutton is not being pressed, only the red power light should illuminate. None of the red bar graph lights should come on.
- When the pushbutton is pressed, the entire red bar graph should illuminate.
- 3) If the pushbutton does not cause these readings in the meter, the pushbutton is faulty and should be replaced.

Cable Harness Test

The cable harness test is used to determine the amount of voltage reaching a touchpad, pushbutton or RJP through the cable harness.

1. Connect the cable harness to the timer and turn on the timer.
2. Insert the test meter prongs into the receptacle labeled “PRIME” on the cable harness pod. When the test meter is plugged all the way into the cable harness, the cable harness depresses the power switch on the test meter, and the test meter’s red power light will illuminate.
 - The red bar graph lights should illuminate in the 4.5 to 5 volt range.
 - A reading lower than 4.5 indicates a problem in the timer or cable harness, or a dirty connector. If you get a low reading, clean the cable harness connector as described in the Cleaning Deck Plates and Cable Harnesses Maintenance Sheet, and retest. If it continues to test low, contact CTS customer support.
3. Unplug the test meter and insert into the receptacle labeled “BUTTON” on the cable harness pod. Follow the same procedure as above to test.
4. Repeat these steps for each lane pod on the cable harness.



Deck Plate Test

The deck plate test is used to determine the amount of voltage reaching a touchpad, pushbutton or RJP through the deck plate or under-block connection hub.

1. Connect the timer to the wall plate and turn on the timer.
2. Insert the test meter prongs into the “TOUCHPAD” receptacle on the deck plate. When the test meter is plugged all the way into the deck plate, the power switch on the test meter is depressed, and the test meter’s red power light will illuminate.
 - The red bar graph lights should illuminate in the 4.5 to 5 volt range.
 - A reading lower than 4.5 indicates a problem in the timer or deck plate, or a dirty connector. If you get a low reading, clean the deck plate connector as described in the Cleaning Deck Plates and Cable Harnesses Maintenance Sheet, and retest. If it continues to test low, contact CTS customer support.
3. Unplug the test meter and insert into the “BUTTON A (RJP)” receptacle on the deck plate. Follow the same procedure as above to test.
4. Repeat these steps for the BUTTON B and BUTTON C receptacles.
5. Repeat for each deck plate or connection hub.

Timing Console Scoreboard Output

The timing console test is used to make sure the timing console has a scoreboard output.

1. Unplug the scoreboard data cable from the data jack on the scoreboard, and plug it into the quarter-inch phono jack on the side of the test meter.
2. Set up the timing console to show running time of the scoreboard.
 - The scoreboard data light on the test meter should illuminate bright yellow.
 - If the scoreboard data light is solid red, solid green, or not illuminated at all, the timer is not sending data to the scoreboard. Ensure that the scoreboard data cable is firmly plugged into the test meter. Ensure that the scoreboard cable is firmly plugged into the timer, and that your timer is sending running time to the scoreboard. Check the meter again. If the scoreboard data light on the test meter still does not illuminate bright yellow, contact CTS customer support.

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F696 Rev.0205