

TEEMSS CCProbe Probe Kit Testing

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The following steps should be followed to test a TEEMSS CCProbe Probe Kit.

Contents of a TEEMSS CCProbe Probe Kit

A ProbeKit consists of an interface, probes, and a Palm IIIc cable for the interface:

Figure 1. TEEMSS CCProbe Probe Kit



1. interface (including 2 AA batteries)

2. force probe
3. force probe card
4. 1 meter cable
5. force probe body
6. smartwheel
7. smartwheel probe card
8. 1 meter cable
9. smartwheel body
10. fast response temperature probe
11. current and voltage probe
12. light probe
13. lightprobe probe card
14. 1 meter cable
15. light probe sensor card
16. Palm-to-interface cable
17. re-usable shipping and storage box
18. one piece of 1.5" x 2" hook and loop velcro with sticky back

Simple Probe Go/No-Go Testing.

Install the 2 AA batteries.

Test the probes by connecting them to CCProbe running on a Palm connected to the interface. Open the "CCProbe/Data Collectors" folder.

1. Force Probe
 1. Open the "Force - 20" Data Collector
 2. Zero the force probe using the Tools menu option "Zero Force Probe"
 3. Start the data collector again.
 4. Hang a 1kg weight, force probe response should be 9.8N
2. Temperature Probe
 1. make a beaker of water at room temperature

2. Measure the temperature of the water
 3. Open the "Temperature" Data Collector
 4. Within 5 seconds probe response should be with 1 deg C
 5. Take temp probe out of water and heat with fingers, temperature should rise.
3. Light Probe
1. Open the "Light - 4000 Lux" Data Collector
 2. Open menu Edit:Probe Properties..
 3. Set range to dim light and click "OK"
 4. Start collecting data.
 5. place probe 1 foot from 60 watt incandescent bulb
 6. Values should be 3000 Lux, +/- 500
 7. stop collecting data, clear the data
 8. Open menu Edit:Probe Properties..
 9. Set range to bright light and click "OK"
 10. Start collecting data.
 11. place probe 1 foot from 60 watt incandescent bulb
 12. Values should be 3000 Lux, +/- 500
4. Voltage/Current Probe
1. Test Voltage Measurement
 1. Open the "VoltageCurrent - Voltage" Data Collector
 2. Open menu Edit:Probe Properties..
 3. Set Speed to "3 per second"
 4. Set Version to "2.0"
 5. Click "OK"
 6. Connect the red and black wires together
 7. Measure the voltage, response should be 0 volts, +/- ??
 8. Connect red wire to + terminal of 9V battery
 9. Connect black wire to - terminal of 9V battery

10. Response should be 9 volts, +/-??
2. Test Current Measurement
 1. Measure the current, response should be 0 Amps, +/- ??
 2. Connect (-) terminal of 9V battery to yellow clip
 3. Connect (+) terminal of 9V battery to one lead of 10 Ohm heat cell
 4. Connect the other lead of 10 Ohm heat cell to green clip
 5. Response should be 0.5 Amps, +/- ??
5. SmartWheel
 1. Open the "SmartWheel - Velocity" Data Collector
 2. Connect the SmartWheel
 3. Start the data collector.
 4. spin the smartwheel clockwise as fast as you can with a quick flip of the wrist
 5. you should see a spike to aprox 4m/s and a relatively quick ramp down to 0
 6. spin the smartwheel counter-clockwise as fast as you can with a quick flip of the wrist
 7. you should see a spike to aprox -4m/s and a relatively quick ramp down to 0
 8. there should be no noise spikes in the data larger than 0.1 m/s