



HotDog™ Patient Warming System

Tester for HotDog Controllers, A115

Instructions for Use

Section A: Functional Testing Method for WC-0x and V00x HotDog Controllers

THIS SECTION REFERS ONLY TO TESTING OF SINGLE PORT CONTROLLERS (REF WC0x and V00x). SEE SECTION B BELOW FOR TESTING OF MULTIFUNCTION CONTROLLERS (REF WC5x)

CAUTION: USE ONLY THE YELLOW CABLE ON THE TESTER WHEN TESTING WC0x and V00x Controllers. Never connect the tester to more than one controller at a time.

Use the Tester for Hot Dog Controller (REF A115) to perform functional testing of the WCxx or V00x Hot Dog Patient Warming Controller. Test steps must be performed in the order indicated. The Test Fixture simulates a Warming Blanket that is operating at 43°C. If a failure is observed during any of these steps, call customer service.

Function(s) Tested	Step	Test Action	WC01, WC02, V004 and V006 Controller Response
Power On Self-Test	1.0	Turn the Controller “ON” using the switch on the back.	<i>The Mains Power ON indicator will illuminate and all the indicator lights will turn on and off once in sequence. An audible tone will indicate that the Controller has passed the power-on self-test.</i>
	1.1	Connect the yellow cable on the A115 tester to the blanket port on the controller.	<i>An audible tone will indicate that the Controller is ready for operation.</i>
Temperature selection and temperature display	2.0	Press the Temperature Adjust button on the Controller to select 43°C.	<i>The 43°C and the Temperature in Range indicators on the Controller will illuminate. The “Heater On” indicator on the A115 Tester may flash intermittently, which is normal.</i>
Heater Power	3.0	Press and hold the “Low” button (6) on the A115 Tester to simulate a cold warming blanket.	<i>The Temperature in Range indicator on the Controller will turn off. The “Heater On” indicator on the A115 Tester will illuminate to indicate that power is being applied to the tester.</i>
	3.1	Release the “Low” button (6).	<i>The Temperature in Range indicator on the Controller will illuminate and the “Heater On” indicator on the A115 Tester will turn off.</i>
Primary over temperature alarm – software based	4.0	Press and hold the “High” button (5) on the A115 Tester to trigger the primary over-temperature alarm.	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i>
	4.1	Release the button. (5).	<i>The Alarm on the Controller will turn off, and the Controller will return to “in range”.</i>
Sensor 1 or Cable Failure – Short Circuit	5.0	Press and hold the “Primary Sensor Short” button (1) on the A115 Tester to simulate a shorted primary sensor.	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound..</i>

Function(s) Tested	Step	Test Action	WC01, WC02, V004 and V006 Controller Response
	5.1	Release the button (1).	<i>The Alarm on the Controller will turn off, and the Controller will return to “in range”</i>
Sensor 1 or Cable Failure – Open Circuit	6.0	Press and hold the “Primary Sensor Open” button (2) on the A115 Tester to simulate an open primary sensor	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i>
	6.1	Release the button (2).	<i>The alarm remains ON</i>
	6.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged)	<i>Single tone indicates tester is recognized and ready for next test.</i>
Sensor 2 or Cable Failure – Short Circuit Hardware Overtemperature Circuit	7.0	Press and hold the “Secondary Sensor Short” button (3) on the A115 Tester to simulate a shorted secondary sensor.	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i>
	7.1	Release the button (3).	<i>The alarm remains ON.</i>
	7.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged)	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>
Sensor 2 or Cable Failure – Open Circuit	8.0	Press and hold the “Secondary Sensor Open” button (4) on the A115 Tester to simulate an open secondary sensor...	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i>
	8.1	Release the button (4)	<i>The alarm remains ON.</i>
	8.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged)	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>
Fold Detection Circuit	9.0	Press and hold the “Fold Detect” button (7) on the A115 Tester.	<i>The “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i> If the Controller does not alarm, the software in the Controller is at version 1.08 or lower. The software should be updated to work with blankets that have fold detection.
	9.1	Release the button (7)	<i>The alarm remains ON.</i>
	9.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged)	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>

Function(s) Tested	Step	Test Action	WC01, WC02, V004 and V006 Controller Response
10-minute time to temperature alarm (Test Optional)	10.0	Press the Temperature Adjust button on the Controller to select 43°C.	<i>The 43°C and the Temperature in Range indicators on the Controller will illuminate.</i>
	10.1	Hold the “Low” Button (6) for approximately 10 minutes to simulate a blanket or mattress that is failing to reach the set temperature.	<i>After 10 minutes, the “A” alarm indicator on the Controller will illuminate and an audible alarm will sound.</i>
	10.2	Release the button (6).	<i>The alarm remains ON.</i>
	10.3	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>
6 hour auto shut off (Test optional)	11.0	Press the Temperature Adjust button on the Controller to select 43°C.	<i>The 43°C and the Temperature in Range indicators on the Controller will illuminate. The “Heater On” indicator on the A115 Tester may flash intermittently. This is normal.</i>
	11.1	Leave the tester connected for more than 6 hours.	<i>After approximately 6 hours, the Controller will emit three short tones, the “A” Alarm Indicator will flash and “Heater On” indicator on the A115 Tester will turn off.</i>
	11.2	To reset the Controller, press the Temperature Adjust button on the Controller.	<i>The 43°C and the Temperature In-Range indicators will illuminate on the Controller.</i>

Section B: Functional Testing Method for WC51 and WC52 Hot Dog Multifunction Controllers

IMPORTANT: THIS SECTION REFERS ONLY TO TESTING OF MULTI FUNCTION CONTROLLERS (REF WC5x). SEE SECTION A ABOVE FOR TESTING OF SINGLE PORT CONTROLLERS (REF WC0x and V00x)

CAUTION: Never connect the A115 Tester to two ports at the same time. Never connect the tester to more than one controller at a time.


Use the Tester for Hot Dog Controller (REF A115) to perform functional testing of the WC51 and WC52 Hot Dog Multifunction Controllers. The steps of the testing are outlined below. Test steps must be performed in the order indicated. The A115 Tester simulates a warming blanket that is operating at 43°C or a warming mattress operating at 38°C. If a failure is observed during any of these steps, call customer service for assistance.

Function(s) Tested	Step	Test Action	WC 5x Controller Response Software Version 1.06 or lower	WC5x Controller Response Software Version 1.07 or higher
Power On Self-Test	1.0	Turn the WC5x Controller “ON” using the switch on the back.	<i>The Mains Power ON indicator will illuminate and the Controller will perform its normal startup. Displays will illuminate one at a time. Software version will display. An audible tone will indicate that the Controller is ready for operation.</i>	
	1.1	Connect A115 test to port being tested. Use yellow cable for ports A, B (Blankets) and blue cable for ports C (Mattresses)	<i>The display for the port being tested will display two dashes. (“—”). Single tone indicates tester is recognized and controller is ready for operation.</i>	
Temperature selection and temperature display	2.0	Press the Temperature Adjust button under the temperature display on the Controller to select test temperature: 43°C for Ports A, B 38°C for Port C	<i>The display will show 43°C (38°C for Port C). Fan Speed changes. The “Heater On” indicator on the A115 Tester may flash intermittently, which is normal.</i>	
Heater Power	3.0	Press and hold the “Low” button (6) on the A115 Tester to simulate a cold warming blanket	<i>The temperature display will flash 43°C (38C for Port C). The “Heater On” indicator on the A115 Tester will illuminate to indicate that power is being applied to the tester.</i>	
	3.1	Release the “Low” button (6)	<i>The temperature display will stop flashing and the Heater On indicator on the A115 Tester will turn off</i>	
Primary over temperature alarm – software based	4.0	Press and hold the “High” button (5) on the A115 Tester to trigger the primary over-temperature alarm	<i>The alarm indicator will illuminate, the “E1” alarm will display and a continuous audible alarm will sound</i>	<i>The temperature display will flash. After about 10 seconds, the alarm indicator will blink, the “E1” alarm will display and an intermittent audible alarm will sound.</i>

Function(s) Tested	Step	Test Action	WC 5x Controller Response Software Version 1.06 or lower	WC5x Controller Response Software Version 1.07 or higher
	4.1	Release the button. (5).	<i>The alarm on the Controller will turn off. The display will show 43°C (38°C for Port C).</i>	
Sensor 1 or cable Failure – Short Circuit	5.0	Press and hold the “Primary Sensor Short” button (1) on the A115 Tester to simulate a shorted primary sensor.	<i>The alarm indicator will illuminate, the “E1” alarm will display and a continuous audible alarm will sound.</i>	<i>The temperature display will flash. After about 10 seconds, the alarm indicator will blink, the “E4” alarm will display and an intermittent audible alarm will sound.</i>
	5.1	Release the button (1).	<i>The alarm turns OFF.</i>	<i>The alarm remains ON.</i>
	5.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged)/	<i>Single tone indicates tester is recognized and ready for next test.</i>	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>
Sensor 1 or Cable Failure – Open Circuit	6.0	Press and hold the “Primary Sensor Open” button (2) on the A115 Tester to simulate a shorted primary sensor.	<i>The alarm indicator will illuminate, the “E4” alarm will display and a continuous audible alarm will sound.</i>	<i>After about 10 seconds, the alarm indicator will blink, the “E4” alarm will display and an intermittent audible alarm will sound.</i>
	6.1	Release the button (2).	<i>The alarm remains ON.</i>	
	6.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>Single tone indicates tester is recognized and ready for next test.</i>	
Sensor 2 or Cable Failure – Short Circuit Hardware Overtemperature Circuit	7.0	Press and hold the “Secondary Sensor Short” button (3) on the A115 Tester to simulate a shorted secondary sensor.	<i>The alarm indicator will illuminate, the “E1” alarm will display and a continuous audible alarm will sound</i>	<i>The alarm indicator will illuminate, the “E8” alarm will display and a continuous audible alarm will sound</i>
	7.1	Release the button (3).	<i>The alarm remains ON.</i>	
	7.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>	

Function(s) Tested	Step	Test Action	WC 5x Controller Response Software Version 1.06 or lower	WC5x Controller Response Software Version 1.07 or higher
Sensor 2 or Cable Failure – Open Circuit	8.0	Press and hold the “Secondary Sensor Open” button (4) on the A115 Tester to simulate an open secondary sensor...	<i>The alarm indicator will illuminate, the “E4” alarm will display and a continuous audible alarm will sound.</i>	<i>The alarm indicator will blink, the “E4” alarm will display and an intermittent audible alarm will sound.</i>
	8.1	Release the button (4).	<i>The alarm remains ON.</i>	
	8.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>	
Fold detection circuit	9.0	Press and hold the “Fold Detect” button (7) on the A115 Tester.	<i>The alarm indicator will illuminate, the “E5” alarm will display and a continuous audible alarm will sound.</i>	<i>The alarm indicator will blink, the “E5” alarm will display and an intermittent audible alarm will sound.</i>
	9.1	Release the button (7)	<i>The alarm remains ON.</i>	
	9.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>	
10-minute time to temperature alarm (Test Optional)	10.0	To test the 10-minute time-out timer, press and hold the “Low” Button (6) for approximately 10 minutes to simulate a blanket or mattress that is failing to reach the set temperature.	<i>After 10 minutes, the alarm indicator will illuminate, the “E2” alarm will display and a continuous audible alarm will sound.</i>	<i>After 10 minutes, the alarm indicator will blink, the “E2” alarm will display and an intermittent audible alarm will sound.</i>
	10.1	Release the button (6).	<i>The alarm remains ON.</i>	
	10.2	Press button 2 and 4 simultaneously to clear the alarm (simulates blanket or mattresses being unplugged).	<i>The alarm turns OFF. Single tone indicates tester is recognized and ready for next test.</i>	
6 hour auto shut off (Test optional)	11.0	Press the temperature adjust button under the temperature display on the Controller to select test temperature: 43°C for Ports A, B 38°C for Port C	<i>The display will show 43°C (38°C for Port C). The “Heater On” indicator on the A115 Tester may flash intermittently. This is normal.</i>	

Function(s) Tested	Step	Test Action	WC 5x Controller Response Software Version 1.06 or lower	WC5x Controller Response Software Version 1.07 or higher
	11.1	Leave the tester connected for more than 6 hours.	<i>After approximately 6 hours, the Controller will emit 3 short tones, the display will flash two bars "--", the alarm indicator will flash rapidly and the "Heater On" indicator on the A115 Tester will turn off.</i>	
	11.2	To reset the Controller, press the Temperature Adjust button on the Controller.	<i>The display will show 43C (38C for Port C)</i>	

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