



Set-up Guide: INCU II Incubator/Radiant Warmer Analyzer



Thank you for purchasing the Fluke Biomedical **INCU II Incubator and Radiant Warmer Analyzer!** The INCU II is an all-in-one, portable, and easy-to-use analyzer that complies with IEC 60601-19 (Infant Incubator), 2-20 (Transport Incubator), and 2-21 (Radiant Warmer) standards on the market today.

It's just 3 pounds, including the sensors for testing incubators. The pucks for testing radiant warmers come in their own case, and weigh less than 9 pounds to comply with standards.

The INCU II can simultaneously measure relative humidity, airflow, sound, and temperature at 6 points, using 5 independently movable sensors and one k-type thermocouple.



To begin, plug in the probes for the parameters you want to test. This can be done either before or after the device is placed in an incubator/radiant warmer, but is easier if it is done beforehand.

The INCU II's color-coded temperature probes match the respective ports. Once plugged in, the temperature probes fit into the removable tripods, which are then unfolded and placed around the mattress.



The sound, air flow, and humidity probes plug in the back.



The placement pad is laid in the incubator/radiant warmer and helps ensure the placement of the probes for more accurate measurements. You can use this as a guide to find the center of the mattress and the center of each quadrant—but remember that these points will differ slightly for different mattress sizes.



Once the device has been set up and placed in an incubator (shown) or radiant warmer, remove and setup the temperature tripods and sensors. T1-T4 should be in the center of each quadrant of the mattress using the removable tripods, and T5 goes in the middle. There is a colored grid below the device that helps show the proper placement. The sound, humidity, and airflow probes fit into the remaining three slots in the center of the device.



The INCU II has a large LCD screen, on which you will be able to see real-time data and test results. When you first turn on the INCU II, it will do a self-check. When it's ready to test, the main menu will appear.



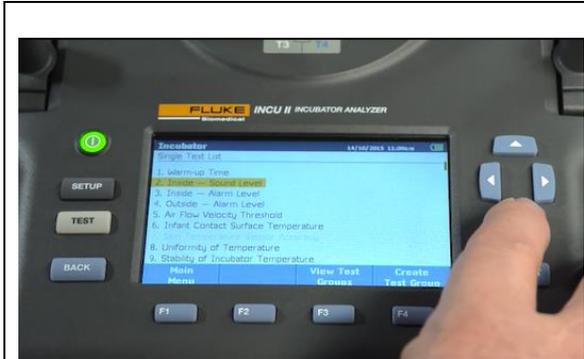
To navigate around on the device, use the navigational arrow keys to highlight a field/test option, and the "SELECT" button to select it. Keys F1-F4 are used to select options on the bottom of the screen. The "BACK" button takes you back to the previous screen. The "TEST" button starts the test. The "SETUP" button (shown to the left) allows you to change your measurement units, sampling interval, and enter or view device details and information.



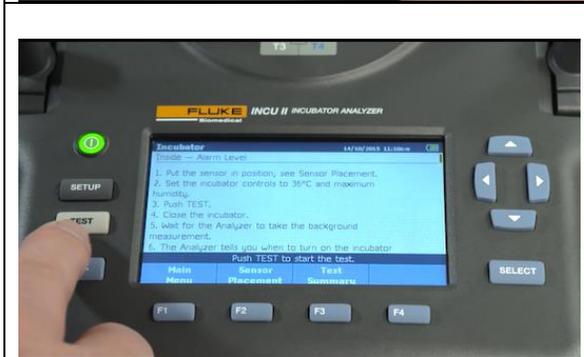
This is the main menu, showing: Select a Test Environment, General Test or View Saved Data.

You have two ways of performing a test: (1): from the test lists determined by the IEC standards (Choose a Test Environment), or (2) to perform general testing (General Test) in which data is logged in real-time for all parameters you choose, for a length of time you determine.

So for example, if you're going to run an incubator test according to the IEC 60601-2-19 standard for incubators, you would highlight "incubator" from the test environment option using the navigational arrow keys, and then press Select.



A list of tests for that standard will appear. Choose the IEC standard you want to test against.



Follow the on-screen directions, and be sure to scroll all the way to the bottom. If you are unsure about what the test is and what criteria it measures, you press “Test Summary”. To view the proper placement of the probes for that particular test, press “Sensor Placement”. When you’re ready to begin the test, press “test.”

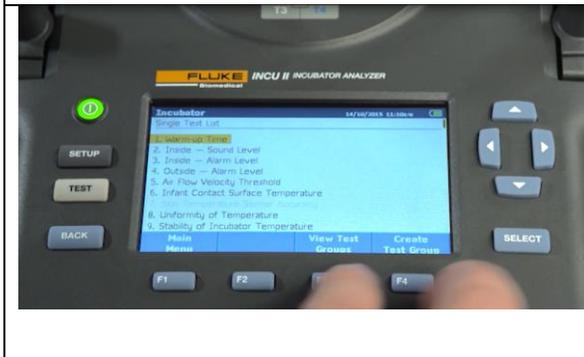


The INCU II will display test data in real-time on the screen—for both the standard tests and the general testing option. If you’re using a standard test, a pass/fail indicator will be displayed at the end of a test.

After running a test, be sure to save the results. The results will save to the device and its onboard memory. It can then be uploaded to your computer wirelessly (if available in your country) or via a USB cable.



Once uploaded, an Excel add-in allows you to see raw data, tabular data, and graphics for each parameter that was measured.



From the standard tests, you can create your own testing group. Using a test group, the INCU II will automatically run through the tests in the group.

NOTE: Some tests require your interaction on both the device and the DUT. Be sure you are familiar with what each test requires before you enter it in a test group. Creating your own test group allows you to make testing procedures that are unique to your facility, which can further increase efficiency and tailor testing to your facility’s protocols.



To test radiant warmers, simply replace the temperature probes with the radiant pucks, position them around the warmer according to the standard. Select the appropriate test and testing environment, or use the General Testing feature.

Questions? Refer to the INCU II Getting Started Guide or User's Manual. There are also educational videos and How to Use presentation on the Advantage Training site, located at www.flukebiomedical.com.