

# INCU™

## Incubator Analyzer

### Technical Data



Faulty incubator controls jeopardize the health of critical-care babies, lengthen hospital stays, and increase healthcare costs, making thorough incubator testing essential.

The INCU™ Incubator Analyzer is the only device on the market today that accurately measures seven key parameters at once in a single, integrated unit, saving time and ensuring more accurate results.

Designed around AAMI and IEC standards that specify incubator and radiant warmer sound levels and thermal characteristics, the INCU simultaneously measures airflow, relative humidity, sound, and four independent temperatures. Adjustable measurement intervals allow technicians to configure the unit to meet their facilities' testing requirements. Technicians are free to do other work while the device collects and records data.

The INCU is compatible with both closed, forced-convection incubators, and open infant warmers, including transportable, air-controlled, and baby-controlled units. Lightweight and portable, the INCU fits inside the incubator and operates as a stand-alone device or with a personal computer for automated testing. In stand-alone mode, the INCU displays measured parameters repeatedly in cycle fashion.

INCU software lets technicians upload setup parameters and download the test results to a PC file, or print the data in reports with full-color charts and graphs.

### Key features

- Simultaneous measurement of humidity, airflow, sound, and 4 independent temperatures
- 24-hour continuous testing (battery); 35-hour continuous testing (main power)
- Battery operated
- Adjustable measurement intervals
- Compatible with closed, forced-convection incubators and open infant warmers
- Stand-alone measurement or automated testing with PC
- Windows® compatible INCU software for easy data collection, analysis, and documentation
- Numerical and full-color graphical reports

## Technical specifications

### Power supply

**Maximum over-voltage**  
264 V ac

**Input voltage range**  
100 V ac to 240 V ac

**Input frequency range**  
47 Hz to 63 Hz

**Power consumption**  
< 60 V A

**Fuse rating**  
2 A slow blow

**Battery**  
Rechargeable sealed lead-acid type NP7-6 YUASA, 6 V, 7 Ah; operates for 24 hours continuously; low-battery alert

**Charger**  
600 mA minimum, 8 V ac/dc (charger must be agency-approved, depending on the country)

**Dimensions (WxHxD)**  
151 mm x 34 mm x 101 mm

### Sound level

**Measuring range**  
30 dbA to 80 dbA

**Resolution**  
0.1 dbA

**Accuracy**  
+ 5 dbA @ 30 dbA to 80 dbA

**Relative humidity** (without condensation)

**Measuring range**  
0 % to 100 % RH, non-condensing

**Resolution**  
0.1 % RH

**Accuracy**  
 $\pm 5\%$  RH for 0 % to 90 % RH at 25 °C to 40 °C (77 °F to 104 °F) or  $\pm 5.3\%$  RH for 0 % to 100 % RH at 25 °C to 40 °C (77 °F to 104 °F)

## Temperature measurement

**Measuring range**  
5 °C to 70 °C (41 °F to 158 °F)

**Resolution**  
0.1 °C (32 °F)

**Accuracy**  
+ 0.5 °C (+ 0.9 °F) + 1 LSB of range from 25 °C to 40 °C (77 °F to 104 °F)

**Conduction**  
One sensor in contact with mattress

**Convection**  
**Inside the incubator**  
Three sensors (T1, T3, T4)  
**Inside or outside the incubator**  
One sensor (T2)

**Radiation**  
One sensor for radiation head that can be used also for external temperature

### Airflow

**Measurement range**  
0.1 m/s to 0.7 m/s

**Resolution**  
0.01 m/s

**Accuracy**  
From 0.1 m/s to 0.5 m/s reading  $\pm 0.1$  m/s at temperature 25 °C to 40 °C (77 °F to 104 °F) and humidity 50 % RH  $\pm 15\%$  RH

### Measurement interval

**Via PC**  
Adjustable from one minute to ten minutes

### Internal memory

**Capacity**  
1470 measurements (210 records of seven parameters)

### Controls

**Display (HxW)**  
2 in x 16 in super twist LCD

**Temperature****Storage**

-20 °C to 50 °C (-4 °F to 122 °F)

**Operating**

10 °C to 40 °C (50 °F to 104 °F)

**Dimensions (LxWxH)**

27 cm x 20 cm x 14 cm  
(10.6 in x 7.8 in x 5.5 in)

**Weight**

3 kg (6.6 lb)

**INCUBATOR ANALYZER**

- Pentium 133 MHz microprocessor
- 16 MB free hard disk space
- SVGA color monitor
- Serial port or USB port (may require serial to USB adapter, ICON USB 2.0 to RS-232 cable recommended (sourced separately))
- Mouse compatible with Microsoft® operating system
- 1 CD ROM disk drive
- Microsoft Windows 95B, Windows 98, Windows NT® 4.0, or Windows 2000
- Laser or inkjet printer



## Ordering information

### Model

**2250148** INCU™ Incubator Analyzer

### Standard accessories

**2206965** User Manual

**2248900** Soft-Sided Carrying Case

**2239025** Airflow Sensor

**2391761** Universal AC Battery Charger with worldwide mains adapter set

**2391866** Serial Cable DB9F to DB9F

**2391789** Serial Adapter DB9M to DB25F

**2213928** Outside-Temperature Probe Holder

**2239002** Adapter for Radiant Infant Warmer Assembly

**2213919** INCU PC Software (1 CD)

### About Fluke Biomedical

Fluke Biomedical is the world's leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today's challenges.

### Fluke Biomedical Regulatory Commitment

As a medical test device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:

- NIST Traceable and Calibrated
- UL, CSA, ETL Certified, where required
- NRC Compliant, where required

### Fluke Biomedical.

*Better products. More choices. One company.*

#### Fluke Biomedical

6045 Cochran Road  
Cleveland, OH 44139-3303 U.S.A.

#### Fluke Biomedical Europe

Science Park Eindhoven 5110,  
5692EC Son, The Netherlands

#### For more information, contact us:

In the U.S.A. (800) 850-4608 or  
Fax (440) 349-2307  
In Europe/M-East/Africa +31 40 267 5200 or  
Fax +31 40 267 5436  
From other countries +1 (440) 248-9300 or  
Fax +1 (440) 349-2307  
Email: [sales@flukebiomedical.com](mailto:sales@flukebiomedical.com)  
Web access: [www.flukebiomedical.com](http://www.flukebiomedical.com)

©2006-2013 Fluke Biomedical. Specifications subject to change without notice. All OEM company trademarks are implied. Printed in U.S.A.  
12/2013 2817933C\_EN