Labnet Accublock™ Digital Dry Bath

Instruction Manual

Catalog Numbers:

D1301, D1301-230V
D1302, D1302-230V
D1304, D1304-230V

This manual is available in additional languages at **www.labnetlink.com**.

Table of Contents

1.0 Introduction

Labnet single, dual, and quad Accublock™ Digital Dry Bath Incubators provide comprehensive designs for a wide variety of life science research applications. Excellent temperature control figures can deliver accurate and reliable experimental results from one experiment to another.

2.0 Safety Information

Before using the AccuBlock Digital Dry Bath for the first time, please read this entire manual carefully. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

2.1 Symbols and Conventions

The following chart is an illustrated glossary of the symbols that may be used in this manual or on the product.

The electrical warning indicates the presence of a potential hazard which could result in electrical shock.

ATTENTION: Hot Surface

Indicates disposal instruction.

DO NOT throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. To ensure utmost protection of the global environment and minimize pollution, please recycle this unit.

2.2 Operation Safety Precautions

To guarantee problem free, safe operation, it is essential to observe the following points.

- Do not use this product in an explosive environment.
- Do not use in the presence of flammable or combustible material.
- Do not heat substances that react violently when heated.
- Do not touch block when hot or when unit is heating. Use block lifter.
- Do not spill liquids into the well area or into the unit side vent holes.
- Connect unit only to a properly grounded outlet.

WARNING Do not touch area around block or block well when unit is hot. This can result in bodily injury, including burns.

WARNING Modification of this product or use of the product in any manner not specified by this instruction manual may cause injury and/or may void the warranty.

3.0 Specifications

Temperature Range	Ambient +5°C to 150°C
Temperature Display	4-digit LED, accurate to 0.1°C
Temperature Uniformity	± 0.2°C (at 37°C in block)
Temperature Accuracy	± 0.3°C
Temperature Control	User calibratable microprocessor
Timer	1 minute to 99 hours 59 minutes, or continuous in 1-minute increments
Operating Altitude	Up to 2,000 meters
Dimensions (W x D x H)	
Single block	8.3 x 12.4 x 4.7 in. (21 x 31.5 x 12 cm)
Dual block	8.3 x 12.4 x 4.7 in. (21 x 31.5 x 12 cm)
Four block	8.3 x 16.3 x 4.7 in. (21 x 41.5 x 12 cm)
Weight	
Single block	7.0 lbs. (3.2 kg)
Dual block	7.0 lbs. (3.2 kg)
Four block	9.6 lbs. (4.4 kg)

3.1 Electrical requirements

Model	Cat. No.	Electrical requirements	Current, Fuse
Single block	D1301	115V, 50/60Hz	1 A, Fuse 1.6 AT
	D1301-230V	230V, 50/60Hz	0.5 A, Fuse 1AT
Dual block	D1302	115V, 50/60Hz	1.9A, Fuse 2.5AT
	D1302-230V	230V, 50/60Hz	0.95 A, Fuse 1.6AT
Four block	D1304	115V, 50/60Hz	3.73 A, Fuse 4 AT
	D1304-230V	230V, 50/60Hz	1.86 A, Fuse 2.5 AT

4.0 Package Contents

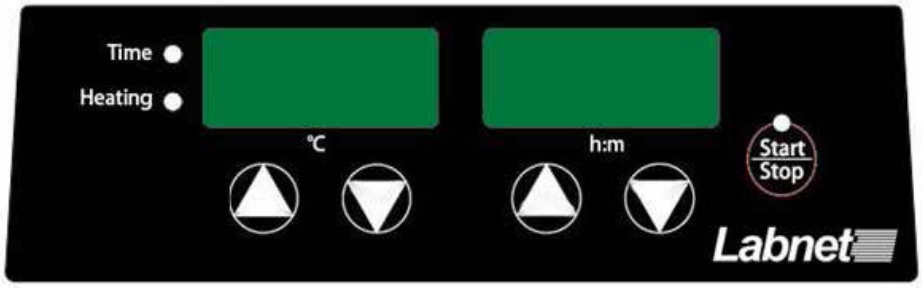
Description	Quantity
Dry Bath Unit	1 each
Data Logger Software	1 each
Line Cord	1 each
Block Lifter	1 each
Lid	1 each
USB Cable	1 each

5.0 Getting Started

5.1 Initial Operation

Select a location that is dry and not subject to drafts or moving air from heating or air conditioning vents, or air blown by other equipment. Place the unit on a flat, preferably non-flammable surface. Allow sufficient room around the unit for access and cooling. Six inches minimum on all sides is suggested. Plug the unit into a properly grounded outlet. Using the lifter, insert the block(s) into the well. The unit is now ready for use.

5.2 Controls



- **ON/OFF rocker switch** – located on back of unit. Turns primary power on and off
- **Start/Stop LED, red** – used to activate or stop the unit. Illuminates when unit is in heating mode, off in temperature set mode
- **Heating LED, red** – illuminates when unit is in heating mode and unit is actually apply heat to the block. This LED is on continuously during heat-up and cycles and off when the unit is at set temperature.
- **Time LED, green** – used to set or select time mode. This LED light indicates running Time Mode.
- **TEMP-UP arrow key** – raises set temperature when unit is in set mode.
- **TEMP-DOWN arrow key** – lowers set temperature when unit is in set mode
- **Timer-UP arrow key** – raises set time when unit is in set mode.
- **Timer-DOWN arrow key** – lowers set-time when unit is in set mode. To enter continuous mode, set the time to 00:00, hold the Timer-DOWN arrow key while pressing the
- **Start/Stop key** – unit will display "Hold"

6.0 Operation

1. Place Labnet Dry Bath Incubator on a sturdy and level surface in a safe, dry place, away from laboratory traffic.
2. Ensure that the AC power switch is OFF, then plug the three-pronged power cord into a grounded three-prong AC outlet of the appropriate voltage (115V or 220V as indicated on the rating sticker near the AC cord on the back of the unit).
3. Select suitable module block(s) or appropriate water volume and put it/them into the Labnet Dry Bath Incubator
4. Turn the AC power ON.
5. Run temperature calibration procedure when using the instrument for the first time.
6. Press ▼ or ▲ key to adjust to the desired temperature.
7. Press ▼ or ▲ key to adjust to the desired timer.
8. Press **Start/Stop** key to start heating.
9. If to reset timer is required during heating, press **Start/Stop** key to deactivate heating.
10. Press **Start/Stop** key again to stop the unit.
11. If lid is to be used, aim the shaded area on the dry bath surface with the magnet of the lid and it will be attached to the housing. In order to remove the lid, press one hand firmly on the housing with another hand pulling the lid off. To use the lid, the tube should not be exceeding 25 mm than the heating block.

7.0 Calibration

Calibration allows the unit temperature display to be adjusted or matched to the temperature of a single sample or to a calibrated thermometer making an independent temperature measure of the block.

The Digital Dry Baths are calibrated at the factory at 37, 60, 90, 120, 140°C using a standard 20 x 13 mm heating block. If you are using a block with a high heat loss rate such as a block with large holes or a platform style block, you may choose to recalibrate the unit to your specific application. Also, if you are using very loose or odd shaped vessels, the calibration function can help you match the display temperature to your actual sample temperature.

To calibrate the unit for a given block or sample, first turn the unit off using the ON/OFF switch. Then place a thermometer of known accuracy* into the block thermometer hole or a thermocouple or other sensor into your sample. Make sure there is a good fit between the thermometer and the block or good contact between any sensor and sample or sensor and block.

To calibrate the block or sample to the display, use the following procedure:

1. Press and hold the Start/Stop key then simultaneously power up the unit with the ON/OFF switch.
2. You should hear a “DU-DU-DU.” sound from the dry bath and the display will have one segment flashing on the left and will show a set temperature, and the right will show adjt.
3. Use the UP and DOWN arrow keys to set the desired temperature at which you want to calibrate the unit. Then press the Start key.
4. Allow time (up to 10 or 20 minutes) for the unit to heat up to your set temperature and to equilibrate at this emperature. The entire LED display will start flashing when equilibration is reached.
5. After the entire display has started slashing, red the thermometer (or sensormeter) and use the UP and DOWN arrow keys to adjust the display to the thermometer or sensor reading then press the Start/Stop key.
6. The unit will then begin to automatically adjust its operating temperature to your original set point with the re-calibration factor included. Allow sufficient time for the unit to reequilibrate and then again compare the thermometer or sensor reading to the calibrated display. They should closely match. If not, repeat the calibration procedure.

*Thermometers used for calibration purposes should have a written calibration certificate and be traceable back to NIST or some other certified body. General lab thermometers are often not accurate enough for calibration work.

8.0 USB Interface

The Digital Dry Baths have a USB unidirectional data port. A software and cable are available which allow a user to use a desk top or lap top computer to record and/or print a record or the temperature profile produced by the dry bath.

9.0 Troubleshooting Guide and Service

Problem Explanation	Solution
Display/LEDs do not light up	1. Check power cord and outlet 2. Check ON/OFF switch 3. Check fuse 4. Call service
Unit not heating	1. Is set point below room temperature 2. Is Start/Stop LED illuminated 3. Press Start key 4. Call service
Unit display overshoots	Normal operation. Display set point in heat-up overshoots on initial heat-up but block and sample do not overshoot. See Operation section of this manual.
Block or sample temperature not same as display temperature	1. Check is unit in heating mode 2. Check is unit sitting in draft 3. Check accuracy of thermometer 4. Is thermometer making good contact 5. Follow calibration procedure

Should you have a question about the operation of the Labnet Digital Dry Bath or if service is required, contact Customer Service. Do not send in a unit for service without first calling to obtain a repair authorization number. Should the unit require return for service, it should be properly packed to avoid damage. Any damage resulting from improper packaging shall be the responsibility of the user.

10.0 Cleaning and Maintenance

Make sure that the dry bath and block are cool and the power cord is disconnected before performing any cleaning or maintenance. Repair or maintenance should only be performed by an authorized service technician.

The dry bath may be cleaned with a moist cloth containing a mild soap solution. Do not immerse the dry bath in water or any liquid. The blocks may also be cleaned in a mild soapy solution. Be sure that all items have thoroughly dried before attempting to connect the cord or use the unit.

Spills: In the event liquid is accidentally spilled into the bath or well area, disconnect the plug from the outlet and turn the unit upside down to minimize liquid contact with the internal components. Remove the bottom cover and inspect to assure liquid has not contacted heater elements, electronic controls, or connectors. Have qualified service technician clean the unit and replace any damaged parts.

11.0 Limited Warranty

Corning Incorporated (Corning) warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of purchase. CORNING DISCLAIMS ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Corning's sole obligation shall be to repair or replace, at its option, any product or part thereof that proves defective in material or workmanship within the warranty period, provided the purchaser notifies Corning of any such defect. Corning is not liable for any incidental or consequential damages, commercial loss or any other damages from the use of this product.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in the supplied instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover motor brushes, fuses, light bulbs, batteries or damage to paint or finish. Claims for transit damage should be filed with the transportation carrier.

In the event this product fails within the specified period of time because of a defect in material or workmanship, contact Corning Customer Service at: USA/Canada 1.800.492.1110, outside the U.S. +1.978.442.2200, visit **www.corning.com/lifesciences**, or contact your local support office.

Corning's Customer Service team will help arrange local service where available or coordinate a return authorization number and shipping instructions. Products received without proper authorization will be returned. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, padded to avoid damage. Corning will not be responsible for damage incurred by improper packaging. Corning may elect for onsite service for larger equipment.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

No individual may accept for, or on behalf of Corning, any other obligation of liability, or extend the period of this warranty.

For your reference, make a note of the serial and model number, date of purchase, and supplier here.

Serial No. _____ Date Purchased _____

Model No. _____ Supplier _____

12.0 Equipment Disposal

According to Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE), this product is marked with the crossed-out wheeled bin and must not be disposed of with domestic waste.

Consequently, the buyer shall follow the instructions for reuse and recycling of waste electronic and electrical equipment (WEEE) provided with the products and available at **www.corning.com/weee**.

To request certificates, please contact us at **www.labnetlink.com.**

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.

For additional product or technical information, visit **www.corning.com/lifesciences** or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

CORNING

Corning Incorporated
Life Sciences

www.corning.com/lifesciences

NORTH AMERICA
t 800.492.1110
t 978.442.2200

ASIA/PACIFIC

Australia/New Zealand
t 61 427286832

Chinese Mainland
t 86 21 3338 4338

India
t 91 124 4604000

Japan
t 81 3-3586 1996

Korea
t 82 2-796-9500

Singapore
t 65 6572-9740

Taiwan
t 886 2-2716-0338

EUROPE
HTL.sales@corning.com
HTL.service@corning.com

LATIN AMERICA
grupoLA@corning.com

Brazil
t 55 (11) 3089-7400

Mexico
t (52-81) 8158-8400

Labnet
www.labnetlink.com