



## LabAlert<sup>®</sup> MONITORING SYSTEM





PHCbi ULT Freezers and Incubator shown with installed LabAlert Transmitters

## Why LabAlert

Manual collection, recording and storage of data, plus the associated tasks have always placed time constraints on the lab/facility's staff. LabAlert is the Solution

- Eliminates the need for staff to visit each piece of equipment to do manual data collection
- Eliminates manual documentation of daily log sheets
- Eliminates inaccurate readings (subject to interpretation)
- Eliminates the duty of replacing and storing recorder charts
- Eliminates mixed brands and types of thermometers which may result in inaccurate data
- Reduces potential liability issues – manual documentation process may not adhere to compliance standards

LabAlert not only safeguards your product and assets, it frees up your valuable staff by eliminating daily manual collection, recording and storage of data, allowing them to focus on the tasks at hand.

Our 24/7/365 monitoring system provides immediate access to data, notification of operating parameter deviations and secure data storage to protect valuable samples, products and equipment. It is designed for clinical/research labs, production/pharmaceutical facilities and biorepositories.

LabAlert is an independent wireless monitoring solution designed to confirm performance over a broad range of laboratory equipment. Based on the latest wireless technology, the system uses stand-alone sensors and cloud or server based management protocols.

LabAlert is ideal for all segments of life science, biotech, pharma and industrial laboratory markets where protection of highly valuable materials, vaccines, frozen specimens, cell cultures and production processes are critical to quality and investment.

LabAlert is designed for use in facility-wide applications or as a part of global corporate enterprise solutions. Data capture modules can be installed on products where basic monitoring of diverse parameters is required.

## PERFORMANCE MONITORING

- Cell Culture Incubators
- Refrigerators
- Freezers
- Ultra-Low Freezers
- Cryogenic Freezers
- LN<sub>2</sub> Storage
- Blast Freezers
- Ovens
- Biological Safety Cabinets
- Fume Hoods
- Environmental Chambers
- Stability Cabinets
- Clean Rooms
- Centrifuges
- Water Baths
- Dry Baths
- Door Status



## Universal Data Capture

Universal application, works with most manufacturers' product

- Analog Output (e.g. temperature, CO<sub>2</sub>, humidity, etc)
- 4-20 mA – with 250 ohm resistor upon request
- 0-5V DC



## Account Management

- User access levels range from simple viewing to full administrator rights
- Intuitive user interface
- Easy setup and programming



## Performance Benefits

- 24/7 real-time monitoring via smartphone, tablet or computer with immediate access to performance information
- Secure data acquisition and storage with backup archives
- Centralized solutions for monitoring multiple systems, regardless of location
- Setpoint deviation push notifications to mobile devices
- Supports FDA 21 CFR Part 11 compliance
- Flexible and scalable measuring parameters



## Monitoring Capabilities

LabAlert is designed for use with a variety of sensors or onboard data points that are integrated into laboratory equipment.

- Air temperature range -200°C to +200°C
- Water temperature, incoming/effluent
- CO<sub>2</sub>
- O<sub>2</sub>
- Relative humidity
- Pressure
- Liquid level
- Airflow
- Water flow
- Door status
- Component temperature
- Amperage
- Energy Consumption

### Laboratory Equipment Parameters

Product	Temperature	CO <sub>2</sub>	O <sub>2</sub>	Humidity	Door Status	Liquid Level	Pressure	RPM	Flow
Cryogenic Freezers	●	—	—	—	●	—	—	—	—
ULT Freezers	●	—	—	—	●	—	—	—	—
Lab Freezers	●	—	—	—	●	—	—	—	—
Lab Refrigerators	●	—	—	—	●	—	—	—	—
Incubators	●	●	●	●	●	●	—	—	—
LN <sub>2</sub> Storage	●	—	●	—	●	●	—	—	—
Environment Chambers	●	—	—	●	●	●	—	—	—
Clean Rooms	●	—	—	●	●	—	●	—	—
Environment Rooms	●	—	—	●	●	—	●	—	—
Ovens	●	—	—	—	●	—	—	—	—
Centrifuges	●	—	—	—	●	—	—	●	—
Facility Ambient	●	—	●	●	●	●	—	—	—
BioSafety Cabinets	●	—	—	—	—	—	●	—	●
Water Baths	●	—	—	—	—	●	—	—	●

\*Other parameters available from PHC Corporation of North America

### Cloud-Based, Remotely Hosted

The cloud-based system adds an extra margin of safety by offering immediate access for management of critical data necessary to make informed decisions. Because the cloud-based system does not require software or a local server, overall costs are lower than a LAN-based system that requires software installation and maintenance.

The web-based platform permits fast and easy setup and expansion with no stand-alone software needed.

- Provides customizable user interface dashboards for product, location or facility naming with single view live metrics and downstream data.
- Uses encrypted data transmission and storage.
- Continuously transmits data to mirrored servers in separate locations for increased protection.
- Check on your lab or facilities from anywhere and at any time.
- Data and deviation alerts delivered to your smartphone, tablet or computer.
- Meet monitoring needs easily with affordable pricing model.

### Easy Installation, Setup & Operation

- Log into cloud server with username and password.
- Customize all products, sensors and gateways with names and ID numbers in dashboard as desired.
- Sensor transmitters are activated locally; gateway node is activated locally.
- Cloud server receives sensor data from gateway node via internet.
- Data is logged into cloud server and managed according to user configuration.
- Proactive notifications, records and reports are managed through the dashboard according to user preference.
- Monitor one piece of equipment, monitor your lab, monitor your entire facility, monitor multiple facilities.
- Wireless transmitters allow easy equipment relocation in lab or facility. Additional sensors can be added at any time.
- Local or remote computer, tablet, smartphone or other portable device can be configured for secure access to the cloud server.

Monitor one piece of equipment, monitor your lab,  
monitor your entire facility, monitor multiple facilities.

#### CUSTOMIZABLE ALERTS

- Web/app-based interfaces let you set up customizable dashboards to centrally monitor your equipment in a single view.
- Alerts are easily customizable to meet the demands of your lab – monitor temperature ranges, humidity levels, CO<sub>2</sub> concentrations and more.
- Programming can be done within the user interface and can be adjusted at any time, for any unit or group of units.

#### FDA COMPLIANT, CENTRALIZED RECORDS

- Secure, supports FDA 21 CFR Part 11 compliance.
- Maintain all of your records in a single, organized and centralized location.
- LabAlert allows you to reduce (or eliminate) cumbersome manual data recording processes. Stored data is accessible at any time.



**At a Glance**

Feature	LabAlert Advantage	LabAlert	Competitors
Cost	✓	Economical and versatile choice - cost decreases with increase in units monitored	Not economical with larger number of units
Compatibility	✓	Compatibility with multiple stand-alone software & equipment	Not compatible to other systems
Compliance	✓	21 CFR Part 11 Compliant, NAFEM Data Protocol, TJC Standard and HACCP	Not all 21 CFR Part 11 Compliant
Hosting	✓	Remote hosted on cloud, accessible via web browsers or free smartphone app / can be locally hosted with stand-alone software	Only web or local
Range	✓	ZigBee® Standard or Wi-Fi - 2.4 GHz	Wired or wireless
Scalability	✓	Ability to expand infinitely for multiple units	Do not have flexible capabilities
Maintenance	✓	Preventive maintenance reminders and reports with service alerts	Simple summary of real-time data + historical chart data

\*ZigBee is a trademark of the ZigBee Trade Alliance.

## Simple Setup



### Sensor Transmitter

- Sensor is mounted onto product to monitor desired parameter
- Batteries\* are installed in wireless transmitter
- Sensor wire is connected to wireless transmitter

\* ZigBee® 3+ years battery life



### Cloud Server

- User logs into cloud server with username and password
- Sensor transmitters are activated locally; gateway node is activated locally
- Cloud server receives sensor data from gateway node via internet
- Data is automatically logged into cloud server and managed according to user configuration
- Proactive notifications, records and reports are managed through the dashboard according to user preference
- All data is securely stored



### Managing Information

- Local computer, tablet, smartphone or other portable device is configured for secure access to the cloud server
- Local dashboard is configured according to user preference
- Customizable parameters
- Data and alerts are web accessible in real time, anywhere with an internet connection
- Alerts can be acknowledged, resolved and documented with corrective actions
- User can upload customizable floor plans
- User can manage monitored and non-monitored equipment



### Gateway Node

- Gateway node communicates wirelessly with each transmitter via node antenna
- Gateway node connects to facility AC power supply
- Ethernet cable is connected to gateway node
- Gateway node transmits to cloud via internet



NTC-40-ZB-PS | 10119-696 and  
NTC-GATEWAYT | 10769-080

Transmitter	
Power	(2) Lithium batteries
Transmission Range	Approximately 200 ft.
Built In Data Logger	Will store data for 1 week in case of power failure or internet outage on gateway/probe
Hardware/Sensors Configuration	Automatically joins network
Accuracy	+/- 1°C Accuracy (+/- 0.5°C when calibrated)
High Moisture Environment	Coated electronic circuit board

Gateway	
Power Supply	115v, 0.5 Amps, 60Hz,
Electrical Certification	cULus Listed / CE
Dry Contacts for Remote Alarm	NO, NC, C
Firmware	Can be updated remotely
High Moisture Environment	Coated electronic circuit board

### Product Sample Configuration

Component	Description	Cryogenic/ Vapor Phase, -160°C	Ultra-Low Freezers, -86°C	Lab Freezers, -30°C	Refrigerators	Refrigerator Freezer Combinations	Incubators, Heated and Refrigerated	Incubators, Temperature/ Remote Contacts	Incubators, CO <sub>2</sub> /O <sub>2</sub> /RH/ Temperature	Ambient/ Room Humidity Temperature
NTC-GATEWAYT   10769-080	gateway	●	●	●	●	●	●	●	●	●
NTC-222B-PS   10119-680	transmitter	—	—	—	—	—	—	●	●	—
NTC-40ZB-PS   10119-696	transmitter	—	—	●	●	●	●	—	—	—
NTC-ANLG-40ZB-PS   75804-664	transmitter	—	—	—	—	—	—	—	●	—
NTC-UNIV-ZB-PS   10769-078	transmitter	●*	—	—	—	—	—	—	—	—
NTC-TRH20-ZB-PS   10119-678	transmitter	—	—	—	—	—	—	—	—	●
NTC-BOTTLE-G   10769-084	probe	—	—	—	●	●	—	—	—	—
NTC-CO2V   75804-676	probe	—	—	—	—	—	—	—	●	—
NTC-PB-HT   10119-700	probe	—	—	●	●	●	●	●	●	—
NTC-PB-ULT   10119-698**	probe	—	●	—	—	—	—	—	—	—
NTC-PB-UNIV   10769-082	probe	●	—	—	—	—	—	—	—	—
NTC-LN2   75804-670	probe	●	—	—	—	—	—	—	—	—
NTC-TRH-KIT   75804-672	probe	—	—	—	—	—	—	—	●	—
NTC-HOSTINGFEE   10119-710	hosting**	●	●	●	●	●	●	●	●	●

Note: A mesh router, NTC-MESHRTTR | 10119-684, is required when 11 or more transmitters are used, in a zone area or when transmitter is too far from gateway.

\* NTC-UNIV-ZB-PS | 10769-078 w/NTC-PB-UNIV | 10769-082 can be used for temperature and remote contact monitoring from -200°C to +60°C.

\*\* Can only be purchased if the customer already has an NTC LT40 transmitter.

\*\*\* Hosting fee is required for each transmitter.

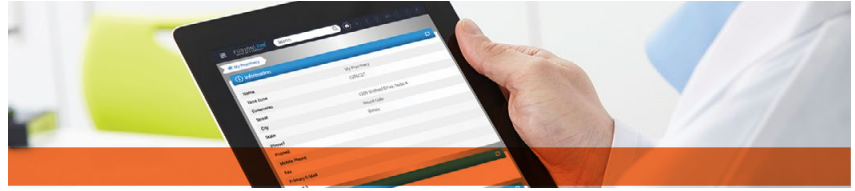
## Preventive Maintenance, Cost Tracking

- LabAlert includes a unique feature for tracking maintenance (or other selected records) on all equipment whether the unit is being monitored or not.
- For any equipment programmed into your LabAlert account, you can assign regularly scheduled maintenance reminders.
- Track maintenance costs, labor and components.
- Track equipment downtime.

## Additional Platforms Locally Based, Locally Hosted

When locally hosted solutions are required, LabAlert uses stand-alone software installation on a facility server. All monitoring and reporting is managed through the internal facility network.

- Software license provided.
- Software installed by facility IT personnel with assistance from PHC Corporation of North America.
- Provides customizable user interface dashboards for product naming within the facility with single view live metrics and downstream data.



	Cloud-Based	Local Server Based
<b>Capacity</b>		
Monitoring	Monitor local facility or multiple locations	Monitor local facility
Software	Cloud-based	LAN - Installed on facility computer
Data Storage	Cloud	Server
Data Backup	Redundant cloud data backup storage	Additional server(s) required for data backup storage
IT Support	IT support for gateway configuration	Requires facility IT support for maintaining servers, text messaging, e-mail, etc.
<b>Installation</b>		
Software	No installation required	Required
Protocol	None required	Determined by facility
Computer	For monitoring	Required for operation
Server	None required	Required for data storage / backup
<b>Operation</b>		
Complaint	FDA 21 CFR Part 11	FDA 21 CFR Part 11
Global Management	Access system anywhere, anytime	On premise access - external access might require VPN
Server Cost	None	Initial purchase / ongoing server support
Software Updates	Automatic, interruption free updates as required	For local hosting, installation of software may require brief server downtime during initial download
Critical Data Recovery	Handled by PHC Corporation of North America	Data may be compromised / irretrievable
Internet Down	Data maintained locally until internet resumes. Remote access available during business hours	Not an issue / can access and operate system
Support	12 to 24 hours	Immediate via facility IT
Service Fees for Cloud Use	Based on quantity of transmitters	None
Text Messaging / E-Mail	Maintained in the cloud	Maintained via facility IT

## Validation Services

PHC Corporation of North America offers a full line of validation services that range from pre-delivery to full on-site qualification. Services are specifically designed to verify quality compliance to manufacturing and regulatory specifications. Advanced technology is integrated alongside contemporary processes for turnkey solutions using NIST/ISO calibrated instrumentation for calibration, validation and qualification in accordance with current GxP regulations [GMP, GLP, GCP], ISO, UPS, CAP, AABB, CLIA, USDA, local standards and other regulations. We offer assistance in product selection that meets customer applications, including equipment, service and support. ISO/IEC 17025\* Validation is available upon request.

\*ISO/IEC 17025:2005 specifies the general requirements for the competence to carry out tests and/or calibrations, including sampling. It covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods. (Ref: ISO Web Site, May 2016)

Specifications are subject to change without notice.

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### About PHC Corporation of North America

PHC Corporation of North America is a leader in laboratory equipment for biopharmaceutical, life sciences, academic, healthcare and government markets. The company is operated as a subsidiary of PHC Holdings Corporation, Tokyo, Japan, which is a global healthcare company involved in the three core businesses of Medical Devices, Healthcare IT and Life Sciences. Product lines under the new PHCbi brand include the space saving and energy efficient VIP® ECO, TwinGuard® and VIP Series ultra-low temperature freezers, cryogenic and biomedical freezers, pharmacy and high performance refrigerators, cell culture CO<sub>2</sub> and multigas incubators, programmable heated and refrigerated microbiological incubators, portable autoclaves, cell processing work stations and Drosophila/Plant Growth Chambers.