**Waterbath** 



Multi-unit **Monitoring System** 

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## Monitor all water baths from one convenient screen

- Simplify your lab management through timely email and/or phone notifications.
- Expandable design that allows integration with other third-party waterbath process controllers.

# Easy to monitor display

Waterbath Monitoring System is an application designed to easily monitor multiple Bitrode waterbaths. Instead of walking miles around the lab to read small process controller displays, the system conveniently displays the status of all waterbaths on one big screen.

- Configure software with your desired tolerance limits. It will let you know which waterbaths are not meeting specifications using a red- green alert display.
- Receive email and phone notifications.
- Collect a history of waterbath behavior to provide performance data.
- Prompt technicians to leave notes on the root causes of out-of-tolerance waterbath temperatures, adding additional context to the waterbath history.

### **Love Series Controllers**



The Waterbath Monitoring System supports the Love® Series 16B and 16C from Dwyer Instruments. These controllers support RS-485 Modbus serial communication protocols and can be daisy-chained with up to 247 total controllers on a single connection.

- Software allows multiple RS-485 connections to allow fexibility in different scenarios.
- Each controller has a unique identifier.
- Baud Rate of up to 38400 bps (as stability allows).

Contact Bitrode for the latest available configurations and price estimate





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Multi-unit
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The data acquisition unit communicates independent temperature measurements over an isolated local network. Using an RS-485 connection. It connects to a Remote Input / Output RIO Box that can be configured with the necessary hardware to support up to 512 thermocouples. The Waterbath Monitoring System makes use of the VisuaLCN software to communicate with the device.

Optionally, the Waterbath Monitoring System can be configured to send signals to a series of lights to indicate the current status of the water bath it represents. When the temperature is "In Tolerance," the green light is activated, and when the temperature is outside the tolerance range or there is a communication problem, the red light is activated.



### RIO General Specifications

- 19.5 in L x 16.5 in W x 14.5 in H
- Each RIO Box supports 8 card slots
- Can daisy chain up to 4 RIO Boxes for a total of 512 sensor connections
- Works with other Bitrode Equipment and Testers

### **Data Collection**

The Waterbath Monitoring System is designed to collect a history of temperature data for the waterbaths being monitored. Every fifteen minutes, the system records the Process Value (PV), Set Value (SV), Independent Value (TW), and Status of each waterbath.

When a waterbath initially goes out of the user defined tolerance range, it monitors the situation to determine whether it needs to take action or if it is a transient event. Every fifteen minutes from the top of the hour, the software does a special analysis of the waterbath statuses.

	PV	SV	TW		Root Cause	
TIME	Bath 1	Bath 1	Bath 1	Status Bath 1	Bath 1	Notes Bath 1
6/2/2022 20:45	0	2	0	In Tolerance		
6/2/2022 21:00	0	2	0	Out of Tolerance	[Pending]	[Pending]
6/2/2022 21:15	0	2	0	In Tolerance		
6/3/2022 23:00	0	2	0	Out of Tolerance	< <add now="">&gt;</add>	

When a waterbath has been out of tolerance and recovers, the user is prompted to acknowledge the event and give an explanation of the root cause. After the user enters the information, the root cause and notes will be recorded on the next data recording interval.



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