

Choosing the Right **Chemical Controller**

This guide is designed to help aquatic professionals understand the differences between high-end, mid-range, and low-end pool chemical controllers in terms of features, sensor support, and I/O capabilities. Use this to assess what level of controller best suits your aquatic facility's needs.

High-End Controllers

- **Automation & Connectivity** – Offers robust cloud connectivity, remote access, BACnet/MODBUS integration, and advanced automation features.
- **Sensor Support** – Supports multiple sensors including ORP, pH, temperature, conductivity, free chlorine, total chlorine, turbidity, and salinity.
- **Data Logging & Reporting** – Includes onboard memory or cloud-based data logging, real-time alarms, and downloadable reports.
- **Control Capabilities** – Allows for precise chemical feed control with support for multiple relay outputs, proportional dosing, and variable speed pump control.
- **User Interface** – Full-color touchscreen interface with intuitive navigation and multi-language support.
- **Advanced Features** – Redundancy options, diagnostic tools, self-cleaning sensors, predictive maintenance alerts.

Mid-Range Controllers

- **Automation & Connectivity** – May include basic remote access or app connectivity, limited building management system integration.
- **Sensor Support** – ORP, pH, temperature, and sometimes conductivity or free chlorine sensors supported.
- **Data Logging & Reporting** – May include limited onboard logging or cloud access; typically requires external tools for reports.
- **Control Capabilities** – Basic chemical feed control, time-based or sensor-triggered dosing. Fewer relays and limited proportional feed options.
- **User Interface** – Simple LCD screen or button-based interface, typically monochrome.
- **Additional Features** – Some diagnostic features; occasional expandability depending on model.

Low-End Controllers

- **Automation & Connectivity** – Generally standalone with no remote access or automation integration.
- **Sensor Support** – Basic pH and ORP sensors only; minimal or no expansion capability.
- **Data Logging & Reporting** – No data logging or real-time monitoring features.
- **Control Capabilities** – On/off control only, with one or two relays for basic pump or feeder activation.
- **User Interface** – Basic LED indicators or dial knobs; limited feedback or diagnostics.
- **Additional Features** – Minimal to no additional features; purely reactive control.

Summary Table

Feature Category	High-End	Mid-Range	Low-end
Remote Access	Full (cloud/app/BMS)	Basic (app or local)	None
Sensor Compatibility	Full suite	Moderate	Minimal (pH/ORP)
Data Logging	Extensive	Limited	None
Control Flexibility	Advanced	Moderate	Basic (On/Off)
Interface	Touchscreen	LCD/Buttons	LED/Dials
Expansion & Features	High (redundancy, alerts)	Some	Minimal