

PULSAtrol[®] Controller Specification Sheet

MCT130ABR1 Redox Control with High/Low Alarm Indicator and Limit Timer

PULSAtrol Controllers are microprocessor based units specifically designed for a wide range of water treatment control and monitoring options.

MCT130ABR1 is designed to monitor changes in Redox levels.

The addition of an oxidising biocide to water will increase the Redox level of that water. Thus by monitoring changes, the addition of biocide can be accurately controlled.

The monitoring and control function allows the optimum dosage regime to be maintained for the biocide in use.

The standard unit has a number of upgrade options to enable it to perform additional functions.

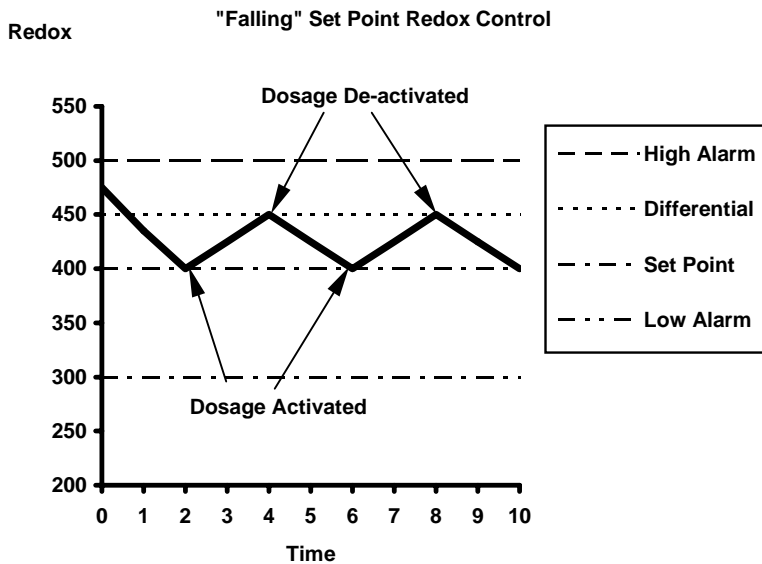


Key Features

- Microprocessor based for accurate and reliable control
- Wall mounted unit for ease of operation
- Easily programmable via display and menu activated keypad
- Keypad activated hand/off/auto control of all really outputs
- Modular hardware and software for easy access and servicing
- IP65 High Impact Resistant PVC enclosure for protection against harsh environments

Operation

- The treated water Redox level is continuously monitored by the integral cell in the Controller flow assembly which also incorporates a flow switch. The flow switch ensures that all the following controls are only activated when there is flow through the assembly. The Redox range is 0 to 1000mV and the output relay has a limit timer assigned to it
- For the Redox level the "Set Point" (factory set at 400 mV) will be "Falling" and oxidising biocide will be dosed when the set point is reached.



- "Falling" relates to the natural tendency of the treated water. As the treated water loses oxidising biocide reserve the Redox level will fall and without any dosage of oxidising biocide the reserve will continue to fall.
- When the Redox set point is reached the Redox limit timer will *either* open a solenoid valve on the inlet to a bromine dispenser *or* start metering pump(s) to inject the oxidising biocide reactant(s) - dependant on method of chemical addition being employed.
- The solenoid valve or metering pump(s) will continue to be activated until the level rises above the set point by the "Differential" (adjustable, factory set at 50 mV). Then the control device(s) will be switched off. This is to prevent chattering of the output relay about the set point.

- If the Redox output is activated for the period set in the Redox limit timer (adjustable in 1 minute increments up to 23 hours 59 minutes, factory set at 1 hour 30 minutes) but the set point has not been satisfied then activation will be cut off and unit will go into alarm until it is re-set
- The system will also re-start if treated water condition is satisfied - e.g. if the water is manually dosed to adjust Redox level and satisfy the set point

Additional Equipment Requirements

The **MCT130 Controller** is a stand alone unit. To operate as a complete system the following equipment must be in place – either existing or supplied in addition to the controller.

The method of oxidising biocide dosage will determine what equipment is used.

- Single Liquid Oxidising Biocides will require one dosage pump
- Dual Reactant Oxidising Biocides will require two dosage pumps
- Single Solid Oxidising Biocides will require a solenoid valve and a dispenser

• Dosage Pump(s)

- ◇ The MCT130 Controller will activate either one or two dosage pumps to dose the liquid biocide to the treated water system. Care must be taken to ensure that pumps are capable of delivering the volume of biocide necessary in the time specified by the controller.

• Chemical Storage

- ◇ Liquid biocides will normally be stored in chemical storage tanks. Dosage can be from the container that the chemical is supplied in, but it should be ensured that a means of monitoring biocide usage is available.
- ◇ Solid biocides will be contained in a dispenser.

- **Solenoid Valve**

- ◊ When solid biocides are employed, control is via a normally closed solenoid valve on the inlet to the dispenser.

- **Other Control Functions**

- ◊ Biocide dosage is just one aspect of cooling water treatment. Corrosion, scale and suspended solids protection must also be afforded, typically via a make up dosage system and a bleed control system.

Options

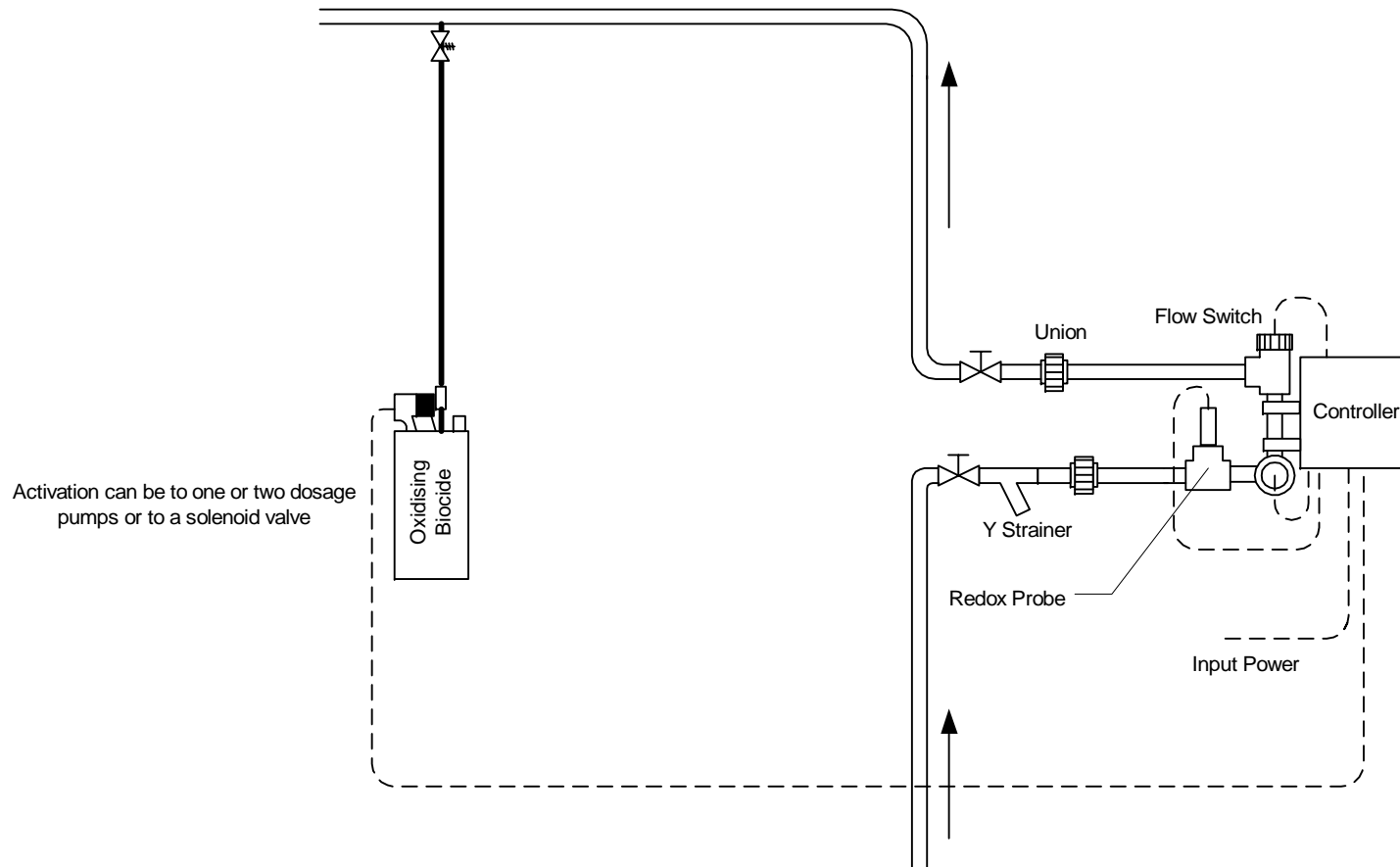
The **MCT130ABR1** is the standard control unit to perform the tasks defined above. If additional features are required, the following options are available at additional cost.

- An alarm output relay is available to signal;
 - high alarm point for Redox (factory set to follow set point ± 100 mV)
 - limit timer reached (factory set at 1 hour 30 minutes)
 - low alarm point for Redox (factory set to follow set point ± 100 mV)
 - no flow condition through flow assembly
- An alarm volt free contact is available to transmit common alarm status to a remote point

Specification

Feature	MCT130ABR1
MCT130	28 day timer with a 24 hour bleed lockout facility
A	“Conduit” which signifies cable gland connections on base of controller
B	Mounted flow assembly incorporating the Redox probe and flow switch
R1	CE approval
Power input	90 to 250 VAC @ 50/60 Hz 100 VA
Control Output	Line Voltage @ 600 VA
Display	1 x 8 Alpha Numeric, Lighted Display
Electronic Environment	-17.8 to + 52°C, 100% Humidity
Controller Weight (kg)	2.5
Shipping Weight (kg)	3.7
Maximum Width (mm)	177.8
Fixing Hole Centres (mm)	152.4
Controller Width (mm)	146.0
Depth (mm)	165.1

Schematic Illustrating Typical Installation Arrangement for PULSAtrol MCT130ABR1 Redox Monitoring and Dosage Controller - Cooling Tower Application



Not all items shown will be present in every application

Electrical Schematic Detailing Connections for MCT130ABR1

