



Cloud Enabled Swimming Pool Controller with Built-in Dosing Pumps, analog outputs with Panel Mounted Flow Cell Kit

## Description

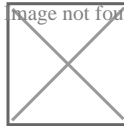
### Controller Overview

HI1020 Angled type unknown

### Multiple Configurations

The controller is available in one of two configurations: an in-line model which allows for direct installation of the probe and chemical injection fittings into existing piping (BL120-10) or a panel mounted system with a bypass flow cell (BL120-20). The bypass flow cell allows for calibration and maintenance of the probe without having to stop the recirculation pump.

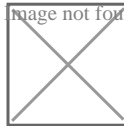
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### Digital Combination Probe

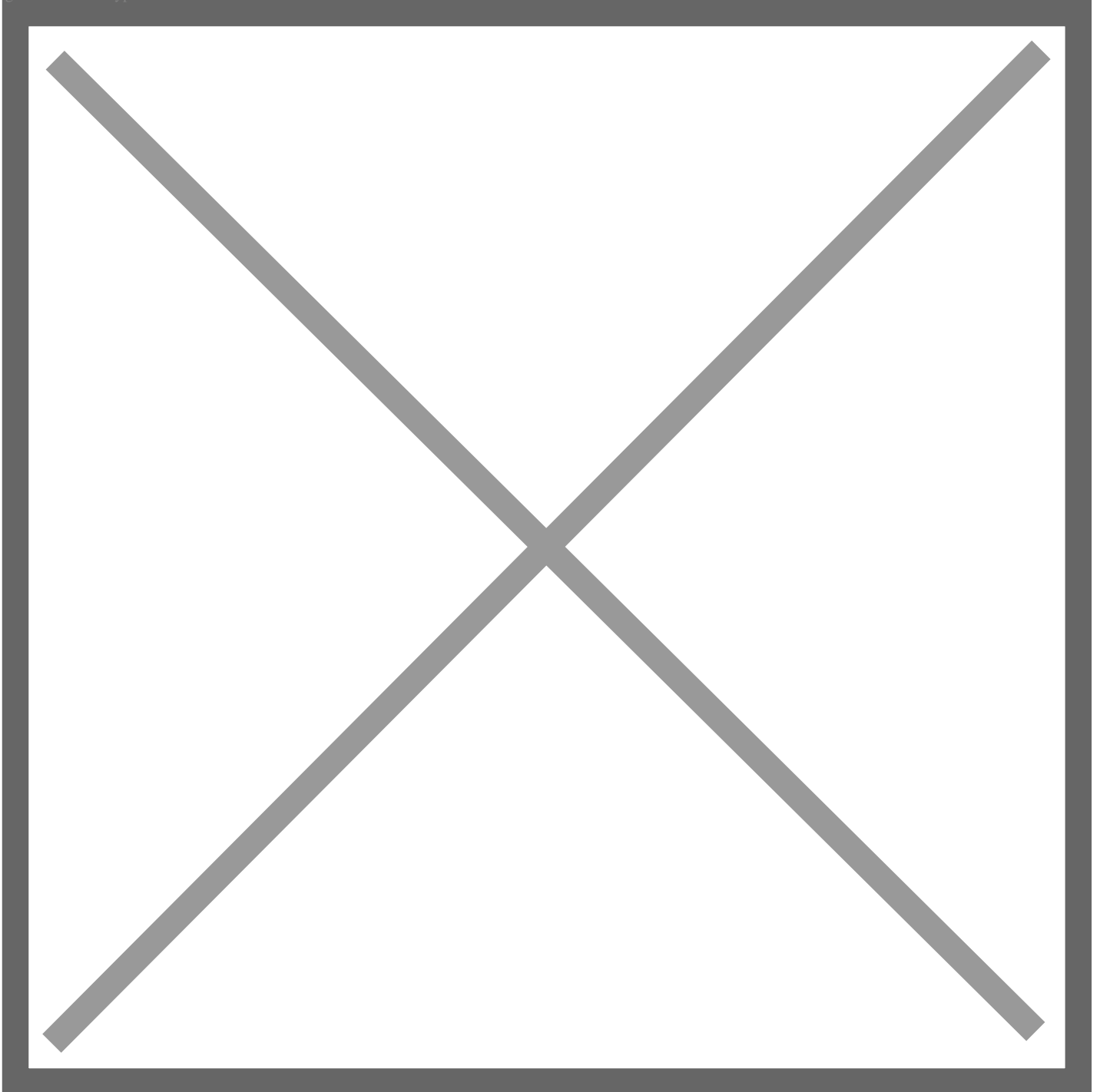
The HI1036-1802 is a digital probe that measures pH, ORP, and temperature. This probe also incorporates a potential matching pin. The pin is considered the "earth ground" connection and is used to prevent ground loop effects from causing erratic readings and damage to the system.

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### Dosing & Control

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### **Peristaltic Dosing System**

The BL120 is equipped with two peristaltic dosing pumps with replaceable chemical resistant tubing. When using a diaphragm pump, chlorine gas formed from outgassing can collect in the pump head resulting in the pump losing its prime; the buildup of chlorine gas is not a problem with peristaltic pumps that use rollers and tubing.

### **Proportional Pump Control**

The BL120 features proportionally controlled dosing pumps. Based on the sensitivity of the process to chemical addition, these controllers allow the user to adjust a proportional band. This setting determines the amount of time that the pumps are dosing as a percentage of the deviation from the set point allowing for very fine control in maintaining the desired set point.

### **Adjustable Flow Rate**

The flow rate from the dosing pumps is adjustable from 0.5 to 3.5L/h. Larger bodies of water require more chemical to be dosed than small bodies since it takes more chemical to realize a change in the reading. The adjustable flow rate, like the proportional band, allows for better control in maintaining a desired set point.

### **ORP Dosing Control**

With chlorine disinfection there is an inverse relationship between pH and ORP. As the pH level increases, the ORP level

decreases. The BL120 utilizes a dosing consent feature that will not dose chlorine until the pH value is first corrected since it is possible to have a low ORP value even though there is sufficient chlorine. The dosing consent feature prevents wastage of

chemicals and avoids a higher than necessary chlorine concentration.

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## Connections & Display

### BL121 Display

### Circulation Pump Monitoring

An inline flow switch or a mechanical relay connected to the recirculation pump power source may be connected to the hold input of the BL120. With no flow or when no power is applied to the recirculation pump, the hold circuit disables the dosing pumps. This will prevent any dosing of chemical when there is no movement of water in the system.

### Multifaceted Display

The versatile display of the BL121 allows for three screen modes. The LCD can display all three parameters at one time, a 3-second cycle of single parameters, or a real-time plot screen with options for parameter selection, zooming, and log recall.

### Programmable Alarm System

Hanna controllers allow users to enable or disable the low and high level of alarms for all parameters. When an alarm is activated, all dosing will stop. The alarm system also offers overdosing protection if the value is not corrected within a specified time interval then the meter will go into alarm status.

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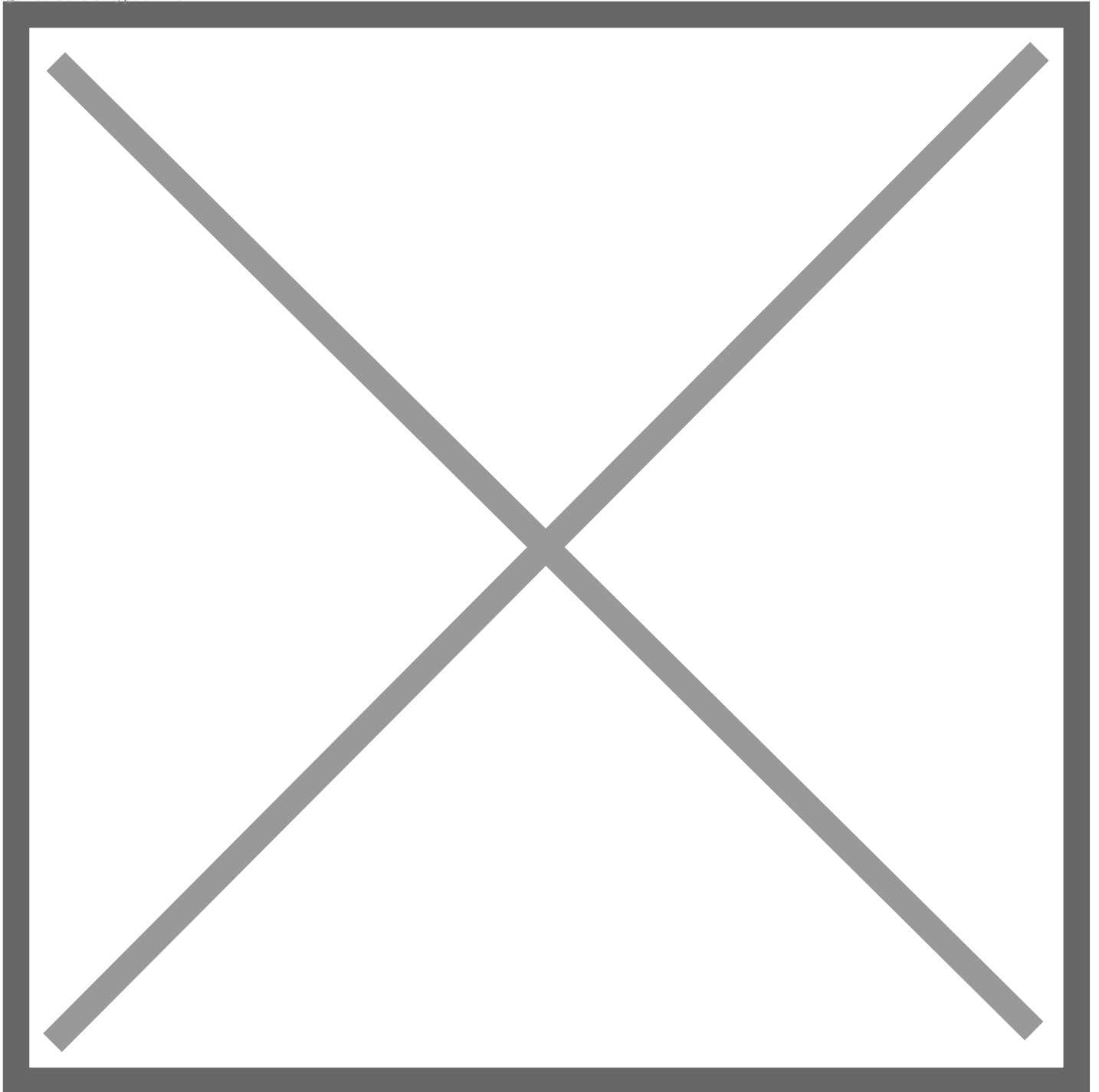
### Multicolored LED Indicators

The BL120 offers multiple LED indicators for status, servicing, and pump operation. The STATUS LED changes color based on operational state; green when settings are in range, yellow when user intervention is required, and red for problems. The SERVICE LED indicates any alarms and process errors experienced by the controller.

### Communication & Security

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## **Automatic Logging**

The readings for each parameter are automatically logged every 10 seconds. A new log is started each time the instrument is calibrated or at the start of a new day. Logged data include pH, ORP, and temperature values, last calibration data, setup configuration, and any event data. Each log is saved as a .csv file for easy transfer.

## **USB Connectivity**

For review and storage the users can easily transfer data to a PC using a flash drive and the USB port.

## **Password Protection**

Hanna's BL120 controller features a password protection solution that offers restricted access to calibration, setup, and review of logged data. The password can be set and enabled/disabled during general setup of the instrument.

## Especificaciones

Especificación	Detalle
Código de producto	BL12x
Intervalo de pH	0.00 a 14.00 pH
Resolución de pH	0.01 pH
Exactitud de pH (@25°C/77°F)	±0.05 pH
Dosificación de pH	Proporcional con punto de ajuste regulable y banda proporcional; retardo para comenzar el encendido y protección de sobredosificación
Intervalo de ORP	±2000 mV
Resolución de ORP	1 mV
Exactitud de ORP (@25°C/77°F)	±5 mV
Dosificación de ORP	Proporcional con punto de ajuste regulable y banda proporcional; retardo para comenzar el encendido y protección de sobredosificación; dosificación de pH interconectado
Intervalo de temperatura	-5.0 a 105.0°C (23.0 a 221.0°F)
Resolución de temperatura	0.1°C (0.1°F)
Exactitud de temperatura (@25°C/77°F)	±1°C (±1.8°F)
Compensación de temperatura	automática, -5.0 a 105.0°C (23.0 a 221.0°F) para pH
Calibración	Calibración con estándar de pH: automática, dos puntos (4.01, 7.01, 10.01 pH) Calibración de proceso de pH: un punto, entrada manual
Control de la bomba	Modos manual y automático; flujo ajustable de 0.5 a 3.5 L/h
Función de registro	Registro automático de las mediciones de pH, ORP y temperatura, GLP y eventos incluidas alarmas, errores y fallas de energía; capacidad para 60 días con intervalos de muestreo de 10 segundos; todos los archivos .csv son trasferidos por medio de una memoria USB
Alarmas	Alto y bajo con la opción de habilitar/deshabilitar para todos los parámetros; la alarma es activada cuando 5 lecturas consecutivas están por encima/debajo del umbral
Sistema de alarma	Sistema de alerta intuitiva basado en LEDS; opciones de filtrado de alarma; control del relevador de alarma basado en la configuración del usuario
Protección con contraseña	Las opciones de configuración, calibración y recuperación del registro están protegidas con contraseña
Conectividad	USB
GLP	Información de la calibración de pH/ORP incluyendo fecha y hora para los electrodos de pH/ORP
Salida del relevador de alarma	SPDT 5A/230 VCA; activado por condiciones de alarma seleccionables de pH/ORP/temperatura
Salidas analógicas	4 a 20 mA, configurable; impedancia de salida ? 500 Ohm; exactitud < 0.5% de la escala completa; aislado galvánicamente hasta 50V con respecto a tierra
Entradas auxiliares	Nivel bajo en el tanque de ácido/base (contacto abierto); nivel bajo en el tanque de cloro (contacto abierto); entrada de espera (contacto abierto)
Entrada de la sonda digital	Entrada digital aislada galvánicamente HI1036-1802 sonda combinada de pH/ORP/temperatura/matching pun con conector DIN impermeable
Suministro de energía	100 — 240 VAC
Consumo de energía	10 VA
Condiciones ambientales	0 a 50°C (32-122°F); HR máx. 95% sin condensación
Dimensiones	245 x 188 x 55 mm (73 mm con bombas); 9.6 x 7.4 x 2.2" (2.9" con bombas)
Peso	1700 g (60 oz.)