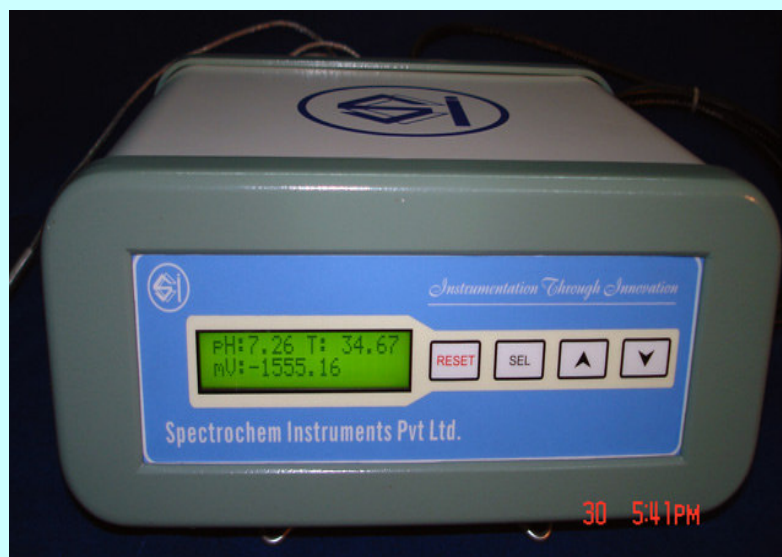


AQ100-pH meter & Controller



Our aim of introducing these products was to make advanced pH controllers available at the cost of the Lab pH meters. The systems are built on the latest embedded microcontroller technology requiring very low power. The controller incorporates our proprietary Reactive Logic™ control algorithm.

Another important consideration was to build a pH meter that can work with any probe, made by any manufacturer, yet giving utmost accurate readings (0.01pH units) & also providing control with the same resolution.

The systems can be upgraded to direct; plugging into LAN (Ethernet interface). Several meter/controllers can be networked to log data to a single networked PC. We can customize the system firmware to suit your specific requirements.

Salient features:

- Based on embedded AVR RISC microcontroller.
- Unique Reactive Logic™ control algorithm better than PID or FUZZY.
- Control settings & calibration data are stored in EEPROM Ferromagnetic memory.
- Auto control settings recall & run after power fail.
- Any brand any make probe compatibility.
- Choice of 1 or 3 buffer calibration.
- Electronic calibration procedure requires no trim pot settings.
- Automatic temperature compensation (ATC)
- Built in RTC with battery back-up.

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Specifications: for SCI Aqualine pH meter/controller's**Model: AQ-100-pH****Parameters****Measurement**

Sensor	pH	mV	Temperature
Range	0-14	±10000.00	-20 to 100 °C
Accuracy	±0.01	±1.00	0.1 °C
Resolution	±0.01	±1.00	0.1 °C
Repeatability	±0.01	±1.00	0.1 °C

Operation modes(Proprietary **Reactive control logic™** Algorithm)

1. Meter mode	Displays current pH, current temperature in °C & mV output
2. Controller mode	
(i) Set point control (ii) Dead band control	Accurately controls pH around the set point with ±0.01 accuracy Controls outside the set band, inactive in the specified dead band

Actuator control

(i) Solenoids	Provision for connecting external solenoids through rear panel 8 pin PERI strip connector
(ii) Peristaltic pumps	Provision for connecting SCI TWIN peristaltic pump unit through rear panel RS232 socket

Calibration**All electronic calibration for 1 or 3 standards**, calibration data stored in IIC EEPROM, mathematical linear regression equation ($y = m*x + c$) for calculation of slope, constant & unknown concentration**Electronics**

Microcontroller	ATMEL, AVR RSIC microcontroller ATMEL ATMEGA 16/32 16 MIPS throughput
Memory	IIC bus 8KB EEPROM FM24C64, ferromagnetic memory, with zero read/write delay & guaranteed 10-year data retention.
ADC	AD 7895-10 12 bit ±10.0 Volt bipolar AD converter for pH measurement Dual 10 bit 0-5 Volt on chip (ATMEGA16/32) AD channels for Temperature & aux
Sensors & signal conditioning	Based on triple OP-AMP for pH & Automatic temperature compensation, Analog pH & Temperature output
Sensors (i) pH (ii) Temperature	Combined pH electrode, Impedance > 10 ¹³ , Connector BNC PT100 temperature probe with SS-316 sheath & compensating leads
Keyboard & Display	Integrated 4 button membrane keyboard with 16 X 2 Alpha numeric LCD with yellow-green backlight
Interface	Dual full duplex RS232 channels for PC & Peristaltic pump interface
Power supply	External power adapter (SMPS based +5.0 Volt dc @ 2.0 Amps) On board DC-DC converter for ±12V for OP-AMPS
Dimensions	L:220 x W:180 x H: 90 (mm)