



Description

SUMMARY

The SHARK series is designed to be the most flexible, easy to use, and easy to see multi-parameter controller/analyzer on the market.

FOUR MEASURING PARAMETERS

Select the parameter you wish to measure from the easy-to-use LCD menu on the inside front cover. Choose Conductivity, pH, ORP or Flow.

NO EXTRA CARDS / OPTIONS RE-QUIRED

Each SHARK comes complete. There are no extra costs associated with buying boards for different applications, or buying components to achieve NEMA 4X.

UNIVERSAL MOUNTING

Universal mounting kit is included for surface, panel and pipe-mount applications. The 1/4 DIN enclosure makes panel-mount cutouts and engineering simple.

SNAP-ON TERMINAL CONNECTORS

Wiring is easy with removable / snap-on terminal connectors.

DISPLAYS & MENUS

There are two displays on SHARK. A bright LED numeric display with bar graph on the outside front panel,and a 2-line, 16-character LCD display on the inside. The LED readout on the outside panel can be seen several yards away. The distinctive, color-coded bar graph will immediately indicate if you are within the process parameters that you set (green), if the control relays are on (yellow) and if you are in alarm condition (red). This makes diagnosing pump and alarm malfunctions are performed on the LCD menu on the inside front panel.

CALIBRATION

Calibration is performed easily from the front panel. Temperature (where applicable) is also checked from the front. Since this routine maintenance does not require opening the front panel to access the main menu on the inside configuration settings cannot be adjusted by mistake. Process and temperature (where applicable) calibration can also be performed from the LCD menu, where calibration data (slope, temperature and efficiency) are displayed. pH can be calibrated using Manual or Auto Calibration methods. Calibration data can be recalled, indicating calibration mode, accepted buffer values, actual sensor input signals, calibration temperature and more.

ANALOG OUTPUTS

The SHARK provides two isolated, independent and scalable 4-20 mA outputs.

RELAYS WITH CYCLE TIMERS

The instrument also provides control of external devices using its two independent control relays. A third relay is pre-set to act as an alarm relay, but can be used as a process control relay. It has both high and low on setpoints with adjustable off setpoints. Factory set for bidirectional control, both control relays can be set for either a rising or falling process, with easily programmed on setpoints and off setpoints. Each control relay has a built-in independent cycle timer, with field-set on and off times. This feature enables tighter control of batch processes by eliminating chemical overshoot.

ENCLOSURE

SHARK is packaged in a rugged NEMA 4X polycarbonate enclosure making it ideally suited for heavy-duty applications such as industrial waste water neutralization, municipal water and waste water, pulp and paper, and process control.

Aquametrix SHARK Multi-Parameter Controller

Features

- pH, ORP, Conductivity & Flow parameters available
- Easy to read 4 digit LED display
- Unique, bright & color-coded bar graph display
- · Quick and easy to calibrate
- · Relay cycle on/off timers
- Two control relays
- Two 4-20 mA outputs with range expandibility
- · High/Low alarm relay
- 1/4 DIN•NEMA 4X enclosure
- Universal mounting hardware provided for surface, panel and pipe mounting

• Compatible with AquaMetrix models P/R60 differential pH/ ORP sensors, 500 series combination style pH/OR sensors, MS/ AM series conductivity cells, and IP80/IP100/SPX flow sensors

Applications

- Process Control
- Industrial and Municipal Water
 treatment
- Industrial and Municipal Waste treatment and Neutralization
- Fume Scrubbers

• Suitable for the Plating, Circuit Board Manufacturing, Food and Beverage, Chemical Processing, Pulp & Paper, Mining, Nuclear Energy and Pharmaceutical Industries



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SHARK pH, ORP, Conductivity, Flow Controller / Analyzer

Technical Data

| | рН | ORP | Conductivity | | | Flow |
|-----------------------------|---|--|--|---------------------------------|--------------|---|
| Display | Front Panel: 4 x 7 segment 1/2" LED display, 1 LED indicator 0n-line,7 LED Bar Graph. Inside Panel: 2 x 16 alpha-numeric LCD display | | | | | |
| Measuring Range | pH: 0.01 to 14.00 Temp: 0 to 100°C or 32° to +212°F | ORP: -1999 to +1999mV (Dependent on sensor) Temp: 0 to 100°C or 32° to +212°F | MΩ/ cm ³ | 0 to 19.9 | 0.01 | Flow: 0 to 9999 with selectable flow rate units Volume: 0 to 9999 with Auto Range Flow rate units: Gallons (GP), Cubic Feet (CF), Liters (LP), Cubic Meters (CM), custom by entering factor related to Gallons. Time units: Seconds (S), Minutes (M), Hours (H) |
| | | | μS/ cm ³ | 0 to 2.00 | 0.01 | |
| | | | | 0 to 20.0 | 0.1 | |
| | | | | 0 to 200 0 to | 0.1 | |
| | | | | 2000 | 1.0 | |
| | | | | 0 to 20 | 10 | |
| | | | CM3 | 0 to 200 | 50 | |
| Temperature Compensation | Automatic or Manual 0 to 100°C (32° to +212°F) | Not required | Automatic or Manual User selectable tem- perature compensation slope 0.0 to 10.0%/°C. 0 to 100°C (32° to +212°F) | | | Not required |
| Temperautre Unit | | °C or °F | | | Not required | |
| Temperature Sensor | User selectable: 300 Ω N | NTC Thermistor, 3000 Ω NT | C Thermi | stor or Pt. 10 | | |
| Calibration modes | Auto-Calibration, Manual Calibration, Temperature Display | Manual Calibration Temperature Calibration | Dry Calibration Sample Calibration Temperature Calibration | | | K factor input |
| Ambient Conditions | Temperature: | -20°C to +60°C or -4°F to - | +140°F Ηι | imidity: 0 to | -condensing) | |
| Menu Access | Auto-Calibration, Manual Calibration, | Manual-Calibration | Manual Calibration Temperature Display | | | Not available |
| Front Panel | Temperature Display | Temperature Display | | | | Not available |
| Menu Access Inside Panel | Full Access to all parameters of operations menu | | | | | |
| Relay Outputs | Two Control Relays, 10 A / NO, 5 A / NC @ 240 VAC or 28 VDC. Mode: Process control, Adjustable parameters: process direction,(rising or falling) on-set-point, off set-point, (0 to 100% of full scale), cycle timer (on / off, 0 to 600 seconds), failsafe (on / off). | | | | | |
| | One Alarm Relay, 10 A / NO, 5 A / NC @ 240 VAC or 28 VDC. Mode: High / Low Alarm, Adjustable parameters: Low on / Low off set- point (0 to 100% of full scale, low on must be less than low off), High On / High Off set-point (0 to 100% of full scale, High on must be greater than High off). | | | | | |
| Analog Outputs | 4 to 20 mA Channel 1 | | | | | |
| | Isolated Output, Range expand 0 - 100% of full scale (min segment 10% of full scale), max. load 800 Ω | | | | | |
| | 4 to 20 mA Channel 2 Isolated Output, Range expand 0 - 100% of full scale (min segment 10% of full scale), max. load 800 Ω Can be set to track temperature if sensor is equipped with a temperature sensor | | | | | |
| Memory Back-up | All user settings are retained indefinitely in memory (EEPROM) | | | | | |
| Mechanical | Enclosure: NEMA 4X, 1/4 DIN, polycarbonate enclosure with four 1/2" conduit holes Mounting: Universal Mounting kit for surface, pipe and panel mount, is included | | | | | |
| Sensor Input | Probe: -600 to +600 mV Temp. Sensor: 0 to 9999 Ω | Probe: -1999 to +1999 mV Temp. Sensor: 0 to 9999 Ω | | Cell: 0 to 999 . Sensor: 0 t | | Paddle: 0 to 2000 Hz |
| Invalid Entries | | | | | | |
| Manual Test Mode | Process value can be simulated with arrow keys to verify correct setup of outputs | | | | | |
| Manual Relay Override | Relays can be set to on / off / auto, to verify correct wiring of auxiliary devices, or to manually adjust process | | | | | |
| Auto Return | User selectable auto return if SHARK is left in menu mode or if re- lays are left in manual override mode for more than 10 min. | | | | | |
| Display Damping | User can select rate at which SHARK updates display. Enables display damping of unstable process | | | | | |
| Net Weight | 2.2 lbs (1 kg) | | | | | |
| www.WaterAnalytics.n | s.net 978-749-9949 Toll free - 855-747-7623 (855-pHProbe) | | | | | |

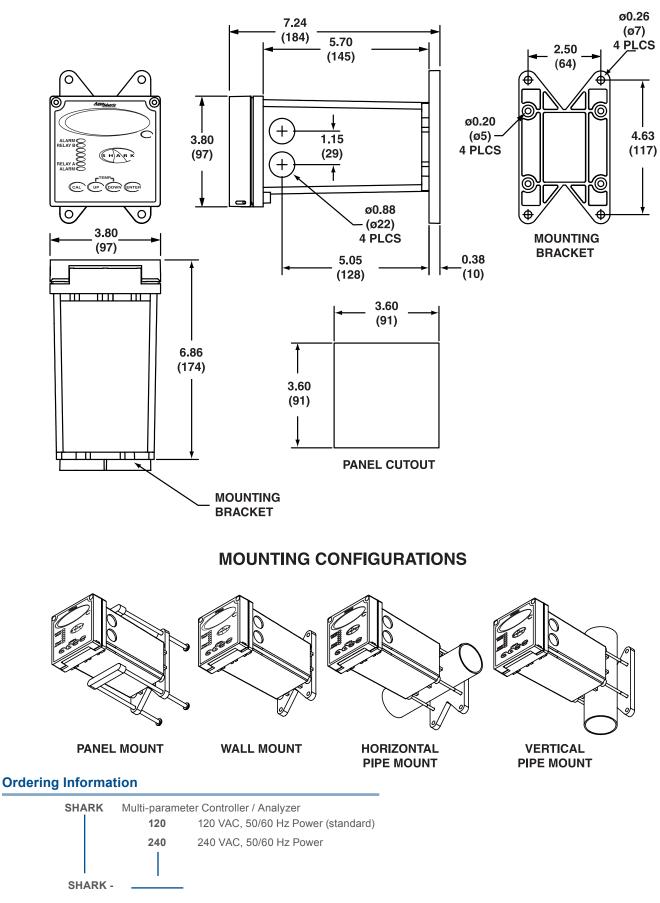
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Dimensions and Mounting Configurations



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