



## FX-300 pH/ORP Analyzer / Controller

The Foxcroft FX-300 pH/ORP online monitor is available with industrial duty combination sensors engineered for applications ranging from general purpose drinking water to harsh chemical resistance and high or low temperature service. Digital sensors are available optionally.

Modular electronics give you the flexibility to specify a single channel transmitter only, or a pH / ORP analyzer with temperature transmission, alarms, relay contacts and control functions. You may also combine pH with any combination of ORP, conductivity, DO, temperature or ion selective (ISE) sensor inputs in one enclosure.

Regardless of the application, all sensors are industrial, not laboratory grade. The solid state non-porous solid state reference system does not absorb liquids or gases and eliminates reference contamination to provide the longest lifetime available while promoting more stable and accurate measurements.



### *pH Sensors Engineered Specifically For :*

- **Municipal Drinking Water**
  - **Industrial Wastewater**
  - **Mining & Slurry Applications**
  - **Pollution Control**
  - **Municipal Wastewater**
  - **Food, Beverage and Dairy Processing**
  - **Industrial Chemical Processing**
  - **Replacements for Other Brands**
- **Standard Features:**
- ✓ Fully scalable analog output 0/4-20mA for pH/mV, ORP or temperature. Active 4-20mA can support a second external display in control panels or secondary locations.
  - ✓ Supports 2-point and 3-point slope calibration to provide a precise acid slope and a precise alkaline slope.
  - ✓ One-point offset calibration support, calibrate with the sensor in service to grab sample or laboratory determined measurements.
  - ✓ Galvanic isolation between sensor input, power & analog output (3000V rating)
  - ✓ Double & triple- junction designs
  - ✓ Integrated electronics options include solution ground, preamplifier, temperature sensing element

**GENERAL SPECIFICATIONS: FX-300-pH pH/ORP Transmitter / Analyzer.**

<b>Measurement Type:</b>	Single or multi-channel inline pH / ORP / mV / Temperature
<b>Application :</b>	Drinking water , wastewater, chemical processes, pollution control, long service life with low maintenance applications, remote locations. APPLICATION DATA REQUIRED FOR SYSTEMS QUOTE
<b>Transmitter pH / mV Range &amp; Accuracy:</b>	0-14 pH, $\pm 1000\text{mV}$ , 0-210°C. Accuracy $\pm 0.2\%$
<b>Sample Temperature Range:</b>	PVC/CPVC: +5 to 60°C; Ultem™: -5 to + 105°C; PEEK: -30 to +150°C
<b>Pressure Range:</b>	PVC: 1- 50 PSIG; Ryton®; 1-100 PSIG; Ultem™, PEEK: 1 to 150 PSIG; twist lock: 1-100 PSIG
<b>Sensor Body Materials:</b>	CPVC/PVC Standard, Ryton®, Ultem™, PEEK , Radel
<b>Sensor Mounting Threads:</b>	3 / 4" x 3 / 4" MNPT, 3 / 4" x 1" MNPT, 1" OD Twistlock, 2-1/2" Sanitary, 1" OD valve retractable
<b>Glass configuration:</b>	Hemispherical, round and parabolic break resistant, dehydration resistant
<b>Sensor Installation options:</b>	Inline, immersion /submersion, sanitary / valve retractable, hot tap insertion up to 41 inches deep
<b>Specialized pH Glass &amp; Reference Systems:</b>	General purpose, slurry/viscous material resistant, brine/saturated sodium resistant, high alkaline resistant, sulfide resistant, acid / Fluoride resistant, ultra high temperature resistant (up to 150°C).
<b>Solid State Reference Systems:</b>	High temperature resistance up to 150°C, Resistance to: acid, fluoride, saturated sodium, sulfide, chlorine, ammonia & chlorine dioxide gas, organic / solvent resistant, ultrapure water resistant, paper/pulp resistant.
<b>Junction:</b>	Double & triple junction designs
<b>Display:</b>	Bright 3-digit red LED display visible in sunlight of pH/mv or temperature. 6 LED indicators
<b>Power Supply:</b>	CSA/UL/CE approved universal 115/230 VAC power supply, consumption 60mA maximum. Optional 3-wire 24VDC using a dedicated power supply.
<b>Signal Output:</b>	Selectable, scalable 0/4-20 mA DC 250 $\Omega$ max, RS-485 Modbus digital output available optionally
<b>Enclosure Mounting &amp; Dimensions:</b>	Wall Mount, NEMA 4X lockable windowed, 9" high x 11" wide x 6" deep. Optional 2" NPT pipe mount & panel mount
<b>Sensor Specifications:</b>	Available by request per application, specifications vary by sensor & application.

**Module Description & Available Options:**

**Transmitter Module:** In addition to pH ORP, mV and temperature, modules are available to measure CONTACTING CONDUCTIVITY, and ION SELECTIVE ELECTRODE (ISE) including Fluoride, Ammonia and Nitrate, Nitrite. Each module includes 3-digit LED display and scalable 0/4-20mA analog output. All analog outputs have built-in trim calibration support, including both offset and span adjustments. 35 mm Din rail mounting. User selectable auto or manual temperature compensation operating modes.

**Preamplifier Support:** Unlike many low cost systems, the FX-300 series supports optional external preamplifiers for noisy environments, to avoid opening the analyzer enclosure for sensor service, and to minimize sensor replacement cost.

**FX-TP Option:** Scalable analog temperature output module. For spliced temperature input from PT100 / PT1000 integrated in sensor, or raw temperature input from an external temperature element.

**FX-REL Option:** Alarm and relay controller module provides (2) 5 Amp relay contact s and controller that is fully configurable for control mode and variables for each control algorithm. Control modes include: 1) Alarm functions only; 2) On/Off control with configurable dead band; 3) Time proportional control; 4) Proportional frequency control (variable pulse controller).

**FX-Data Logging Option:** Removable USB data logger records up to 32,000 readings over a 4-20mA DC range. Selectable sample rate and alarm thresholds. Download data using PC USB port. Includes Windows XP, Vista and 7 compatible software to configure, graph, print or export data to other applications. Optional device to log by Modbus to a computer is also available. Hardwired data logging available with FX-DAT module.

**FX-TOT Option:** pH compensation module computes the total concentration of a parameter such as ammonia using the free ion activity, pH, and temperature inputs from the respective measurement modules' bridged output. Also provides a scalable 4-20mA output for the total ISE measurement and Modbus communication for all inputs and outputs.

**Modbus Option:** Available by ordering the measurement module to include RS485 Modbus (only on initial order), or by adding the separate FX-TOT module anytime.