

SensorFlex™

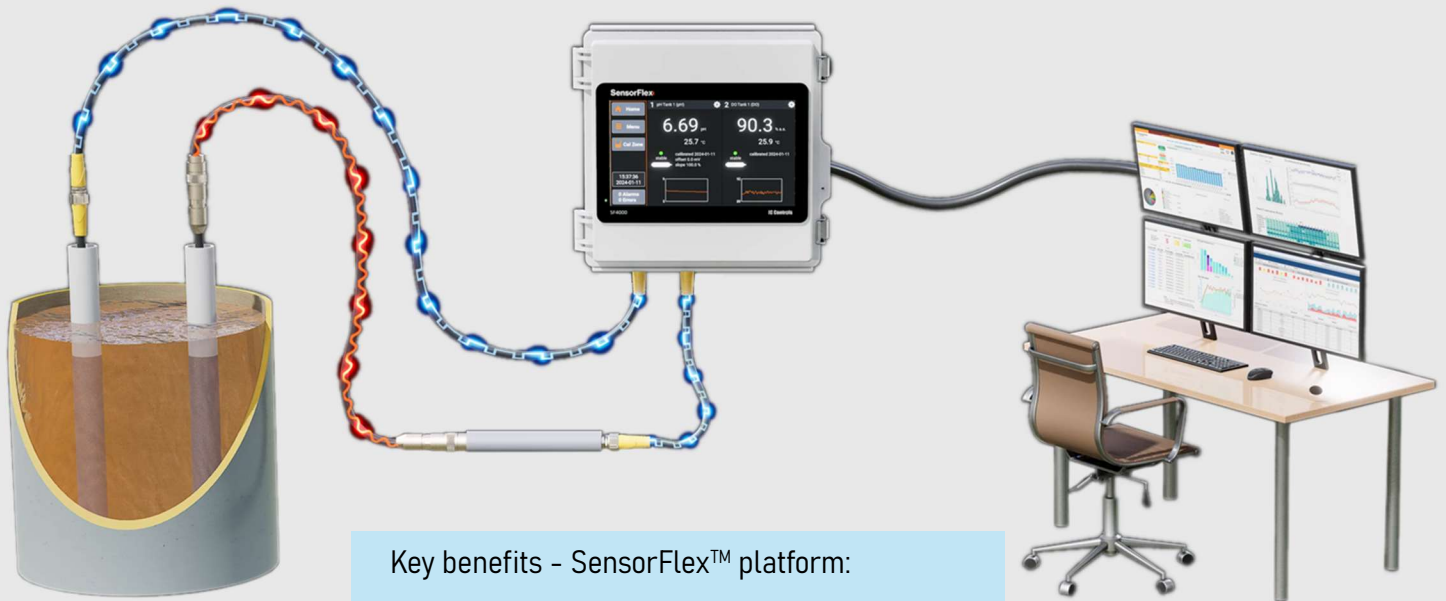


Digital Water Analysis Instrumentation
for Extreme Environments

IC Controls 

SensorFlex Platform – Process Analysis Simplified

Process samples that cause chemical attack, precipitate scale and solids, or have extreme ionic strengths, make process water measurements a technical challenge. IC Controls has decades of experience providing durable process equipment that enables reliable performance in these types of samples. The SensorFlex platform brings digital capability to IC Controls' robust sensors to improve diagnostics and ease of use. Featuring a multi-input analyzer, it accommodates electrochemical sensors as well as those that require onboard digital processing such as optical dissolved oxygen sensors. A collection of calibration tools and metrics ensure sensors are optimized and can be flagged for intervention to ensure prolonged maintenance intervals and maximum process efficiency.



Key benefits - SensorFlex™ platform:

- Sensor calibration in the laboratory
- Multiple parameters on one analyzer
- pH/ ORP, Dissolved Oxygen, Conductivity
- 4 channels
- Complete calibration history
- Digitization of analog pH/ ORP
- Digital communication

Analyzer

Connect up to 4 sensors to the SF4000 analyzer to display measurements, perform calibrations and diagnostics on a large, 7" touchscreen interface. Sensor parameters are stored directly onboard the SensorFlex electronics to allow sensors to be calibrated in the laboratory. Sensors are provided with connectors that make it quick and easy to install a newly calibrated sensor. For pH/ ORP sensors, where replacement is often more frequent, SensorFlex provides the option to digitize analog sensors. This allows users flexibility with the choice of sensor model for greater operational flexibility.



SensorFlex automatically adapts to the type and number of sensors installed

#	Serial #	User-Defined Tag	Date	Type
1	DOTEST4		2024-07-04 01:29:47	pH
2	401-9991		2024-07-04 01:29:47	pH
3	401-9992		2024-07-04 01:29:46	pH
4	DOTEST4		2024-07-04 01:24:41	DO
5	DOTEST4		2024-07-04 01:18:28	DO
6	DOTEST4		2024-07-04 01:17:30	DO

A complete history of calibration data is stored in the database

Buffer	mV	Temp °C
Buffer 1	1.68	305.0
Buffer 2	4.01	170.0
Buffer 3	6.87	8.0
Buffer 4	9.18	-120.0
Buffer 5	12.47	-305.0

	B1-B2	B2-B3	B3-B4	B4-B5
Slope	100.0	99.0	98.0	97.0
mV Offset	1.2	3.4	5.6	7.8

5 point calibrations (pH) and t90 can be used to optimize performance

Sensors

SensorFlex sensors leverage mechanical and electrochemical design features that have been proven to withstand harsh processes. New digital sensors are also supported with the same design principles that have been applied for decades to ensure durability. In all cases, quick connectors are used at the analyzer and on the sensor near the process to ensure ease of maintenance and calibration.

Digital pH/ ORP

SensorFlex pH/ ORP sensors share the same proven design features as our analog pH/ ORP sensors only with the addition of digital electronics. This provides the ability to store parameters and calibrate in the controlled environment of the lab.



Optical Dissolved Oxygen

SensorFlex supports both ppm and ppb level optical dissolved oxygen (DO) sensors. Optical sensors are quick to respond, consume no oxygen and require little maintenance. Sensors are available with flowcells and insertion mounting provisions.



Toroidal Conductivity

For conductivity measurement in high ionic strength samples, toroidal conductivity sensors have a wide measurement range. Wetted components are entirely plastic thereby improving durability in harsh environments.



Digitizer

The optional SensorFlex Digitizer allows analog pH/ ORP sensors to be digitized. Virtually any analog sensor with Variopin VP8 connector and PT1000 temperature compensator can be used. Combining an analog sensor with the Digitizer enables calibration in the lab. In addition, the use of an analog sensor in the process can allow more reliable operation in extreme temperature applications.



VP8

M12

PRODUCT SPECIFICATIONS

PROPERTY	CHARACTERISTIC
Maximum Sensor Inputs	4 Total Sensors – any combination of SensorFlex digital sensors or Analog pH/ ORP Sensors connected via SensorFlex Digitizer
Sensor Input Type	SensorFlex Digital Sensor or SensorFlex pH/ORP Digitizer
Sensor Connector	8-pin M12
Measurement Types	pH, ORP, Dissolved Oxygen (DO), Toroidal Conductivity
Power	115/ 230 VAC (± 10%), frequency 50/60 Hz
Host Communication	Modbus TCP (ethernet)
Outputs	4 isolated analog outputs, 4–20 mA 4 relay outputs
Graphics Display	7" (178 mm) 800×480 LCD
Touchscreen	resistive, analog
Ambient Temperature	0 to 60°C (32 to 140°F)
Relative Humidity	10% to 95% (non-condensing)
Overall Dimensions	9" x 8.6" x 5.1" [228 mm x 218 mm x 130 mm] length x width x depth
Environment	IP65
Ordering Part Number- Analyzer	SF4000
Ordering Part Numbers - Sensors	pH: 607SF*, 648SF* Optical DO: 840SF (ppm)*, 841SF (ppb)* Toroidal Conductivity: 440SF*
Ordering Part Number - Digitizer	A2500500

*see sensor selection guides for options

Dimensions in inches [mm]:

