

BLUESIREN®

Monitor with Vision®



Dimensions:	(Approximately) L: 12in W: 10in D: 5in
Enclosure:	Impact Proof Plastic
Data Storage	Internal Storage - 2.5 yr@15 min Sample Rate USB - over 20 years
Total Images	Internal Memory 500 (640x480) Images, USB over one million, Storage changes with image resolution"
Output:	RS485, Sampler Pulse, LCD
Power:	Logger: 3.3 V, Internal: 12 V, External: Max 16 V
Operating Temp.	-40 to 60°C (-40 to 140°F)
Connectors:	Vision Port / 12 Channel Output Port External Wireless / Antenna Port 12 Channel Sensor Input Port Internal USB and Wireless Port
Battery Packs:	Internal Dual 12 V D-Cell Alkaline Power Supply
Sample Rate:	User Defined, 1 to 60 minutes
Software:	Field-Siren Windows GUI, Cloud Programmable
Protocol:	Compressed Binary
Wireless:	World Wide Cellular: 4G LTE and WiFi
Data Transfer:	Blue-Live® - DropBox® - GoogleDrive® - FTP

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ECOSiren®

WIRELESS FLOW and WATER QUALITY MONITOR

Select Four Water Quality Sensor Options, and Combine with Flow or Level Sensor.

Optional Sampler Cable Allows for Flow and Alarm Based Water Sampler

Connect Multiple Sensors, up to 20 Channels

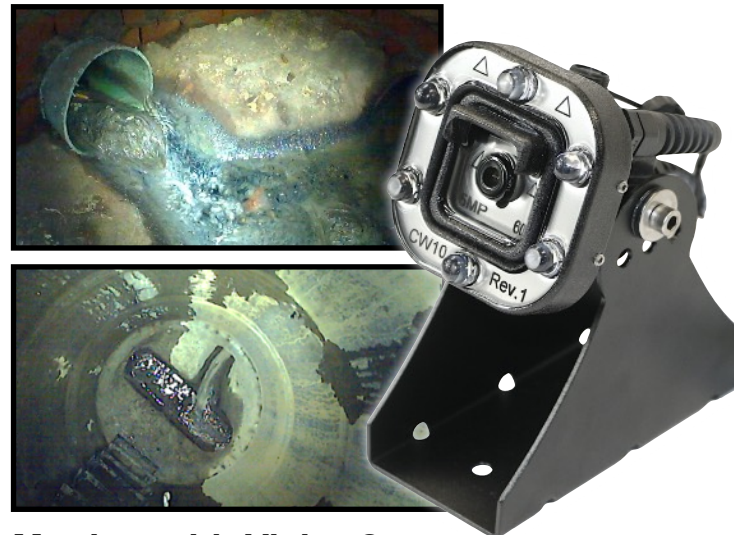
User Replaceable Internal 12V Battery Supply

Modular Wireless Design allows 4G or WiFi Connectivity

ECOSiren® - GO ECO

The ECOSiren® is a multi-sensor autonomous wireless monitoring platform designed to work in outdoor field environments, delivering data to your desk every time. The built-in multi-media platform allows direct connection of our optional vision camera taking simultaneous pictures that correlate directly with sensor readings. Receive alarm emails with images showing the event details and severity.

Automatically upload data for analysis to BlueLive® Cloud, DropBox®, GoogleDrive® or FTP location of your choice. Future proof worldwide LTE wireless module supports multiple countries and cellular frequencies, WiFi option also supported.



Monitor with Vision®

Each ECOSiren® monitor has a standardized camera port allowing you to monitor with vision® at any time. Great for overflow verification, industrial trade waste color, and Infiltration detection. Camera resolution can range from 5MP all the way down to 0.1MP, complete with user programmable compression.



Standardized Camera Port on Every ECOSiren® Monitor



Electrical Conductivity EC Sensor



Fully Submersible

Max Pressure Of 200 PSI

Temperature Range Of 0-110°C

Embedded Conductivity Circuit

Continuous 1 Reading Per Second

Technical Specifications:

Body Material: CPVC, Graphite, Viton

Temp. Probe Type: Class A Platinum, RTD

Reads: Conductivity = $\mu\text{S/cm}$
Total Dissolved Solids = ppm
Salinity = PSU (ppt) 0.00 - 42.00

Response Time: 1 Reading Per Second

Max Depth: 60m (197ft)

Max Pressure: 200 PSI

Range: 5 - 200,000 $\mu\text{S/cm}$

Accuracy: +/- (0.15 + (0.002*t))

Operating Voltage: 3.3V - 5V DC

Temperature Range °C: 0°C to 110°C

Temp. Compensation: Yes

Cable: 3 Meters (10 Feet)

Data Protocol: UART and I²C

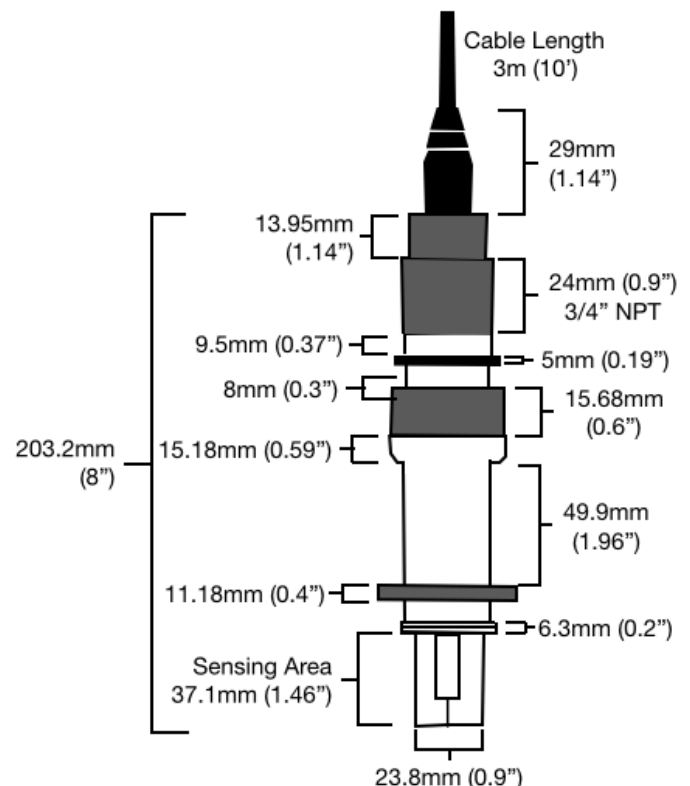
Data Format: ASCII

Electrical Conductivity

Easily measure and monitor EC levels for industrial, water and wastewater applications.

Two electrodes are stored opposite of each other in the EC probe. When power is applied cations move to the negative electrode while anions move to the positive electrode. The higher the number of free electrolytes in the fluid the higher the EC reading.

This high-temperature resistant sensor is great for industrial application for any fluids up to 60m in depth.



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Technical Specifications:

Weight: 250 Grams

Body Material: Ryton Thermoplastic

Max Depth: 60m (197ft)

Max Pressure: 100 PSI

Accuracy: +/- 0.002

Operating Voltage: 3.3V - 5V

Temp. Compensation: Yes

Resolution: 0.001

Range: 0.001 - 14.000

Temp. Probe Type: Class A Platinum, RTD

Cable: 3 Meters (10 Feet)

Data Protocol: UART and I²C

Response Time: 1 Reading Per Second

Data Format: ASCII

Temperature Range °C: 1°C to 99°C

Life Expectancy: ~4 Years +

Fully Submersible

Max Pressure Of 100 PSI

Temperature Range Of 1-99°C

Double Junction Silver/ Silver Chloride

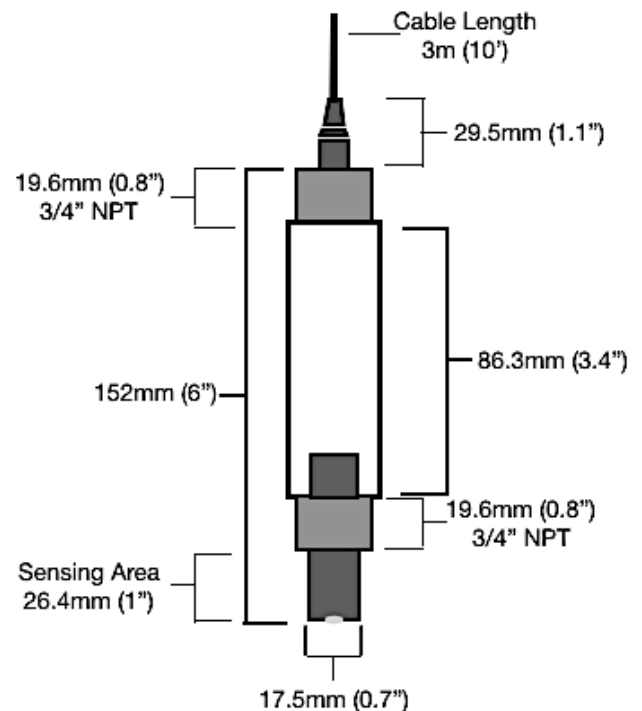
Measure from 0 to 14 pH

Monitor 0-14 pH

Easily measure and autonomously monitor pH levels in water and wastewater applications.

Fully submerge the pH probe into any fresh, salt, or industrial water up to 60m. The probe's glass membrane allows hydrogen particles to diffuse through its outer layer which react with hydrogen particles left in the fluid.

This high-temperature resistant sensor is great for industrial and sewage applications and can monitor pH levels up to 100 PSI with an accuracy of +/-0.002.



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Dissolved Oxygen DO Sensor



Technical Specifications:

Max Depth: 343 meters (1,125 ft)

Max Pressure: 3,447 kPA (500 PSI)

Accuracy: +/- 0.05 mg/L

Operating Voltage: 3.3V - 5V

Temp. Compensation: Yes

Range: 0.01 -100+ mg/L
0.1 - 400+ %saturation

Cable: 1 Meter

Data Protocol: UART and I²C

Response Time: 1 Reading Per Second

Data Format: ASCII

Temperature Range °C: 1°C to 50°C

Internal Temp. Sensor: No

Maintenance: ~18 Months

Life Expectancy: 5 Years +

Fully Submersible

Max Pressure Of 500 PSI

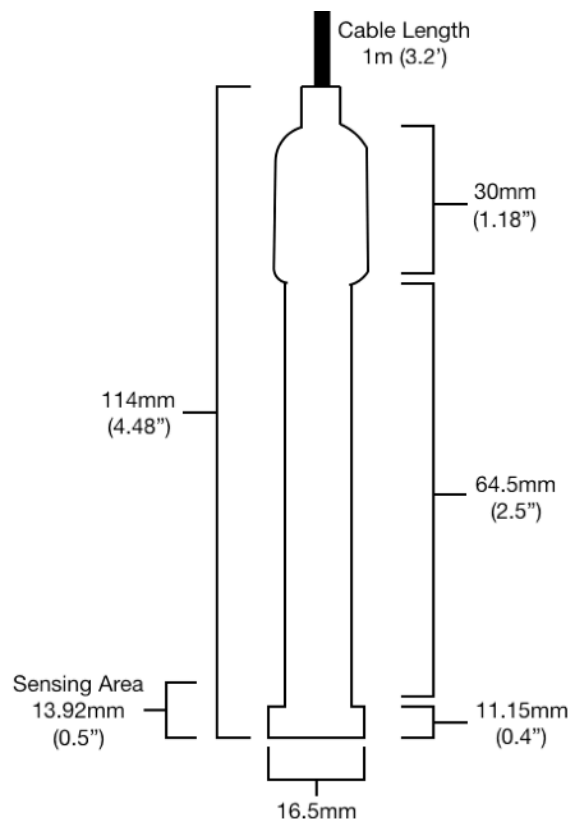
Temperature Range Of 1-50°C

Measure Concentrations of 0.01 -100+ mg/L

Monitor dissolved oxygen levels in water and wastewater using this sensor. Easily connect to the SOLOSiren® allowing you to collect and send wireless DO readings to the cloud for further analysis.

When the probe is submerged, oxygen molecules start to diffuse through the probe's polyethylene membrane at a constant rate. The molecules get reduced at the pure silver cathode and produce a small voltage which is then converted to a DO reading.

Readings can be gathered up to 343 meters with an accuracy of ±0.05 mg/L.



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Temperature Sensor Product Specification Sheet

Fully Submersible

High Range Reads Temperatures as Low as -200°C and as High as 850°C.

Cable can be extended up to 300 meters.

Platinum Resistance Thermometer

High Accuracy +/- (0.15 + (0.002*t))

TEMP

High range sensor measures from -200°C to 850°C. Measure the toughest of environmental conditions.

High resolution of 0.001°C make this sensor versatile in the lab, field, soil, industrial and wastewater applications. The cable can be extended up to 300 meters and reads temperatures as low as -200°C and as high as 850°C.

Digital processing sends stable readings to the wireless RTU allowing for accurate data with every sample collected.

Technical Specifications:

Dimensions: 6mm x 81cm (0.2" x 32")

Probe Type: Class A Platinum, RTD

Sensing Material: 304 SS

Connector: Male BNC

Range: -200°C - 850°C

Accuracy: +/- (0.15°C + 0.002 x °C)

Resolution: 0.001

Response Time: 1 Second Reading

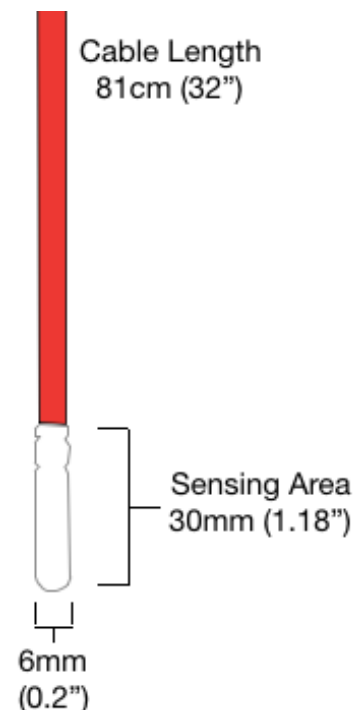
Temperature Output: °C, °K, °F

Cable Length: 81cm

Min/Max Cable Temp: -55°C/125°C

Operating Voltage: 3.3V - 5V

Data Format: ASCII



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Industrial Long Range Ultrasonic Level Sensor Product Specification Sheet



Technical Specifications:

Body Material: Rugged PVC

Accuracy: +/- 0.1% Measurement Accuracy

Beam Angle: 8° Conical

Operating Voltage: 12V DC

Temp. Compensation: Yes

Resolution: 11 Bit

Range: Dead-Band: 8in (200mm)
Maximum Range: 20ft (6m)

Response Time: 60 mS

Sampling Rate: 10 Samples Per Second

Temperature Range: -40°C to 70°C

Relative Humidity: 0 to 95%, non-condensing

Enclosure Rating: IP68

Range Accuracy: 0.01in (0.25 mm) Measuring Resolution

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Measure Overflow Depths Manholes and CSO Chambers

Pre-Calibrated for Water Level Detection

Long Range Measurement from 8 inches to 20 ft

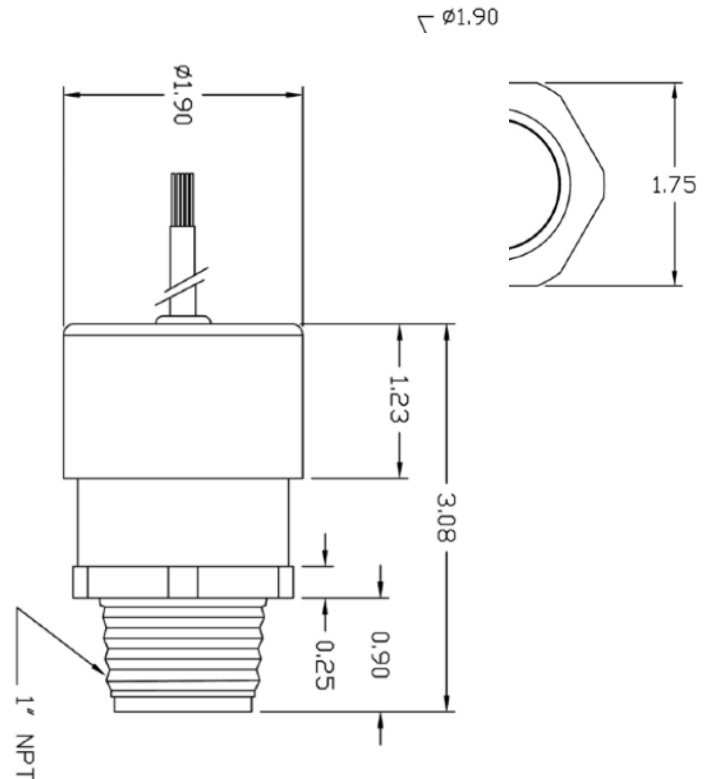
Submersible Design

Smart Signal vs Level Detection and Correction when used with Blue Siren Loggers.

Accurately measure from 8 inches (200mm) up to 20ft (6m). Great for ponds, lakes, and manhole monitoring.

Digital output with signal strength information allows the monitor to determine if a reading is good or not. Smart digital processing allows for the elimination of unwanted data commonly associated with non-contact sensors.

All sensors provide precision measurement for wastewater and water flow with non-uniform surfaces by incorporating state-of-the-art transducer technology and processing algorithms.



AV Flow Sensor

DUAL-WAVE Ultrasonic Doppler Velocity

Fully Submersible

Dual-Wave Doppler Technology

Averaging Algorithms Applied

Doppler frequency is proportional to the speed of water in m/s

Dual-Wave Velocity

The Blue Siren Dual-Wave Velocity (AV) Sensor uses the Doppler effect to measure velocity using acoustic technology.

This AV sensor contains both pressure-depth and velocity sensors that are highly sensitive and accurate and provide you with data you can count on.

All electronics are encapsulated within the sensor housing.

Velocity is output via serial digital data stream and depth is output via an analog 0-5V signal.

Dual Wave Technology utilizes dual transmitters, filling the flow stream with more sounds waves, reaching a greater acoustic profile.

Pressure: 30ft (10m) 15 PSI or 10ft (3m) 5 PSI

Accuracy: +/- 2% Laminar Flow

Input Voltage: 6-16V DC

Warmup Time: 2 seconds minimum

Resolution: 1 mm/s or 1 Hz/sec

Range: 0 to +10m/s (-6m/s optional)

Cable: 7.62m (25ft) Standard

Response Time: 4 digital samples/second

Serial Output: UART - TTL, RS485, Hz

Baud Rate: 4800

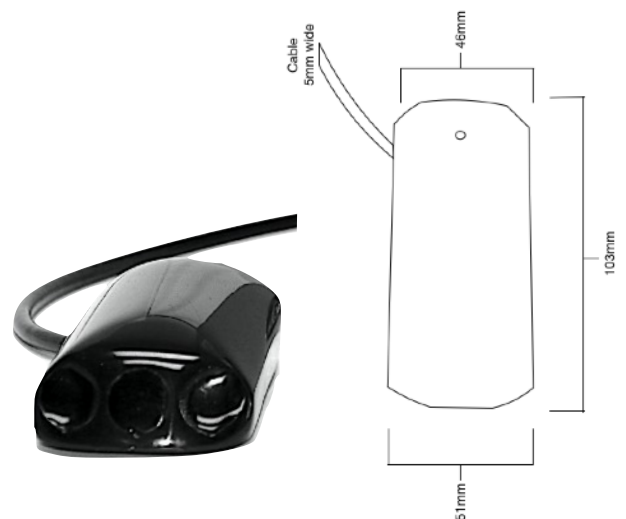
Depth Output: 0 - 5V

Depth Accuracy: 5PSI (+-) 1mm or 15PSI (+-) 2mm

Burst Height: > 100ft (15PSI)

Redundancy: Multiple Sensors can be used simultaneously using Dual Wave technology

Linearity: +/- 0.15%



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INDUSTRIAL 5MP CAMERA SENSOR Optional VISION Sensor



Infrared LED Camera With Light Detection

Impact Resistant

Maximum 5MP resolution

Built-in Compression

Encapsulated Electronics

Monitor With Vision®

The Blue Siren® 5MP high output LED Camera Sensor is great for thousands of applications: sewer pipes, grease clogging, inflow and infiltration problems, monitor storm grates and implement camera based infrastructure security.

Automatically store images and send them to any server or website. Subscribe to the BlueLive® Database and see your images as they upload. Sensor readings automatically correlate with image time stamps, allowing more in-depth analysis of system conditions.

The Camera Sensor is constructed using impact resistant urethane and encapsulated using optically clear epoxy. Air is fully vacuumed out of each sensor leaving no room for condensation or moisture.

Technical Specifications:

Pixel Resolution : 2592x1944 (Default), 2048x1536, 1920x1080, 1600x1200, 1280x960, 1024x768, 800x600, VGA, QVGA, 160x120

Sensor: 1/4" CMOS

Baud Rate: 115200bps (default), 19200bps, 38400bps, 57600bps, optional

Angle of View (FOV): 60 degree (default), 120/90/45/30/15/8 degree Optional

Focal Length: 3.6mm (default), 2.8mm/6mm/8mm/ 12mm/ 16mm/25mm Optional

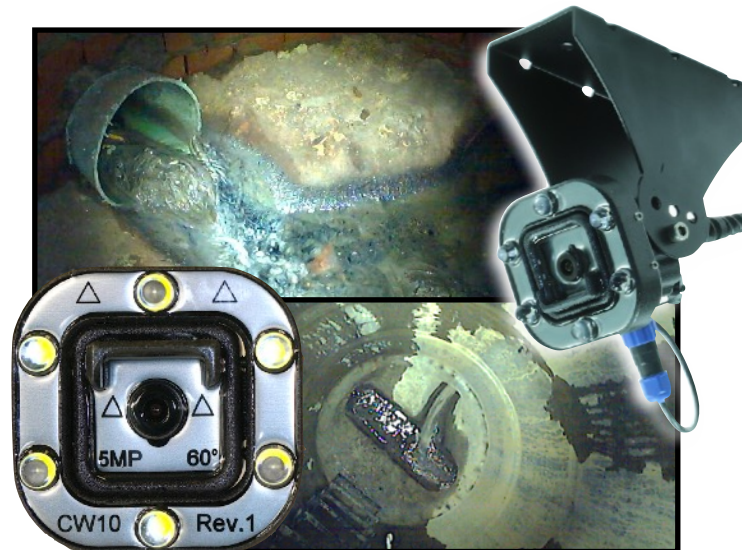
White Balance: Automatic

Operating Temperature: -4°F-140°F

Sample Rate: Minimum 1 minute

Auto Gain Control: Automatic

Exposure: Automatic



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DATA MANAGEMENT

Wireless Cloud Delivery and Data Analysis

View and Analyze Real Time Data

Automatic Delivery to Hosting Provider of your choice, DropBox®, Google Drive®, FTP, email, BlueLive®

Batch View Line and Scatter Plots

Manage Large Networks

Multiple End Users, No Additional Fees



FLEXIBLE DATA PLAN AND DELIVERY OPTIONS:

Automatically upload monitor data to BlueLive®, DropBox®, GoogleDrive®, email, or a FTP location of your choice. The internal worldwide 4G LTE wireless module supports multiple countries and cellular frequencies. In addition, WiFi connectivity options also available for infrastructure implementation. Provide your own SIM card and cellular network or have Blue Siren provide one for you. Blue Siren has low cost options on major networks such as AT&T® and Verizon Wireless®.



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