BLUE SIREN®

Monitor with Vision®

ECO Siren®

[Ex] ATEX Rated Intrinsically Safe

FLOW VISION MONITOR

- Wireless Portable Flowmeter with Integrated Multimedia Vision Technology
- DualWave Ultrasonic Doppler Flow Sensor Included
- Connect Multiple Sensors
- User Replaceable Internal 12V Battery Supply
- Auto-Calibration Algorithm

Dimensions:	(Approximately) L: 12in W: 10in D: 5in
Enclosure:	IP68 Impact Proof Plastic
Data Storage	Internal Storage - 2.5 yr@15 min Sample Rate
Total Images	Internal Memory 500 (640x480) Images
Power:	Dual 12V Ex Battery Packs 8 Duracell PROCELL (D) Batteries per Pack User replaceable
StorageTemp.	-40 to 60ºC (-40 to 140ºF)
Multi-Sensor Support:	2 X Dual Wave Flow Sensors 1 X Ultrasonic Level 1 X Radar Level 1 X Radar Velocity 1 X 5MP Vision Sensor Camera
Sample Rate:	User Defined, 1minute to 1 Day
Software:	FIELDSiren™ - Laptop - Windows Software FIELDSiren™ - Phone - Browser APP FIELDSiren™ - Cloud - OnLine APP
Protocol:	Compressed Binary
Wireless:	World Wide Cellular: 2G,3G,4G LTE, CAT1
ATEX/IEXEx	Ex ia IIB T4 Ga (Zone 0) Ex db ib IIB T4 Gb (Zone 1 with Camera)

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION, DESIGN OR OTHERWISE. ... It shall be the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

ECOSiren[Ex]™

The ECOSiren® is a ATEX rated multi-sensor autonomous wireless monitoring platform designed to work in harsh sewer 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.

User Replaceable Battery Packs

Each 12V Batty Pack Contains 8 User Replaceable D Cells

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FLOW VISION MONITOR

ECOSiren® [Ex]: Designed for Efficiency and Versatility

The **ECOSiren® [Ex]** is engineered with user convenience in mind, featuring a streamlined **D-cell battery replacement system** that eliminates the need for costly proprietary batteries—saving both time and money.

Its **universal wireless architecture** supports seamless plug-and-play integration with multiple cellular modules across various protocols, ensuring long-term adaptability and future-proof connectivity. Additionally, the ECOSiren® - Ex extends beyond the **Blue Siren** ecosystem, enabling direct integration with **OEM sensors**, including **ultrasonic and radar-based level and surface velocity sensors**, for **non-contact measurement applications**.

Further enhancing its capabilities, the ECOSiren® - Ex is **certified with our world-class Vision technology**, providing advanced remote monitoring **Monitor with Vision®**, delivering unparalleled data insights and operational efficiency.

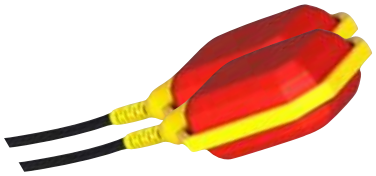
Blue Siren Designed and Manufactured

Dual Wave Doppler Flow AV Sensors, Single or Dual

5MP Vision Technology with Super Bright LED System

Monitor with Vision®

Digital Alarm for Early Warning Critical Warning Overflow Alarm



OEM Designed and Manufactured

VEGA C21 Radar Level Sensor

Industry Standard

PULSAR dBI Ultrasonic Level Transducer

Industry Standard

PULSAR MicroFlow-i Non-Contacting Radar Velocity Sensor

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DUAL WAVE FLOW (AV)

ULTRASONIC DOPPLER AREA VELOCITY SENSOR

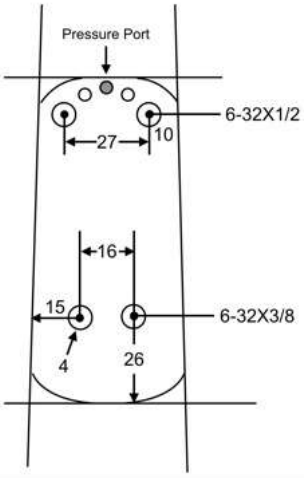
- Fully Submersible
- Dual-Wave Doppler Technology
- Averaging Algorithms Applied
- Doppler frequency is proportional to the speed of water in mm/s.m/s and ft/s

Dual-Wave Area-Velocity Sensor

The **Blue Siren ATEX-rated Dual-Wave Acoustic Velocity (AV) Sensor** leverages **Doppler-based acoustic technology** to deliver precise velocity measurements in flow monitoring applications. This advanced AV sensor integrates **high-sensitivity pressure-depth and velocity sensors**, ensuring accurate and reliable data acquisition.

All electronics, including an **internal water temperature sensor**, are fully encapsulated within the sensor housing for enhanced durability and environmental protection. The sensor outputs **velocity via a serial digital data stream**, while **depth is transmitted through an analog 0-5V signal**, ensuring compatibility with various data acquisition systems.

Its **Dual-Wave Technology** employs **dual transmitters**, saturating the flow stream with a higher density of acoustic signals, thereby expanding the measurement range and enhancing the acoustic profile for superior velocity measurement.



Technical Specifications:

Depth:	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
Range:	0 to +10m/s
Cable:	7.62m (25ft) Standard
Response Time:	4 digital samples/second
Serial Output:	UART - TTL, RS485, Hz
Transmission:	500 KHz
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 without cross talk

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5MP LOW LIGHT VISION CAMERA SENSOR

- 5MP Low Light CCD Camera, with Bright LED
- Rugged Enclosure
- Maximum 5MP resolution
- Bult-in Compression
- Easy to use mounting bracket

Technical Specifications:

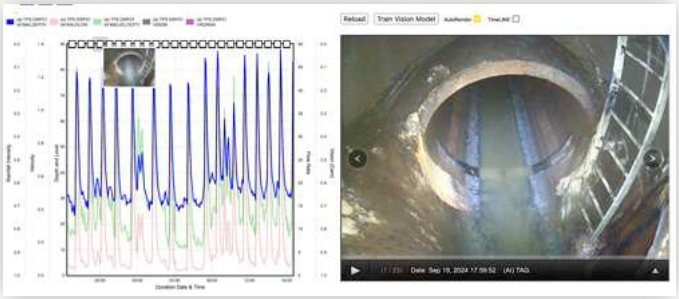
Pixel Resolution :	2592×1944 (5MP), 2048×1536 (3MP), 1920×1080 (2MP), 1600×1200, 1280×960 (1MP), 1024×768 (.7MP), 800×600 (.5MP), 640x480
Sensor:	1/2.8” CMOS
Baud Rate:	115200bps (default), 19200bps, 38400bps, 57600bps, optional
Angle of View (FOV):	60 degree (default), 120/90/45/30/15/8 degree Optional
Focal Length:	3.6mm (default), 2.8mm/6mm/8mm/ 12mm/ 16mm/25mm Optional
Minimum Illumination:	0.01LUX
Operating Temperature:	-4°F-140°F
Sample Rate:	Minimum 1 minute
Auto Gain Control:	Automatic
Exposure:	Automatic

Monitor With Vision®

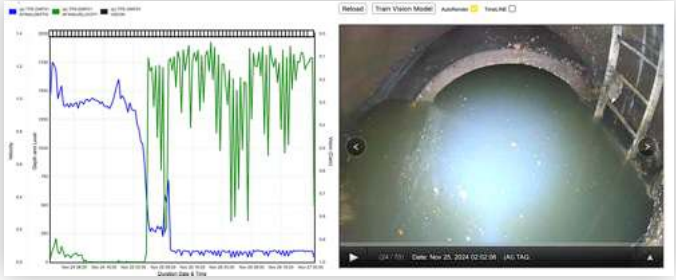
The **Blue Siren 5MP High-Output LED Camera Sensor** is a powerful, high-resolution imaging solution designed for a wide range of applications, including **sewer inspection, grease clog detection, inflow and infiltration (I&I) monitoring, storm grate surveillance, and camera-based infrastructure security**.

With **automated image capture and seamless data transmission**, the sensor can store and send images directly to any server or web-based platform. Sensor readings are **automatically time-synced with image data**, enabling precise correlation between visual and environmental conditions for deeper analysis and enhanced decision-making.

Timelapse Movie Viewer with (Ai)



View data and images side by side using our unique time lapse viewer. Easily correlate dry vs wet weather flows or train image model to detect anomalies



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BLUE SIREN®
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OEM RADAR LEVEL
VEGA NON-CONTACTING RADAR LEVEL SENSOR

ATEX Zone 1 or Zone 0

Industry Standard Reliability

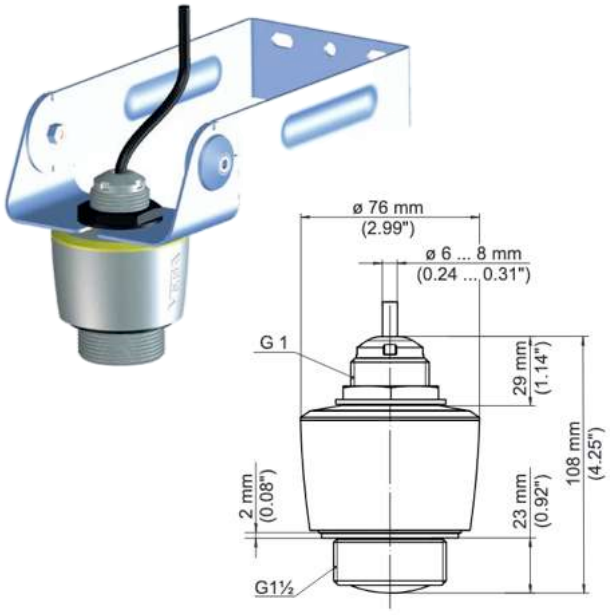
Maintenance-free operation due to non-contact 80 GHz radar technology

Low Power, Ideal for Remote Monitoring

OEM RADAR LEVEL

Blue Siren designed an intrinsically safe circuit that can be used with industry standard OEM sensors including the reliable Vega C21 non-contacting radar level sensor.

The VEGAPULS C 21 is a highly accurate radar sensor designed for non-contact level measurement in standard applications requiring a high degree of protection. It is particularly well-suited for water treatment, pumping stations, rain overflow basins, open-channel flow measurement, level monitoring, and various industrial applications. The device operates by emitting a continuous radar signal through its antenna, which is frequency-modulated. This signal is reflected by the medium and received as an echo, with the frequency difference between the emitted and received signals being proportional to the distance and dependent on the filling height. The measured filling height is then converted into a corresponding output signal, providing precise level measurement.



Technical Specifications:

Measuring range up to	20 m (65.62 ft
Beam angle	8°
Measuring frequency	W-band (80 GHz technology)
Maximum Separation:	Up to 1,000 m (3,280 ft)
Process temperature	-40 … +80 °C (-40 … +176 °F)
Accuracy	• ± 2 mm
Protection rating	IP66/IP68 (3 bar, 24 h) acc. to IEC 60529, Type 4X/6P acc. to UL 50
Materials, wetted parts	PVDF
ATEX Approval:	Ex II 1 G D, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da (Directive 2014/34/EU)

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OEM RADAR VELOCITY
PULSAR NON-CONTACTING VELOCITY SENSOR

ATEX Zone 1 or Zone 0

Industry Standard Reliability

Averaging Algorithms Applied

Low Power, Ideal for Remote Monitoring

OEM RADAR VELOCITY

Blue Siren designed an intrinsically safe circuit that can be used with industry standard sensors including the reliable Pulsar MicroFlow-i non-contact radar velocity sensor.

Measuring velocity using a non-contact method is a complex analytical challenge that has only become feasible with the advent of faster processors available to instrumentation designers. Pulsar Measurement employs a technique known as Refracted Spread Spectrum Analysis (RSSA). In the MicroFlow-i product, a pulse is emitted at the liquid surface, generating reflections across the entire channel width. A single transducer can handle channels up to 1.5 meters (4.9 feet) wide, while multiple transducers work in unison for broader applications. The RSSA algorithms process and integrate the received signals, then segment them for real-time analysis and velocity calculation.

Technical Specifications:

Sensor Body Dimensions:	90 mm x 140 mm (3.54 in x 5.51 in)
Weight:	1 kg (2.2 lbs)
Sensor Body Material	Valox 357
Maximum Separation:	Up to 1,000 m (3,280 ft)
Operating Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Velocity Range:	0.3 m/s to 6 m/s (0.98 ft/s to 19.7 ft/s)
Optimum Installation:	Install and an angle of 45° in line with the flow. More information is available in the manual.
Current Consumption	3.8-22mA
Enclosure Protection:	IP68
Radar:	K-Band (ISM)
ATEX Approval:	Ex II 1 G D, Ex ia IIC T4 Ga, Ex ia IIIC T135°C Da (Directive 2014/34/EU)

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OEM LEVEL
PULSAR ULTRASONIC LEVEL SENSOR

- ATEX Zone 1 or Zone 0
- Industry Standard Reliability
- Low Power, Ideal for Remote Monitoring
- Self-Contained, Intelligent, Non-Contacting Level Sensors

OEM dBi LEVEL

Blue Siren designed an intrinsically safe circuit that can be used with industry standard sensors including the reliable Pulsar series dBi Ultrasonic Level Transducer.

The dBi Transducer series is equipped with Pulsar Measurement's cutting-edge echo processing technology, **Digital Adaptive Tracking of Echo Movement (DATEM)**. This advanced software precisely locks onto the true target's echo and continuously tracks it as it moves within the vessel, effectively filtering out stationary reflections from obstacles like chains, and ladders—common causes of failure in many ultrasonic systems. As a result, dBi transducers deliver highly reliable and accurate measurements, even in challenging environments where other manufacturers' equipment may struggle to perform.

Technical Specifications:

Depth:	30ft (10m) 15 PSI or 10ft (3m) 5 PSI
Measurement Range:	125 mm to 15 m (4.9 in to 49.2 ft)
Sensor Body Material	Valox 357 PBT
Mounting Connection	BSP or 1 in NPT
Operating Temperature	-40 °C to +80 °C (-40 °F to +176 °F)
Input Voltage Range	0-28 V DC
Output	4-20mA output, resolution 1µa
Current Consumption	3.8-22mA
Boot-Time	9 Seconds
Enclosure Protection:	IP68 / NEMA 6P
ATEX Approval:	Standard: Zones 1 & 2 to Ex II 2 G Ex mb IIC T4 Gb, Ex II 2 D Ex mb IIIC T130 °C Db, Tamb= -40 °C to +80 °C Optional: Zone 0 to Ex II 1 G Ex ia IIC T4 Ga, Ex II 1 D Ex ia IIIC T130 °C Da, Tamb= -40 °C to +80 °C

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DIGITAL ALARM SWITCH Real Time High Level Alarm and Vision Trigger

- Leak Proof
- Shock Proof
- Impact Resistant
- Resistant To Sewage And Wastewater Applications
- Operating Temperature Range Of 32ºF to 170ºF

High Level Alarm

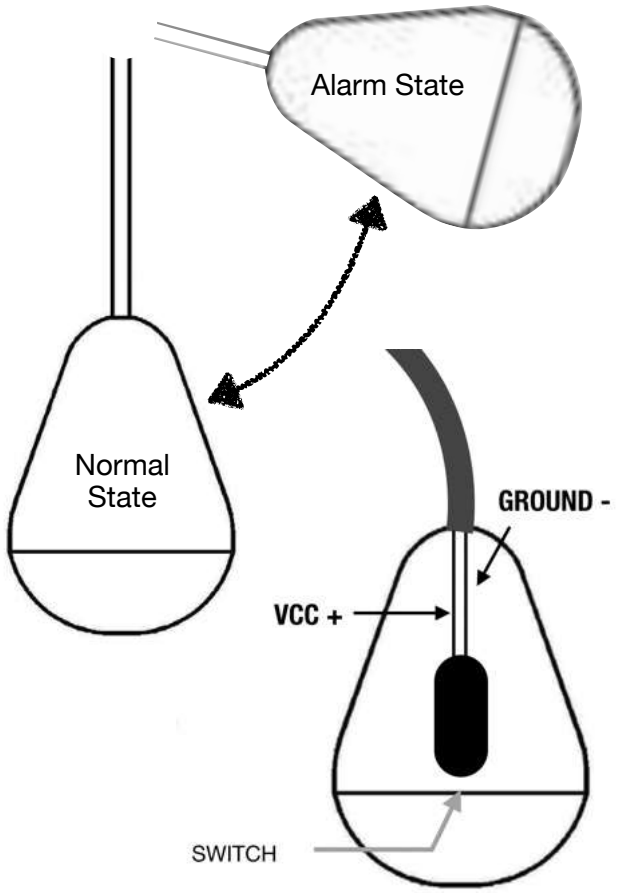
Easily monitor and send alarms when water levels reach a critical point. The internal switch activates as the float rises 1” or 5º above horizontal.

Leak-proof operation makes this sensor optimal for monitoring water and wastewater applications.

Mini and Standard sizes are available.

Technical Specifications:

Body Material Exterior:	Durable PolyPropylene
Body Material Interior:	Solid Polyurethane Foam
Actuation Point:	1” Above/Below Horizontal
Operating Voltage:	10 AMP - 120V AC 3 AMP - 240V AC
Cable Material:	Chlorinated Poly Ethylene
Temperature Range:	32ºF to 170ºF
Cord Weight:	1.22lbs



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WATERWAI™

Wireless Cloud Delivery and MultiModal Data Analysis

View and Analyze Real Time Data

Automatic Data Management

Radar Rainfall and Prediction

Manage Large Networks

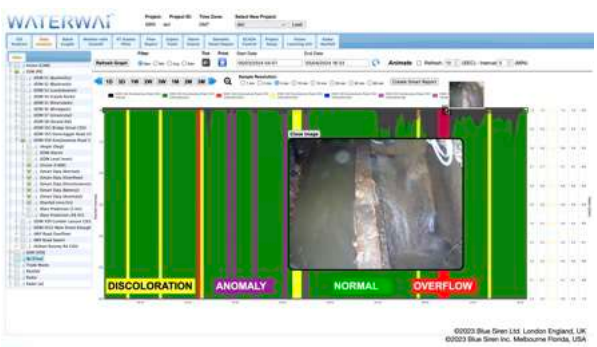
Alarm Management and Ground Truthing

MULTIMODAL ENVIRONMENTAL ANALYTICS

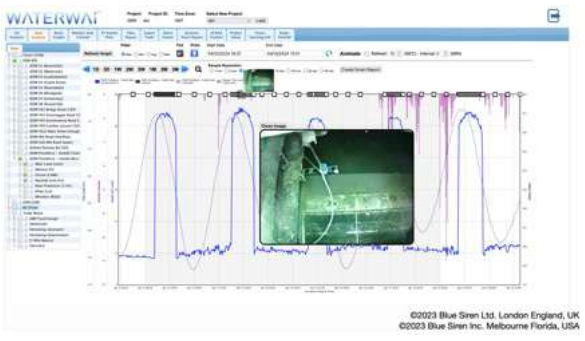
WaterWAI is a cutting-edge, cloud-hosted multimodal data management system that seamlessly integrates environmental sensor data with images, video, and other media for unparalleled ground-truth validation. Designed for scientists and analysts, it unifies geospatial and time-series data with visual evidence, enhancing accuracy and contextual depth in environmental monitoring. WaterWAI's advanced GIS engine supports predictive heat-maps, real-time overlays, and in-depth analytics, including I&I (Inflow & Infiltration) assessments and IDF (Intensity-Duration-Frequency) modeling. With dynamic visualizations—scatter plots, line graphs, and spatial models—alongside intuitive data export and smart reporting, WaterWAI transforms fragmented datasets into cohesive, actionable insights. Powered by high-availability cloud infrastructure, it ensures rapid, AI-enhanced analysis, making environmental intelligence more intuitive, verifiable, and predictive than ever.

ACTIVE GIS with HEAT-MAP MODELING

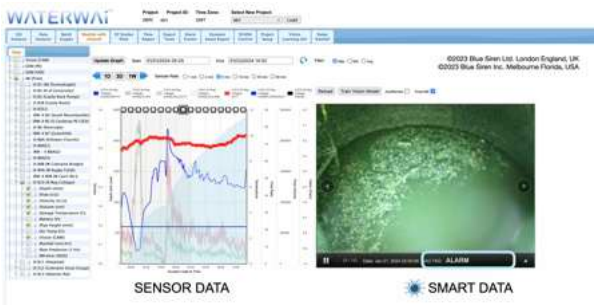
SMART (Ai) DATA TAGS . . Turn Images into Data



MULTIMODAL DATA ANALYTICS



TIMELAPSE MOVIE VIEWER



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