

# FLOW SIREN



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## LOW POWER 3G WIRELESS

## IP68 MULTI SENSOR

## FLOW LOGGER with VISON

Designed by field engineers with over 20 years experience, the FlowSIREN™ is the most innovative low power flow meter to hit the market in years.

Low power technology, combined with eco-efficiency algorithms, allow the monitor to operate for years using a very low power profile. FlowSIREN™ monitors automatically wake up and wirelessly upload data to the internet, notifying you when problems occur.

Designed using impact proof semi-rigid urethane resins ensures that your monitor will last while operating under standard and severe conditions. During the manufacturing process, air is extracted allowing the electronics to be fully encapsulated making the possibility of damage due to flooding next to impossible. No longer lose critical data due to flooding or surcharge conditions.

Dual sensor technology ensures you spend less time in the field and more time at your computer analyzing system data.



Connectors are rated IP68 and made of parts that can not oxidize. Multiple sensor ports allow you to connect depth, level, radar, velocity, water quality, cameras and rain gauge sensors.

Customize your monitor based on your application. Use non-contact radar velocity and ultrasonic level sensors for big pipes; use dual wave doppler velocity for moderate pipes; and try our combined low flow primary device for micro flow rates. Connect multiple float switches and cameras for overflow alarming, it's up to you.

Seeing is believing, or at least that's what city engineers say when using our new infrared sewer camera. Take pictures of clogged storm grates, overflowing sewers and gushing inflow and infiltration leakage. Great for determining grease buildup and conducting reconnaissance to catch illegal dumpers.

Two way communications allow you to trigger and reprogram the monitor remotely without having to go to site.

Wireless antenna and SIM card ports are accessible via water proof chambers located on the top of the monitor. Program firmware using the external flash port, no access to the electronics is necessary.



Global Water Sampler

## SAMPLER FLOW CONTROLLER

## DUAL-WAVE DOPPLER VELOCITY



## NON-CONTACT LEVEL



## OVERFLOW SENSOR



## IP68 CAMERA





# LOW POWER WIRELESS FLOW MONITOR



Low Power profile means longer battery life. The FlowSIREN™ data logger and wireless module operate using a very low power profile. Each version of monitor is designed allowing for a minimum of 1 year battery life at 5 minute sample rate and one hour wireless upload interval. Less frequent wireless uploads extend a single battery pack up to three years.

The FlowSIREN™ uses a 28 channel data logger including 8 analog, 8 digital, 4 pulse and 8 serial sensor possibilities. Sensor expansion is facilitated using the X-Port module.



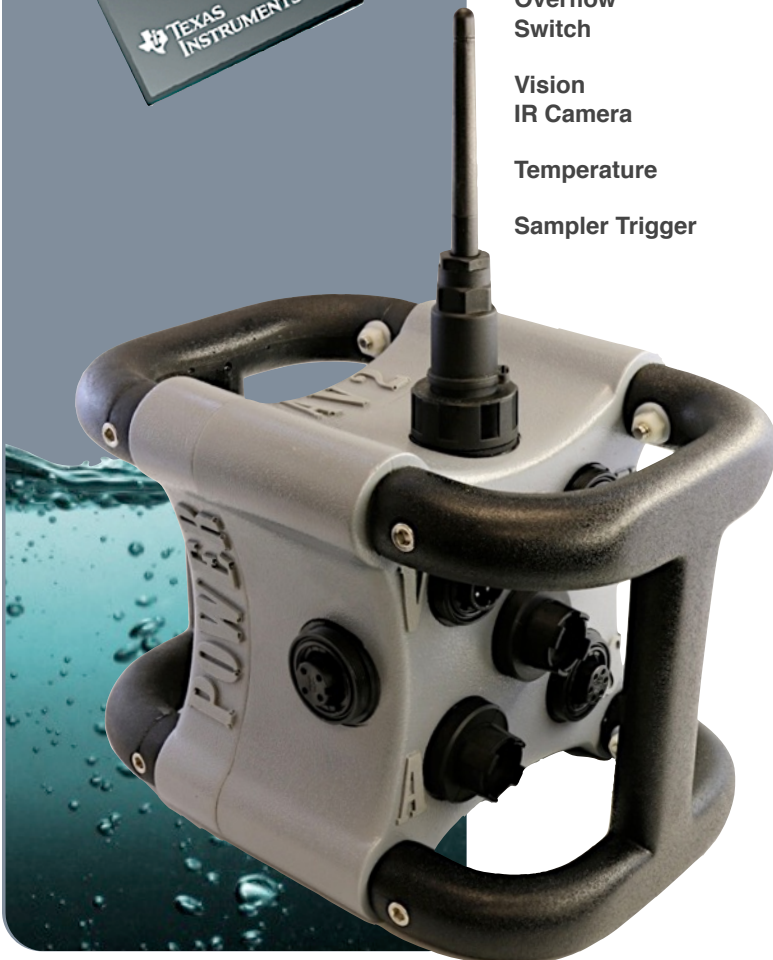
## STANDARD CONFIGURATION

- Dual Flow
- Overflow Switch
- Vision IR Camera
- Temperature
- Sampler Trigger

## X-PORT EXPANSION

- Raingauge
- Non Contact Velocity
- Ultrasonic Level
- pH
- EC-TDS
- ORP
- Color
- Temperature
- Dissolved Oxygen
- Wind
- GPS

Specification	Value
<b>Dimensions</b>	7 X 7 X 4 in. with bumpers 7 X 7 X 12 in. with Battery Pack and Cage
<b>Enclosure</b>	Impact Proof Urethane
<b>Environmental Rating</b>	IP68 Waterproof Submersible
<b>Power</b>	Logger: 3.3 V Internal: 7 or 14 V External: Max 16V
<b>Output</b>	Serial and Digital
<b>Weight</b>	9lb.
<b>Operating Temp.</b>	-40 to 60 C -40 to 140 F
<b>Connectors</b>	IP68 Waterproof 2 Flow, Comm, Power, Vision, Antenna, Wireless SIM, Firmware, X-Port 12 Pin expansion
<b>Smart Button</b>	Direct Push Smart Button with Email Notification (options vary with firmware)
<b>Sample Rate</b>	User Defined, 0 to 60 minutes
<b>Field Software</b>	Field-Siren Windows GUI
<b>Server Protocol</b>	Compressed Binary
<b>Wireless</b>	3.5G HSDPA
<b>Sampler Interface</b>	Option Digital Trigger Port
<b>Data Storage: Based on 22 Active Data Channels</b>	88,000 Samples 2.5 Years@15 min 10 Months@5 min



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# DUAL-WAVE ULTRASONIC DOPPLER DEPTH VELOCITY SENSOR

## DUAL-WAVE AREA-VELOCITY FLOW SENSORS

Flooding the flow stream with more sound waves increases the signal amplitude and creates a more representative velocity reading.

New Single Phase - Dual Wave technology flushes out cross talk and creates a homogenous sound cone.

Signal processing electronics are embedded in the sensor allowing for zero signal loss and longer cable lengths.

The streamline sensor design minimizes fouling resulting in more reliable data. Double up sensors to create a maintenance free monitoring program.

Combine this technology with non-contact velocity and you will be able to look below and above the water surface to accurately determine flow rate.

Measure water level using the embedded 15 PSI stainless steel pressure transducer and monitor up to 30 ft of surcharge depth with 1 mm resolution and 0.1% accuracy.

## SPECIFICATIONS:

VELOCITY	
Power	DC 5V
Output	Serial UART
Resolution	1 mm/s 0.025 in/s
Range	Unlimited Range
Warm Up	3 seconds
Accuracy	0.01 m/s
Water Ingress	IP68

DEPTH	
Power	DC 5V
Type	Piezoresistive
Pressure	15 PSI
Range	0 to 30 ft 0 to 9.14m
Burst Pressure	100 ft
Material	316L stainless
Temp Compensation Range	-10 to 80 C Working: -40 to 125 C
Warm Up	3 seconds
Accuracy	0.1% FS/year
Water Ingress	IP68



# NON-CONTACT RADAR VELOCITY



INSTALL  
FROM TOP OF  
MANHOLE

## NON-CONTACT SURFACE VELOCITY SENSOR USING RADAR

Great for monitoring large open channels and sewer pipes where installation of wet sensors poses a safety concern.

Combine this sensor with a non-contact ultrasonic level and you will have a maintenance free flow monitoring platform.

Combine the Radar technology with the Dual-Wave Doppler sensors and view flow from the bottom and top of the flow profile. Great for billing sites that require stable, repeatable readings all the time.

Simply point the sensor at the flow stream and you will be ready to monitor how fast the water is moving in minutes. Great for Large open channels and raging rivers.

## SPECIFICATIONS:

PARAMETER	VALUE
<b>Microwave Frequency</b>	34.7GHz (Ka band)
<b>Microwave Beam-Width</b>	12 deg. +- 1 deg.
<b>Size</b>	6.7cm (2.6in) D 11.8 cm (4.7in) L
<b>Range</b>	0.2 to 18 m/s 0.65 to 60 ft/s
<b>Accuracy</b>	0.03 m/s
<b>Angle Compensation</b>	0 to 70 deg.
<b>Mechanical</b>	Weight 0.52Kg (1.15 lb.)
<b>Operating Temperature</b>	-30 C to 70 C
<b>Power</b>	9 - 16 VDC
<b>Distance</b>	0 to 100m
<b>Antenna</b>	Conical Horn





# NON-CONTACT ULTRASONIC LEVEL



## NON-CONTACT ULTRASONIC LEVEL SENSOR

High resolution weather-resistant Ultrasonic range finder complete with 25 ft cable.

Very low power and can accept between 2.7 and 5.5 volts.

Best resolution in its class of 1mm when using the serial output option.

Dual outputs include TTL, RS232 and Analog Voltage.

Optional pulse width output also available.

Average current consumption at 3.3V is 2.5mA.

The sensor is fully encapsulated and supplied with industrial cable.

This sensor is very flexible. You can easily program it using the serial interface.

Serial Data is output every second in mm.

## SPECIFICATIONS:

PARAMETER	VALUE
Range 1	5m (20 ft)
Range 2	10m (40 ft)
Power	DC 2.7 to 5 V
Output	DC 5V TTL Serial (mm) Pulse
Resolution	1mm
Operating Temp.	-40 to 85 C -40 to 185 F
Casing	Impact Resistant Urethane
Color	Black
Operating Current	2.5ma
Water Ingress	IP68



**NON-CONTACT  
LEVEL SENSOR  
MONITOR FROM  
40FT AWAY**

# WATERPROOF INFRARED NIGHT VISION CAMERA



## KNOW BEFORE YOU OVERFLOW

Waterproof Infrared Camera will take up to 64 pictures an hour and send them wirelessly to any server. Use analytics to send alarms based on tripwires and know before your overflow.



## MONITOR WITH VISION®

Wireless FlowSIREN™ monitors come equipped with an optional fully integrated IP68 Infrared Camera Sensor. Great for thousands of applications: view 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 ZiScape™ Database and see your images live at the time they upload. Logger readings automatically correlate with image time stamps, allowing more in-depth analysis of system conditions.

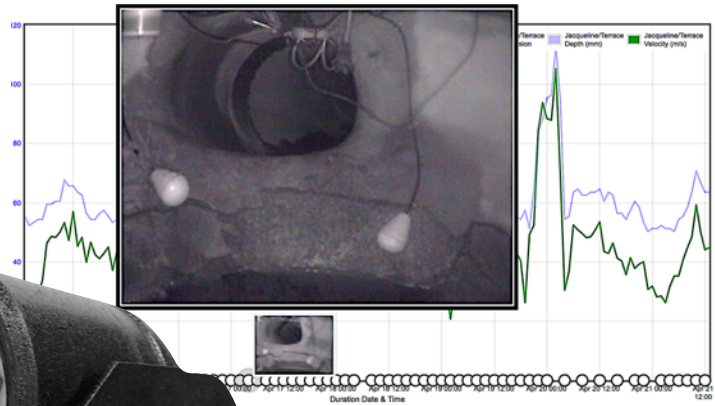
The Camera Sensor is constructed using impact resistant urethane and encapsulated using optically clear epoxy. Air is fully vacuumed out of each sensor leaving no room for condensation or moisture.

Automated light detection controls power to the infrared LEDs saving power when capturing images during the day.

Waterproof IP68 submersible connectors allow the camera to be fully submerged during surcharge conditions, creating a tough and reliable sensor

## SPECIFICATIONS:

PARAMETER	VALUE
Resolution	VGA/QVGA
Output	JPEG
Baud Rate	38400
Power	DC 3.3V or 5V
Current Draw	80-100 ma
Storage	64 images
Memory	Wraparound
Sample Rate	minimum 1 min
WarmUp Time	3 seconds
Excitation	5 seconds
File Size	max. 64Kb
Wireless	GPRS
Upload Interval	1 min to 24 hrs
Water Ingress	IP68



# FLEXIBLE WIRELESS SOLUTION



## ROADWAY AERIAL

Clear Quad-Band Antenna . . . great for all weather conditions. Snowplow and impact proof. No signal loss caused by black carbon interference.

PLUG AND GO  
**SIM CARD**  
SOLUTION

## Acquiring Wireless Signals Requires Flexible Antenna Solutions



Sometimes it is difficult to acquire a wireless signal. This is the reason why so many antenna options have been built into the FlowSIREN™. Water intrusion based signal loss is eliminated by providing a water proof IP68 submersible connector. The SIM card port has been extended to the outside of the monitor allowing end users to select the best wireless network for the location of the monitor.

FlowSIREN™ was designed using Dynamic IP technology, which means you are not locked into any one wireless provider. Simply install your wireless SIM card and the monitor will automatically upload data to any server, any time, anywhere.

Any antenna available in the open market is compatible with the FlowSIREN™ wireless port. Antenna connectors can also be equipped with external power allowing you to integrate wireless amplifiers.

Install the new optically clear quad-band GPRS road way antenna for sites that are subjected to snow and ice. Optically clear impact proof antenna encapsulation is not subject to signal loss due to black carbon signal inhibitors. Install the quick connect utility lid antenna without having to drill the roadway. Whatever the monitoring application is, we have an antenna that will meet your signal needs.

TBAR	WHIP	ROADWAY
		



# FIELD SOFTWARE

- PROGRAM
- WIRELESS SETUP
- SENSOR CALIBRATION
- DOWNLOAD



Easy to use Windows based field programmable software makes it possible for anybody to use the FlowSIREN™ monitor. Click on the option you want and let the software do the rest. The programmable server setup screen lets you select a custom server without being locked into a specific vendor's solution. Easily program wireless settings and change SIM cards without being locked into a vendor's wireless solutions provider. Also program sample rates, calibrate sensors, download data or manually upload data all at the click of a button.



CONNECT TO MONITOR	WIRELESS UPLOAD	PROGRAM TIME	SETUP SERVER
FORMAT MEMORY	PROGRAM CHANNELS	CALIBRATE SENSORS	GET SENSOR READINGS



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# FLEXIBLE CLOUD HOSTING SOLUTION



## STORE DATA LOCALLY OR ON THE CLOUD

ZiScape™ PODS allow the end user to store and receive data at their desk using a local area network.

ZiScape™ PODS can be easily replicated for a more robust secure data solution.

# ZiScape™



## WEB SCADA PLATFORM

### HARDWARE NEUTRAL

ZiScape™ utilizes a standard data driver interface allowing manufacturers to easily connect any machine to the server. Simply download the open source driver code and integrate it into your monitoring platform.

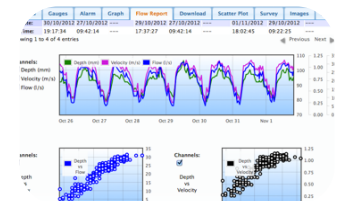
### CLIENT OWNED WEBSITE

Unlike most hosting platforms, ZiScape™ allows you to download templates and create your own custom website. Set your sites to public and allow us to broker online data sales for you. No longer pay set-up fees and finally take control over what you create.

### BIG DATA SERVER

ZiScape™ Database is a fully scalable BIG DATA solution with unlimited data hosting capability. The BIG DATA API guarantees fast delivery of information to your hosting application.

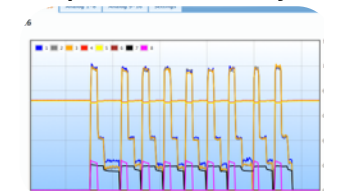
#### Flow & Level



#### Rain, Wind, Temperature



#### Pump Station Efficiency



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