

# SonicSens™ Ultrasonic level sensing

## INTRODUCTION

Radcom's ultrasonic level or flow sensor (SonicSens™) is ideal for remote water level monitoring applications. The sensor's very low power consumption enables it's internal battery to achieve a 5 year battery life.

The ultrasonic sensor can be supplied with local or telemetry communications data logger.

Cellular (SMS) communications versions can be configured to provide data and alarms to office PC or mobile phone / pager for investigation and action. Telephone line (PSTN) system can be supplied with alternative logger



Bubble gauge to assist levelling during installation.

SonicSens™ ultrasonic sensor is available with serial output, (4-20mA version planned).

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SonicSens™ ultrasonic sensor powered from internal battery, shown with a MultiLogSMSLite™ data logger offering full two way SMS/GSM telemetry, and Alarms for Lost echo, No signal, Low sensor battery, and Low logger battery.

Ultrasonic level measurements can be sampled at for example 1 minute intervals to a resolution of 1mm (1/25") over at least 1 metre (3¼ Ft) range.

## TYPICAL APPLICATIONS

### Open Channel Flow or Level Monitoring

This non contacting ultrasonic sensor is ideal for monitoring liquid level in rivers and open channels, including many overflow applications.

### Tank Level Monitoring

The ultrasonic sensor can be easily mounted to monitor liquid tank level. The cellular telemetry version can be monitored from the office and easily relocated to another site for survey type applications. The logger can provide alarms in the event of exceeding preset limits

### Control Systems

The ultrasonic sensor can be used to control other process plant upstream at great distances using a standard telephone line or cellular phone networks.

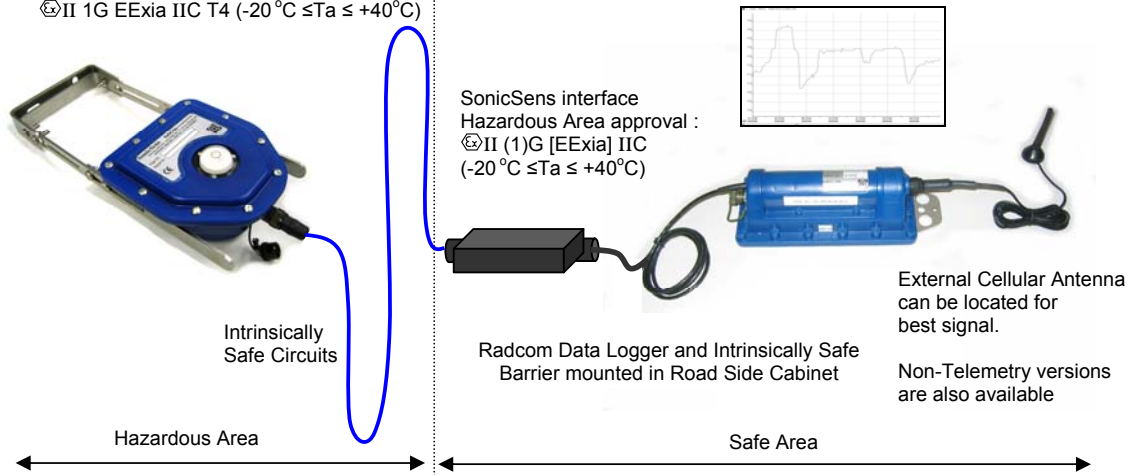
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## ADVANCED VERSION

SonicSens  
Ultrasonic Level Sensor  
Hazardous Area approval :  
ⓈII 1G EExia IIC T4 (-20 °C ≤ Ta ≤ +40°C)

### CSO Monitoring

Intrinsically Safe systems are available for CSO (Combined Sewer Overflow) monitoring applications and other Hazardous Areas with the risk of inflammable gases.



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## TECHNICAL DATA

SonicSens™ Ultrasonic Sensor	Ultrasonic Measurement	Measurement Range 300mm to 1 metre ( 1 ft to 3¼ ft) 500mm to 2.25 metre ( 1⅔ ft to 7⅓ ft) “/10” variant offers : 500mm to 8 metres ( 26¼ ft)
		Resolution 1 mm (1/25”) . Built in temperature compensation
		Accuracy in air 0.25% of target range.
		Beam Angle 10 deg at -3dB boundary Sonic intelligence echo processing.
		Operating temperature -20 to +60°C (-5 to +140°F) [ -20 to +40°C for Exi version]
		Average power consumption 100 micro Amps at 5 minute sample rate
Sensor Physical	Box Size: 152L x 148W x 80D mm (6”L x 5.8”W x 3.2”Deep) Potted plastic enclosure, IP68	
	Stainless Steel adjustable bracket	
	Sensor weight, incl bracket: 1.3 Kg (2.8 lb)	
	Serial communications to MultiLog™ logger via single cable fitted with 4 pin Military connector	
MultiLogSMSLite™ Logging Features	Memory	Primary recording 48,720 readings (MultiLog™) (memory expandable to 245,280 readings on request) Can read continuously (cyclic mode) or period of time (block).
	Sampling Rate	1 – 59 minutes, 1 – 24 hours (Typical 15 minute sample rate)
	Alarms	Level exceedance Alarms. Each alarm out comment field 16 characters. Up to 16 alarm out telephone numbers. Alarms for: Lost echo, No signal, Low sensor battery, Low logger battery
	Logger ID	Up to 8 alphanumeric characters
	Site ID	Up to 127 alphanumeric characters.
	Clock	On board 24 hour real time clock with date facility.
MultiLogSMSLite™ Communications	Serial to PC	RS232 by 4 pin MIL connector for connection to laptop PC, or desktop PC. Programmable upto 19,200 Baud.
	Cellular SMS	SMS daily data download communications. 9,600 Baud 2-way Cellular GSM internal modem (optional) (PSTN modem is Not available with logger shown)
MultiLogSMSLite™ Logger Physical	Dimensions	240H x 94W x 70D mm (9.4”H x 3.7”W x 2.7” D) MultiLogSMSLite™
	Construction	Rigid plastic moulded enclosure MultiLogSMSLite™
	Weight	0.8 Kg (1.8 lb) MultiLogSMSLite™
	Operating temperature	-20 to +70°C (-5 to +160°F) for Logger
	Ingress protection	Logger IP68 submersible
	Power	Lithium-ion cell operational for 5 years under normal operation.

R	A	U	R	0	1	/	0	2	/	0	2	SonicSens™ sensor (Non-certified)	
or			01 = Depth sensor	01 = 4-20Ma Output	02 = Serial Output		{ 300mm to 1 Metre range } { 500mm to 2.25 Metre range } (User config) { 500mm to 8 Metre range } (with larger sensor)						
R	A	U	R	0	1	/	0	2	/	0	2	SMS KIT	SonicSens™ & MultiLogSMSLite™ Logger (Non-certified Kit)
R	A	U	R	0	1	/	0	2	/	0	2	SMS KIT Exi	SonicSens™ Logger+ Interface EExia certified Kit

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Due to our policy of continuous product development Radcom reserves the right to change specifications without notice.

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