



WaveRadar Rex

- Wave and Sea Level Sensor

S E R V I N G O C E A N O G R A P H Y

A third generation, non-invasive, highly stable system for the measurement of Waves and Sea Level in the offshore, renewable energy and coastal monitoring environments.

APPLICATIONS

- Safety status monitoring
- Structural monitoring
- Weather forecasting
- Air-gap studies
- Sea state assessment for operations
- Input to Met-Ocean systems
- Water level observations
- Wind farm monitoring

WaveRadar Rex is manufactured by Saab Rosemount, Gothenburg, Sweden and is distributed exclusively by RS Aqua Ltd. The device is a derivative of Saab's TankRadar, many thousands of which are in global operation. The Rex version is an enhancement of the original WaveRadar, first introduced in 1994.



Image courtesy of Fugro Structural Monitoring

Microwave radar is a perfect medium for the extreme demands of the harsh offshore environment. The downward looking non-contact sensor uses a microwave radar technique to measure distance to the sea surface. Sampled at high frequency, the radar pulses provide an exceptionally stable and accurate measurement of sea surface profile. The microwave signals are very low in power and present no safety hazard. Information is continuously collected and processed to provide precision distance measurement outputs to a data bus. Output values can be displayed and stored to industry standards on a remote PC or may be interfaced to multi-parameter environmental monitoring systems. Output values can also be displayed on an optional remote display unit, model RDU40.

WaveRadar Rex provides digital (RS232) and analogue (current loop) outputs as standard with either AC (M) or DC (D) power options. The sensor is EEx hazardous zone certified by BASEEFA03ATEX and Underwriters Laboratory.

TYPICAL USERS

Shell Exploration ~ Maersk Oil & Gas ~ BP Amoco ~ Exxon Mobil ~ GE Wind Energy ~ BHP ~ Fugro Oceanor
KORDI ~ Petronas ~ Channel Coast Observatory ~ Strainstall ~ Fugro Structural Monitoring ~ Metocean Engineers
Vestas ~ BMT Scimar ~ Chevron ~ Rijkswaterstaat ~ Muir Matheson ~ Semco Energi ... and many more.

FEATURES

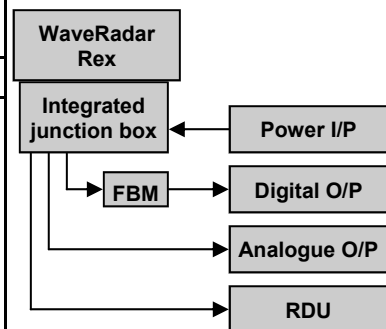
- Stable in the most adverse weather conditions
- Suitable for permanent or temporary installation
- BASEEFA03ATEX or UL EEx - certified
- Accurate to mm precision
- No re-calibration required
- Optional remote display (RDU40)
- Non-contact sensor
- Small size and weight
- Auto starting
- Ideal upgrade for existing systems
- Analogue & digital outputs
- AC and DC versions
- Recognised as the industry standard
- Optional PC display/logging software
- ISO 9001 manufacturer
- Optional mounting frame

TECHNICAL SPECIFICATION		
Performance	Measuring range	3-65 metres to surface
	Accuracy	Range <50m = +/- 6mm Range >50m = +/- 12mm
Radar transmission	Transmitter frequency	9.7 to 10.3GHz (linear sweep)
	Effective radiated power	0.5mW
Radar measurement	Antenna type	Parant (parabolic) reflector
	Measuring frequency	10Hz
Data output	Data bus	Digital two wire FSK field bus binary data output.
	Connector cabling	Eex "e" (non intrinsically safe)
Power supply	Output data rate	2 to 10Hz (4Hz default)
	Digital - from FBM	Factory selectable
Mains Version (M)	Type	RS232 at 4800 baud
	Protocol	8 data bits, no parity, one stop bit
DC version (D)	Analogue output	Simplex
	Range	1 x current loop
Mechanical	Resolution	4-20mA
	Refreshing rate	16 bits
Environmental	Connector cabling	4Hz (default)
	Operating and storage temp.	Eex "e" (non intrinsically safe)
CE Conformity	Voltage	-40°C to +70°C
	Approval number	IP67
Hazardous Zone Certification	Overall dimensions	0575
	Weight	
BASEEFA03ATEX (standard)	Measurement datum	
	Materials (external)	
Underwriters Laboratory (optional)	Operating and storage temp.	
	Environmental sealing	
Underwriters Laboratory (optional)	Radar unit type no.	TH2015-RTG3930
	Certification no.	BASEEFA03ATEX0071X
Underwriters Laboratory (optional)	Code	EX II 1/2G
	Radar unit type no.	EEx d IIB T6 (T _{amb} = -40°C to +70°C)
Underwriters Laboratory (optional)	UL listed	
	FCC ID	
Underwriters Laboratory (optional)	Hazardous location	
	UL listed	TH2015-RTG3930
Underwriters Laboratory (optional)	FCC ID	939U
	Hazardous location	K8CRTG
Underwriters Laboratory (optional)	UL listed	Class 1, Division 1, Group C or D.
	FCC ID	Class 1, Zone 1, Group IIB. Ex d[ia] IIB T6
Underwriters Laboratory (optional)	Hazardous location	(T _{amb} = -40°C to +70°C)

Versions

- WaveRadar Rex M**
- Mains powered (100-240V)
- WaveRadar Rex D**
- DC powered (24V)

System Schematic



Scope of Supply

- 1x Sensor assembly complete with mounting plate
- 1x Field bus modem with RS232 cable and power supply adapter
- 1x Documentation pack

Optional Items

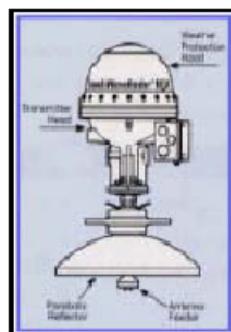
- WaveView (Windows 98 min. spec.) display and logging software
- Power and data cabling
- RDU40 local display unit
- Mounting frame

Shipping Details

- Transit case: Wooden
- Dims: 600 x 800 x 600mm
- Gross Wt: 45kg - standard supply

Mechanical Features

WaveRadar Rex is a sensor with maximum tolerance to encrustation by salt, chemicals and other waste deposits. Experience has proved it to be reliable and trouble-free in operation, with minimum maintenance requirements. The transmitter head consists of a flame proof anodised cast aluminium alloy enclosure with an integral junction box. A weather protection cover is fitted to provide protection from direct solar heating.



WaveRadar Rex is manufactured by Saab Rosemount, Gothenburg, Sweden and distributed worldwide by RS Aqua Ltd.

RS Aqua Ltd is a distributor of oceanographic and marine environmental instrumentation to the research, monitoring, offshore and civil engineering markets.

WaveView Software

WaveView is an optional programme which processes raw WaveRadar Rex data outputs to calculate wave parameter and water level values for display and logging.

