WaveGuide 5 Onboard Ex

Our specialized motion compensated wave radar. Designed for onboard use. It accurately measures wave height, wave period and draught. No water contact, no maintenance and no (re-) calibration. Zero hassle.

This accurate wave monitoring system is an easy to use, reliable and robust device to measure vessel draft level, wave height and wave period. The sensor is capable of maintaining a high level of precision and accuracy in harsh environmental conditions and is particularly suited to maritime use.

Features and benefits

- Highly accurate
- Maintenance free
- Easy installation
- Integrated heave compensation
- ATEX, IEXEc
- Measuring at 10 Hz
- 0 - 60 m wave height
- Network connected
- Up to 5 years of internal data storage

Typically mounted on the helideck, bow, or bridge, the WaveGuide 5 Onboard Ex continuously measures the distance to the water. An integrated, high-precision motion sensor compensates for heave, pitch, and roll in real time. This ensures accurate measurements of the real-time waves the vessel encounters.

The radar measures the distance to the water surface 10 times per second. The radar itself facilitates data acquisition, data processing, data presentation and remote service. Data will be internally stored on the device and distributed over the network. Any device connected to the (private) network can access the web-based user interface.

We are Radac
Technology leader in radar-based wave measurement

RADAC

Since 1996, our Dutch company have developed unique sensors to monitor the ocean surface. Because our wave radars operate without water contact, moving parts, or calibration requirements, they are virtually maintenance-free. This allows us to deliver reliable, high-value systems that keep operational costs to a minimum. Our systems are trusted industry-wide, serving offshore wind operators, oil companies, port authorities, and shipping companies worldwide.

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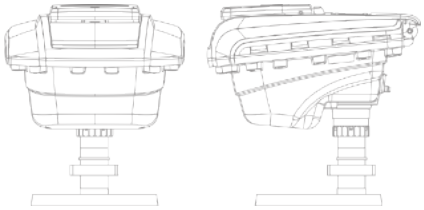
WaveGuide 5 Onboard Ex

WG5 series

SPECIFICATIONS

Heave	Range:	2 - 75 m to surface
	Accuracy:	± 1 cm [1]
	Frequency:	10 Hz
Water level	Accuracy:	± 1 cm [2] [3]
	Processing:	10 min average (optional 1 min and 5 min)
	Interval:	1 min
Vessel draft level	Range:	0 - 60 m
	Accuracy:	± 3 cm [3]
	Processing:	SWAP [4] (per 20 min data block)
	Interval:	1 min
Wave period [5]	Range:	1 - 100 s
	Accuracy:	± 50 ms [3]
	Processing:	SWAP [4] (per 20 min data block)
	Interval:	1 min
Limitations	Max. roll:	5 degrees
	Max. pitch:	5 degrees

EXPLOSION PROOF VERSION: WG5-OB-EX



Mechanical	Dimensions:	217 x 319 x 379 mm (d x w x h)
	Weight:	14.4 kg (excl. antenna 2.8 kg)
	Material:	Chromatized aluminum
Electrical	Power consumption:	24 - 65 VDC, 65 - 240 Vac, 8 W
	Frequency:	10 GHz (X-band)
	Modulation:	Triangular FMCW
	Emission:	0.1 mWatt max. (Far below acceptable limits for exposure of the human body)
Environmental	Temperature:	-40 °C to 65 °C
	Humidity:	0 - 100 %
	Ingress Protection:	IP67
	Safety:	ATEX, II 1/2 G Ex db [ia Ga] IIB T6 Gb IECEx, Ex db [ia Ga] IIB T6 Gb
Motion sensor	Range:	± 2 g
Communication	Network:	1x Ethernet
	Subscriptions:	MQTT, UDP
	Data storage:	SD 32 Gb
	Optional:	External converter to RS232 or RS422 or RS485

1) Valid for a still water surface.
2) For a water surface with waves.
3) The accuracy of the wave parameters is not limited by the radar sensor, yet it is defined by the stochastic nature of sea-surface measurements.
4) SWAP is the Standard Wave Analysis Program, in accordance with the applied standards of the Dutch Ministry of Infrastructure and Environment and of the International Association of Oil and Gas producers.
5) The wave period is not compensated for the horizontal motion. Hence, for a moving vessel, the sensor measures the wave period as encountered by the vessel.