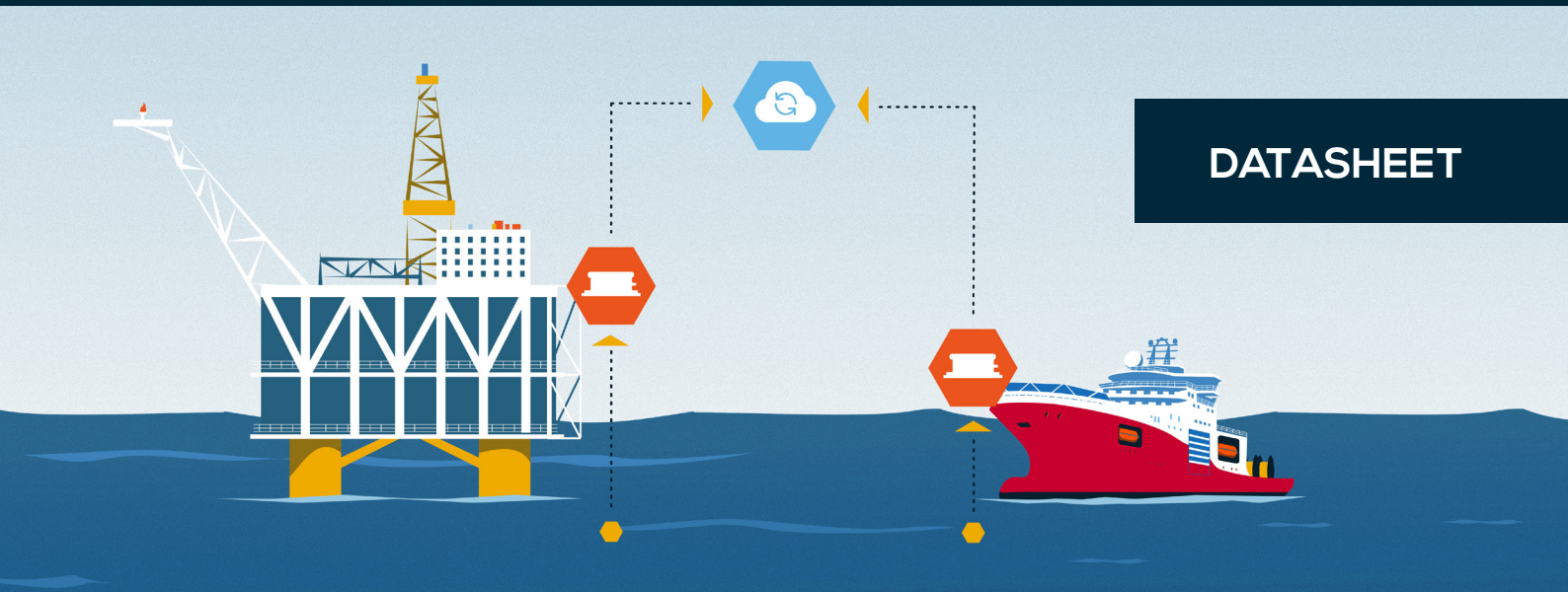


MIROS RANGEFINDER EX

THE ULTIMATE STAND-ALONE SENSOR FOR AIR GAP, TIDE, WATER LEVEL, DRAUGHT AND WAVE MEASUREMENTS



The Miros RangeFinder is a dry-mounted, radar-based sensor purpose-built to deliver accurate, real-time measurements of water level, tide, non-directional wave parameters, and air gap measurements.

Offering market-leading range and accuracy specifications, measurements are not impacted by fog, rain, or water spray. The RangeFinder is Cloud-integrated, allowing for easy, secure access to local sea state data anywhere, anytime and on any device.

The RangeFinder has proven its ruggedness and reliability through decades of service in extreme weather conditions all over the world and can be delivered with motion compensation for use on vessels and with Atex IEC Ex certification (Ex db eb ib T6) for use in Zone 1.

KEY FEATURES

- Atex IEC Ex certified
- High sampling rate and accuracy
- No parts submerged in water
- Low maintenance costs
- Not impacted by fog, rain or mist
- Embedded data processing
- Integrates with third-party systems
- IoT-enabled for easy data access

ESSENTIAL FOR

- Accurate air gap, water level, draught and non-directional wave measurements from both fixed or floating locations
- Weather-critical maritime operations
- Structural integrity verification
- Tide gauge according to WMO TD 1339



The triangular FMCW (Frequency Modulated Continuous Wave) microwave sensor accurately measures the distance to the water surface, with a sampling frequency up to 200Hz. Wave variables are calculated both from the wave point spectrum and from time-series analysis.

The sensor is a self-contained, network connected device with an integrated web-based user interface.

The RangeFinder is an IoT-enabled device that can be easily and securely integrated both with local and remote systems. It can also be complimented with various value-adding cloud services from Miros, such as web displays, database integration, data processing and device management services.

SPECIFICATIONS

Data	Range	Resolution	Accuracy
Distance (Air Gap)	2 - 95 m	1 mm	< 5 mm
Wave Height	< 93 m	1 cm	< 1 cm
Wave Period	0.5 - 128 s	0.1 s	0.1 s
Internal Sampling Rate:	50 - 200Hz, depending on range		

Interfaces

Data transmission:	TCP/IP over CAT5e or better
Serial Interface:	RS-232 (Standard) RS-422 (Optional)

Displays/GUI

Data, Status, Configuration	Web GUI
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Output Interfaces

Sensor Data & Status:	NMEA, proprietary formats JSON over HTTP and Cloud
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Data Output Rate:	Up to 50Hz via TCP/IP or serial
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Input Interfaces

Position:	NMEA - GGA/GLL
Date/Time:	NTP

Electrical Data

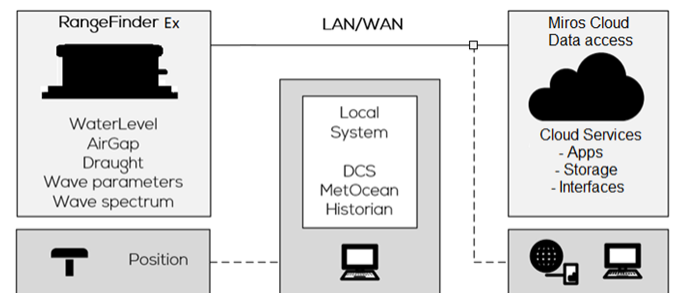
Frequency of Operation:	9.4 - 9.8 GHz, Triangular FM
Transmitted Power:	2 dBm ± 3 dB (Nominal 1,6mW)
Beam Width:	5° (-3 dB one way)
Supply Voltage:	12 - 36 VDC (Nominal 24 VDC)
Power Consumption:	< 7 W
RED:	2014/53/EU (Pending)

Environmental Specifications

Temperature:	-20°C to +50°C
Humidity:	0 - 100 %RH
Ingress Protection:	IP 66
ATEX:	II 2(2)G, Ex db [ib Gb] IIB T6 Gb
IEC Ex:	Ex db [ib Gb] IIB T6 Gb

Physical Specifications

Dimensions (HxWxD):	210 x 500 x 440 [mm]
Weight:	15 kg
Material:	Al. EN AW 5052 / EN AW 6082
Finish/Colour:	Enameled / Grey RAL 7035 ExD Housing with Cast Aluminium Finish



Accessories & Options

MP-327	Mounting Bracket
101749	JB RangeFinder Ex w/ 24VDC power supply
101750	JB RangeFinder Ex w/o power supply
101726	RangeFinder Ex Motion (with integrated MRU)
Cloud Services	

Specifications are subject to change without prior notice.