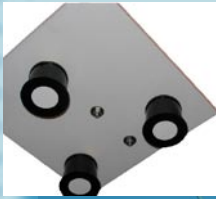


**Application Note**

**LOG\_aLevel LR - Ease of Water Level and Wave Measurement for Offshore Applications**



**LOG\_aLevel LR** is a reliable, cost-effective and proven remote sensing water level and wave gauge on the basis of General Acoustics' advanced airborne ultrasonic technology. Additionally, it is calibration free, robust and practically maintenance free. LOG\_aLevel LR systems are easy to deploy due to it's small sensors, are easy to integrate in complex measuring systems (SCADA) and work complete automatically.

**Specifications:**

Measuring ranges:	15/20/25/30 m (Ultrasonic) up to 40 m (Radar)
Resolution / Field accuracy:	1 mm / 2 cm (Level)
Wave parameter:	Hs, Hmax, Ts
Sample rate (user selectable):	up to 5 Hz (15/20/40 m) up to 4 Hz (25/30 m)
Ultrasound Sensor:	40 kHz; 30 kHz @ 30 m
Radar Sensor:	10GHz FMCW

**Applications:**

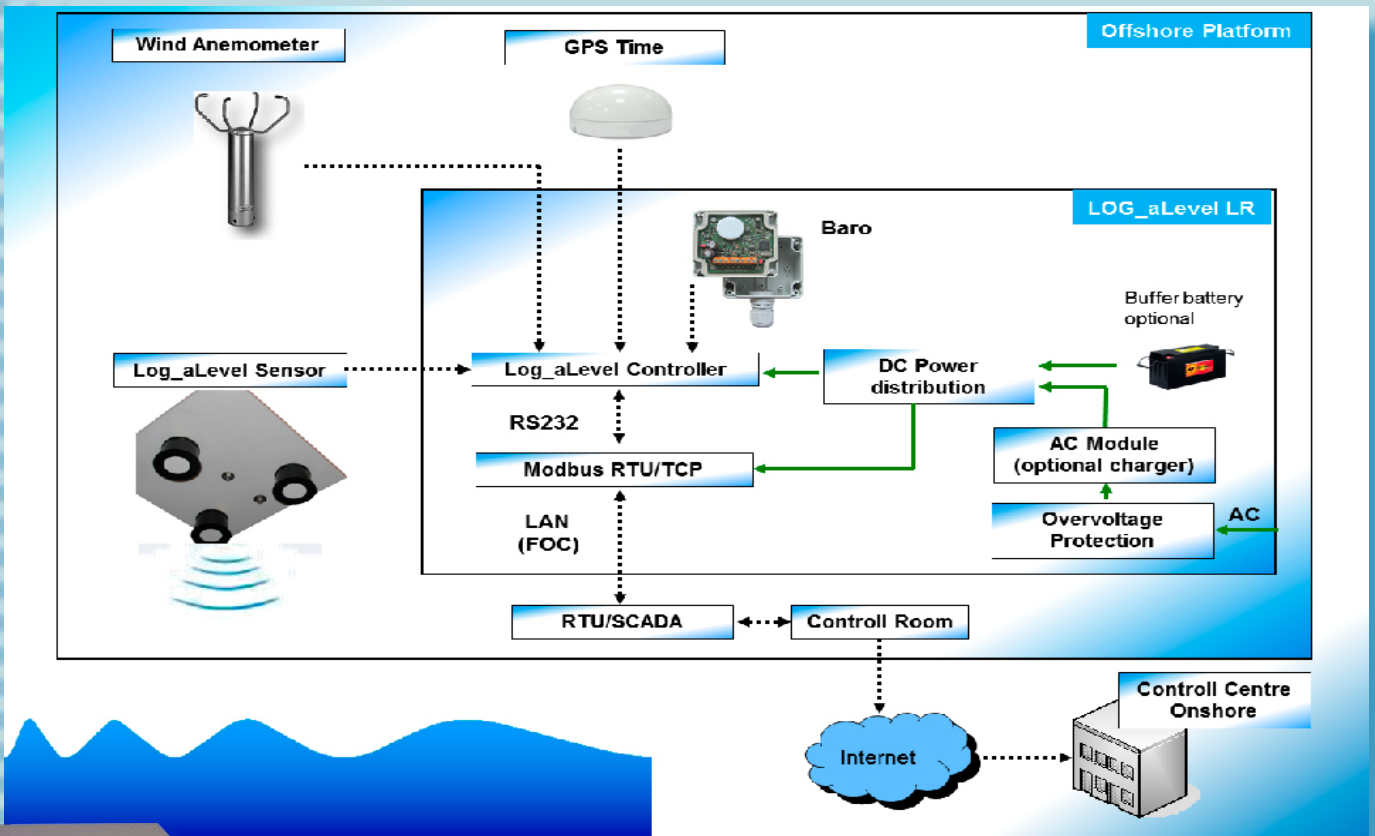
- Operation of Offshore Platforms
- Support of Offshore Construction Work, Offshore Maintenance and Surveys
- Optimisation and Safety of Transport and Construction (pipes, cables, foundation etc.)
- Wave Monitoring and Analysis
- Integration into or extension to a complete Metstation
- Load Determination for Offshore Constructions
- Event Alerting System
- Hydrology and Environmental Monitoring
- Local Tide Analysis and Prediction



**Further Advantages:**

- Calibration Free and Accurate due to Outstanding Sound Velocity Compensation
- Maintenance - Free and Ease of Deployment
- Precise, Robust and Economical
- Reliable under Extreme Conditions: Flood, Ice, Storms, Debris, etc.
- Small, Narrow Beam, Low Power Sensors Enabling Easy Installation and Accurate Level Also at Wavy Water Surface
- Wave and Level Measurement Simultaneously





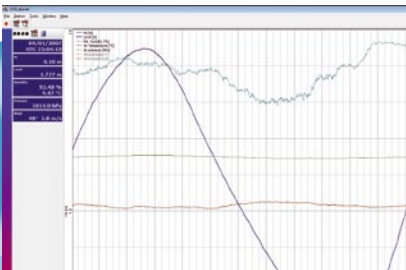
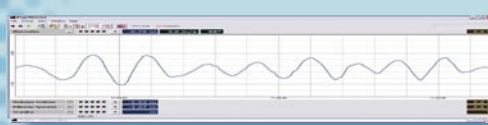
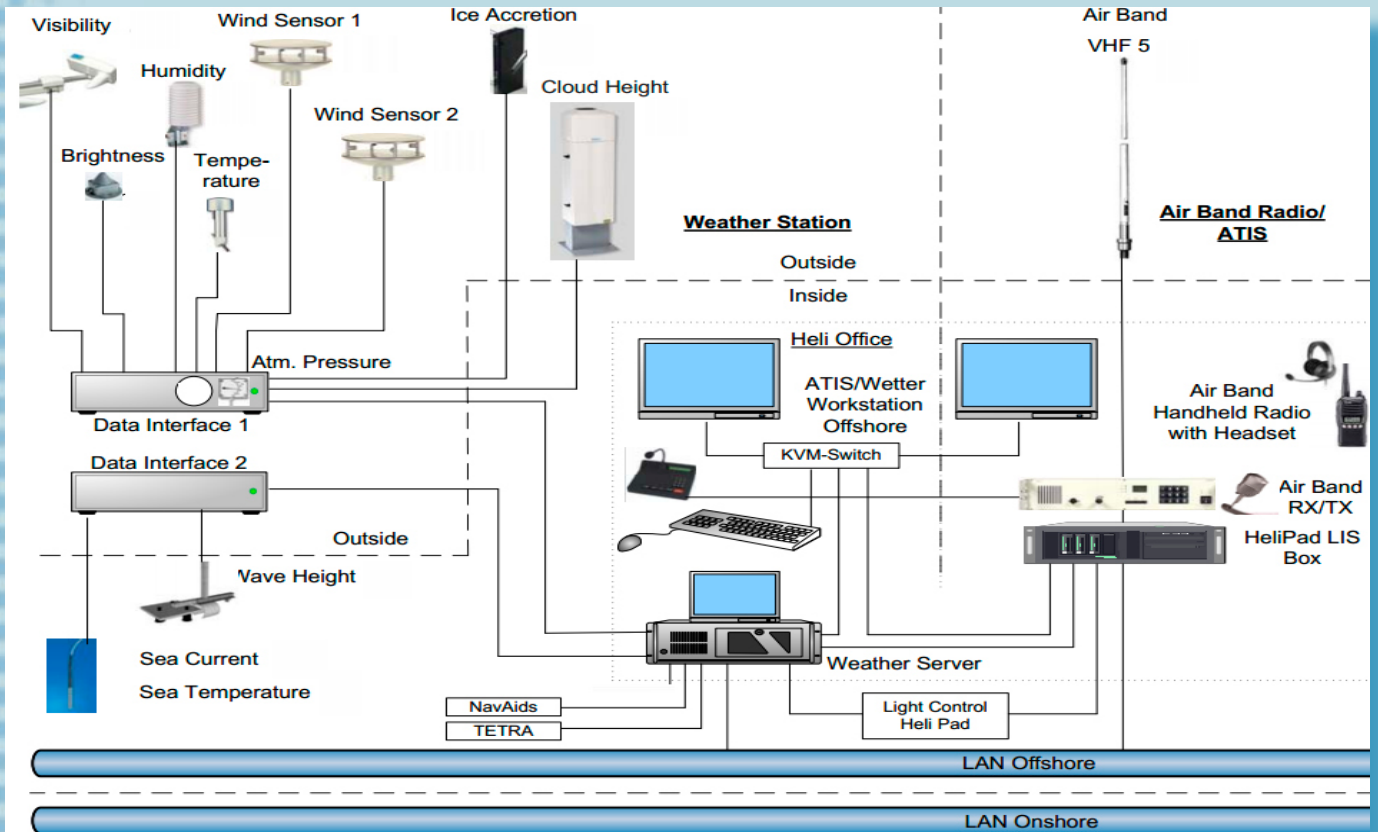
**Standard System:**

- Stainless steel housing, powder coated, IP 66, lockable, size: 40x30x20 cm (or 50x50x20 cm)
- Ultrasound - (ULLxx40) or Radar sensor
- REF300 sound velocity sensor for precise distance measurement (for ultrasonic sensors)
- LOG\_aLevel-LR Controller module for signal processing and sensor control/data acquisition incl. RTC
- RS232/RS485 data interface
- Power supply 12/24 VDC or 230 VAC
- LOG\_aLevel Software for system set-up, visualisation, managing and storing of data on a Windows PC
- Modbus interface for easy system integration

**Options:**

- Sensor bracket
- Additional wave parameter (direction-with current meter or doppler radar, wave spectra etc.)
- Overvoltage protection (sensor- and/or power supply lines)
- GPS-Time module (pps; drift free 1ms accuracy)
- Integration into SCADA system/Media Converter to FOC
- Buffer batteries 12V, LiPo/-Ion or up to 200 Ah (AGM type)
- Internal data logger incl. 4 GB SD Card for backup and maintenance purposes
- complex/sophisticated data acquisition system as a complete metstation for helipad operation etc.
- Additional environmental / redundancy sensors e.g. ultrasonic wind gauge, temperature, humidity, ice, precipitation, barometric pressure, visibility, cloud height





### Windmesser 1 - Deckshöhe

Richtung: 188 °	Geschwindigkeit: 0.1 m/s	Doen der letzten 2h: [Graph]
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### Licht

Helligkeit bis 750 lux  
Schaltgrenze 150 lux  
5 lux  
**Beleuchtung AN**

### Luft

Lufttemperatur: 19.6 °C	Luftfeuchtigkeit: 37 %	Luftdruck: 1018.6 hPa	Luftpunkt: 4.6 °C
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### Meldungen LOGGER1 - Helideck

Time:stamp	Code	Hinweis
2:12:04:27 11:32:54	0	SI AN: ENG VZ: 90
2:12:04:27 15:31:15	0	STARTING VZ: 90

Verbindung Ok

### Wasser

Wasserstand und Wellenhöhe 2h: 1.26 m, 0.79 m	Wassertemperatur: 21.0 °C
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### Meldungen LOGGER2 - Wellenmessung

Time:stamp	Code	Hinweis

Verbindung Ok