Dual-frequency echo sounder

Applications

- Hydrographic surveying of harbours, waterways and coastal water areas
- Area monitoring of fluid mud and silt layers
- Supporting intelligent dredging management by technically efficient measurement
- Creation of digital terrain models
- Digitalisation of existing analogue echo-sounder systems

Features

- Combination of different transducers between 12 kHz and 400 kHz possible
- Trouble-free integration of already installed transducers
- Alternative passive listen-in mode within already existing systems
- Automatic gain control
- Noise free digital signal conditioning with large dynamic range
- High speed ethernet connection (100Mbit)
- Support of external GPS signals
- User-friendly application software, executable on commercial laptops

Description

The single beam system with dual frequencies enables effective surveying of seafloor conditions, and of the different layer formations of suspended matter and sediments, ranging from fluid mud to well consolidated silt. All data are transferred in real time via Ethernet to the user-friendly application, then visualised and stored. The user-application provides et al.:

- Day, fog and night mode with customisable color profiles
- Playback mode
- Real time depth export to QINSy, WinProfil, Profil2000 and others
- Support of external GPS signals
- Transformation to Gauss-Kruger

The compact and splash-proof design as well as the operation together with 12V and 24V battery packs allow for uncomplicated mobile outdoor missions.

The area data capturing of the dual-frequency admodus®***SONAR*** echo sounder, combined with the highly accurate point-by-point measurements achieved with the admodus®***USP pro***, is one of the most accurate methods currently available for hydrographic surveying.

Figure 1: admodus®***SONAR***

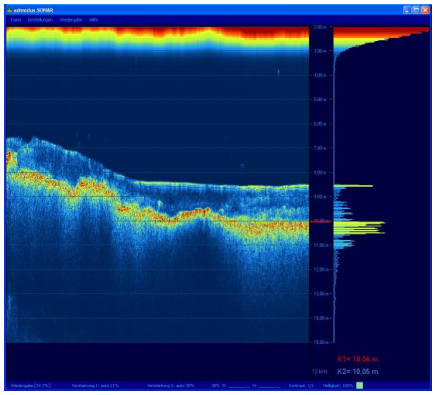

Figure 2: Application software

Technical Data

Mechanical

Housing material:	Aluminium, coated
Protection of enclosure:	IP64 (protection again splash water)
Dimensions:	25,0 cm x 20,6 cm x 3,8 cm (LxWxH)
Weight:	3,3 kg
Operating temperature range:	0°C to +40°C
Storage temperature range:	-20°C to +70°C
Humidity:	70%, noncondensing

Electrical

Supply voltage range:	+11V_{DC} to +28V_{DC}
Power consumption:	approx. 12 W (nominal), max. 35 W (power-up)
Network interface:	LAN - 100Base-TX (Standard RJ45-Connector)

Sensor technology

Possible sounder frequencies:	12 kHz to 400 kHz, configurable
Maximum burst voltage:	500V_{pp}
Analog-Digital-Converter:	12 Bit, 40 MHz
Maximum pingrate:	max. 20 Hz
Measurement range:	0,5 to 50 m
Accuracy:	0,10 m ± 0,1 % depth @ 30 kHz 0,01 m ± 0,1 % depth @ 200 kHz
Achievable resolution:	Depends on sounder frequency water conditions, with 30 kHz at T=10°C approx. 48,34 mm with 200 kHz at T=10°C approx. 7,25 mm

Certifications

CE-marking:	CE
Electromagnetic compatibility:	EN 61000-6-2 (immunity for industrial environments) EN 61000-6-4 (emission standard for industrial environments)

Application software

Hardware requirements:	Notebook with LAN – 10/100Base-TX
Operating system:	Windows XP / Vista / 7
Language:	German
Display:	Day-, fog- and night mode, customizable color profiles
GPS:	input of external GPS-signals vice RS232 possible
Depth-Export:	Interface for QINSy, WinProfil, Profil2000 and others
Custom modifications:	possible on request

Revision history

Version	Changes	Date
Rev. A	• Creation of datasheet	April 2006
Rev. B	• Update to new design	July 2009
Rev. C	• Software screenshot • Technical data • New design	March 2012

Synergetik
Gesellschaft für Industriesensorik mbH
Eseiterstraße 5
66557 Illingen
Phone: +49 (0) 6825 - 94 29 1 - 0
Fax: +49 (0) 6825 - 94 29 1 - 11
E-Mail: info@admodus.de
Internet: www.admodus.de

