AWAC 1 MHz - Legacy

Real-time current profiles and directional waves for shallow water



This version of the AWAC is no longer available.

Please see the AWAC Generation 2.

This version of the AWAC remains functional and supported. Please visit our support center if you require assistance.

Highlights

Applications

Technical specifications

Water velocity measurements	
Maximum profiling range	30 m
Cell size	0.25-4.0 m
Number of cells	Typical 20-40, max. 128
Velocity range	±10 m/s horizontal, ±5 m/s along beam
Accuracy	±1% of measured value ±0.5 cm/s
Velocity precision	Consult instrument software
Maximum output rate	1 Hz
Internal sampling rate	7 Hz

Echo intensity (along slanted beams)	
Sampling	Same as velocity
Resolution	0.45 dB
Dynamic range	90 dB
Transducer acoustic frequency	1 MHz
Number of beams	3 beams 120° apart, one vertical beam (90° apart, one at 5° for platform mount)
Beam width	0.85° (1.7° total)
Beam width vertical beam	1.7° total

Wave measurement option (AST)	
Maximum depth	35 m
Data types	Pressure, one velocity along each beam, AST

Wave measurement option (AST)

Sampling rate velocity (output)	2 Hz
Sampling rate AST (output)	4 Hz
No. of samples per burst	512, 1024 or 2048

Wave estimates

Range	-15 to 15 m
Accuracy/resolution (Hs)	< 1% of measured value / 1 cm
Accuracy/resolution (Dir)	2° / 0.1°
Period range	0.5-50 s
Cut-off period (Hs)	5 m depth: 0.5 sec, 20 m depth: 0.9 sec, 60 m depth: 1.5 sec
Cut-off period (dir)	5 m depth: 1.5 sec, 20 m depth: 3.1 sec, 60 m depth: 5.5 sec

Sensors

Temperature:	Thermistor embedded in housing
Temp. range	-4 to +40 °C
Temp. accuracy/resolution	0.1 °C/0.01°C
Temp. time response	< 5 min
Compass:	Magnetoresistive
Accuracy/resolution	2°/0.1° for tilt <15°
Tilt:	Liquid level
Accuracy/resolution	0.2°/0.1°
Maximum tilt	30°,AST requires <10° instrument tilt
Up or Down	Automatic detect
Pressure:	Piezoresistive
Range	50 m
Accuracy	0.5% of full scale (optional 0.1% of full scale)
Resolution	0.005% of full scale

Analog inputs

No. of channels	2
Supply voltage to analog output devices	Three options selectable through firmware commands: Battery voltage/500 mA, +5V/250 mA, +12V/100 mA
Voltage input	0-5 V
Resolution	16-bit A/D

Data Recording

Capacity	9 MB standard, 4/16 GB (Prolog)
Profile record	Ncells*9 + 120 bytes
Wave record	Nsamples*24 + 1k bytes
Mode	Stop when full (default and Prolog) or wrap mode

Real Time Clock

Accuracy	±1 min/year
Backup in absence of power	1 year

Data Communications

I/O	RS-232 or RS-422. Software supports most commercially available USB– RS-232 converters
Communication baud rate	300- 115200 Bd
Recorder download baud rate	600/1200 kBd for both RS-232 and RS-422
User control	Handled via "AWAC AST" software, or ActiveX® controls. "Seastate" for online systems
Output formats	NMEA, Binary. Prolog provides same types also for processed wave and current data.

Connectors

Bulkhead	MCBH-2-FS, MCBH-8-FS, optional Souriau M-series metal connector for online use
Cable	PMCIL-8-MP on 10 m polyurethane cable, metal connector optional

Software

Functions	Deployment planning, instrument configuration, data retrieval and conversion. (for Windows®)

Power

DC input	9- 18V DC
Maximum peak current	3 A
Avg. power consumption	0,65 W
Sleep current	< 100 µA
Transmit power	1-30W, 3 adjustable levels

Environmental

Operating temperature	-4 to +40 °C
Storage temperature	-20 to +60 °C
Shock and vibration	IEC 721-3-2
EMC approval	IEC 61000
Depth rating	300m

Materials

Standard model	POM and polyurethane plastics with titanium fasteners

Dimensions

Maximum diameter	210 mm
Maximum length	175 mm

Weight

Weight in air	6.1 kg
Weight in water	2.9 kg

Online cable

Polyurethane jacket, Shore D hardness, 13mm in diameter, max 2km. Inquire for longer cables