



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

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|---------------------------|--|
| 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

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|---|---|
| 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

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|----------------|--|
| 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

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|----------|--|
| 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

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|------------------------|----------------------------|
| 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

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|----------------|---|
| Standard model | POM and polyurethane plastics with titanium fasteners |
|----------------|---|

Dimensions

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|------------------|--------|
| Maximum diameter | 210 mm |
| Maximum length | 175 mm |

Weight

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|-----------------|--------|
| 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