

spotWave – Single Channel AE-Measurement Device

The **spotWave** is a robust portable single channel AE-measurement unit that can be controlled by a Laptop, Tablet PC, Smartphone or IoT device. It is a fully featured AE measurement device compliant to European Standard EN 13477-1 to acquire and process AE feature data (hit processing) and record transient¹ wave forms. For data storage and post processing, the spotWave software uses the same data file format (“pridb” and “tradb”) as the Vallen multichannel AE system AMSY-6. This allows the user to analyze data with the Vallen data analysis software tool chain known from the AMSY-6. As an alternative for the HSU-Nielson-Source, the integrated CCT (coupling check transmitter) enables a reliable AE-sensor coupling verification and can be used to measure e.g. the speed of sound at a structure. For mobile devices with an Android OS a Vallen data acquisition APP is available.

Typical applications are leakage detection at valves and pipelines, hot spot monitoring of structures and machines, AE baseline evaluation, wave propagation measurements and AE research.



Technical Specification

Analogue Bandwidth	20 kHz to 500 kHz	Degree of protection	IP67
Input range	100 dBAE (opt. 94/134 dBAE)	USB Con.	USB mini-B female
Noise floor (VS150-M)	9 μ V _{RMS} (95 – 300 kHz)	Temperature range	-20 °C to +60 °C
Input impedance	16 k Ω / 12 pF	Weight	107 g
Sampling rate / Res.	2 MHz / 16 Bit	Size (W x H x D)	78 mm x 14 mm x 58 mm
Digital IIR Filter	Programmable	AE channels	1 (SMA female)
Power Consumption	< 0,7 W	Pulser / CCT Output	1 (SMA female)
Power Supply	5 V (USB powered)		

Software

For Windows 10	Vallen AE Suite	Cloud / Dashboard	Yes (requires extra infrastructure)
For Android	APP “Aerial”	API	Yes (serial command set)

Accessories

Cable to smartphone	CBL-4-0M3-V73 (USB C)	Sensors	e.g. VS30-V; VS150-M; VS900-F
Cable to computer	CBL-8-2M-V60 (USB A)		

1) Limited number of waveforms

Important Information for Your Safety

Read these instructions carefully and follow them in order to safely operate the equipment and to maintain safety throughout its usage. Always make sure that the device is used in the intended way.

Do not operate damaged equipment. Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, remove power and do not use the device until safe operation can be verified by service-trained personnel. If necessary, return the product to a Vallen Systeme GmbH sales and service office for service and repair to ensure that safety features are maintained.

Do not use damaged or unapproved cables.

Only use accessories and additional equipment that has been approved by Vallen Systeme GmbH.

Always make sure that you comply to all regulations at the site of installation of the device.

NOTICE

NOTICE indicates a property damage message.

Improper handling of the spotWave can damage the device and or its accessories.

- Don't drop the spotWave, the sensor and/or the coupling check transducer.
- Adjustments and changes of the spotWave hardware are prohibited.
- Read safety instructions of accessories and additional equipment.

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