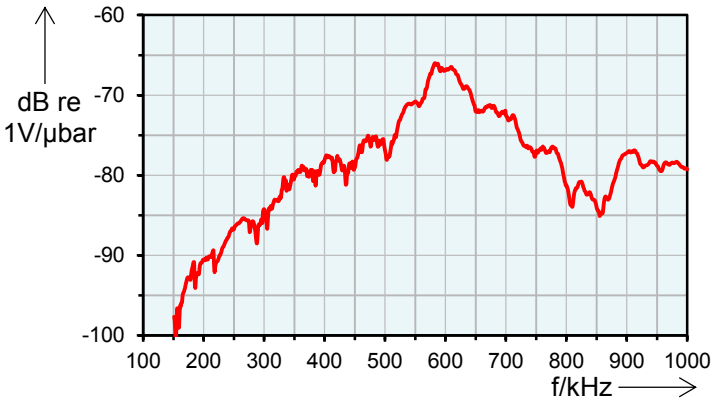
# AE–Sensor Data Sheet

## VS600-A1

The VS600-A1 or -A2 is a passive piezoelectric AE-sensor. Its frequency response is characterized by a peak at 600 kHz where it exhibits a resonance. It is a small foot-print AE-sensor with a threaded housing and a top connector. The VS600-A* is intended for screwing it into a holding mechanism. It is suitable for monitoring the crimping process.




| Technical Specification | | | |
|---|---|---|---|
| **Frequency Range ($f_{Peak}$) [kHz]** | 390 to 850 (600) | **Size (D x H) [mm]** | 7.0 x 13.5 (M7 x 0.75) |
| **Capacity [pF]** | 109 | **Weight [g]** | 2.5 |
| **Integrated Preamplifier** | No | **Case Material** | Stainless Steel (1.4571/ 1.4404) |
| **Operating Temperature [°C]** | -40 to +125 | **Wear Plate** | Stainless Steel (1.4571/ 1.4404) |
| **Vibration – Sinus sweep** | 2 Oct/Min, 5 to 180 Hz, 40 g | **Connector** | SMC (top) |
| **Ingress Protection Rating** | IP40 | **Shield Cross-Talk [dB]** | < -80 |

| Standards and Directives | |
|---|---|
| **EMC Directive** | 2014/30/EU |
| **EMC Standards** | EN61326-1:2013, EN61326-2-3:2013, EN61000-6-2:2006, EN61000-6-4:2011 |
| **Shock and Vibration Stand.** | EN60068-2-6:2008 |
| **AE Standard** | EN13477-1:2013, EN13477-2:2013 |

| Accessories | | | |
|---|---|---|---|
| **Preamplifier** | AEP5, AEP3N | **Sensor Cable** | CBL-1-1M2-V15 |
| **Mounting Holder** | MAG4A1 | | |

# Important instructions for your safety

The sensor was produced according to the state of technology and tested against highest quality standards and technical safety requirements. A risk of malfunction remains which can lead to danger to life of operator, uninvolved third parties as well as damage of object under test or objects in its vicinity. Read the safety instructions carefully before using the AE-sensor.

# Supplemental safety directives

1. Read the Acoustic Emission Sensors document (http://www.vallen.de/quote-ref)
2. Make sure that you comply to regulations at the AE-sensor installation site
3. Store these instructions

| ⚠ CAUTION | *CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.* |
|---|---|

## Damaging of AE-sensor

An AE-sensor can get damaged when it is not operated within specified limits or handled carelessly. The function of the AE-sensor may be compromised or it may even be inoperable although its appearance e.g. housing, connector or wear plate do not indicate any damage.

**Risk:**

A damaged- or defective AE-sensor may not be able to detect potentially dangerous situations if it is used in a safety relevant inspection of e.g. pressure vessels or engineering structures such as bridges or dams. Failing of an object under inspection (e.g. bursting of a pressure vessel, collapsing of a bridge, etc.) may lead to fatal casualties.

**How to avoid the risk of damaging an AE-sensor:**

- Do not store, transport or operate the sensor outside its specified environmental conditions
- Do not drop the AE-sensor and handle it with care
- Transport AE-sensors only in the boxes provided by Vallen Systeme

**How to avoid using a non-functional AE-sensor:**

- Do not use an AE-sensor that is visibly damaged.
- Check the function and response of an AE-sensor prior to an inspection or AE-test by the use of controlled artificial sources
- Check the function and response of an AE-sensor in regular intervals or when suspected to be damaged or to have undergone severe environmental conditions