

# KS94B KS95B

Sensoren • Sensors

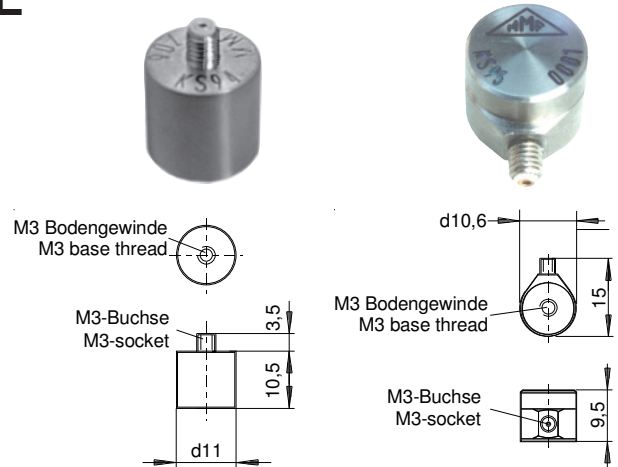
## Miniatur-Beschleunigungsaufnehmer IEPE Miniature Accelerometers IEPE

### Überblick

- Gute Auflösung auch bei tiefen Frequenzen
- Hohe Resonanzfrequenzen
- Auswechselbares Kabel mit Subminiaturbuchse
- Interne Frequenzbandkorrektur - linear bis 40 kHz (3 dB)
- Scherkeramik: Unempfindlich gegen Temperaturänderung und Messobjektdehnung
- IEPE-Ausgang: Geringe Störfähigkeit in rauer Umgebung; große Kabellängen möglich

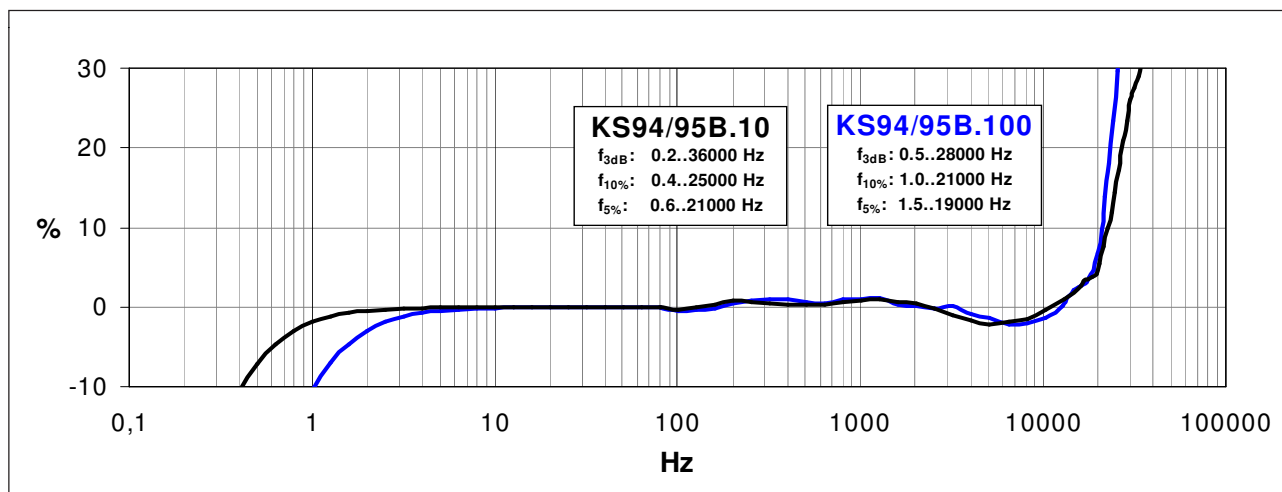
### Overview

- Good resolution, also at low frequencies
- High resonant frequencies
- Replaceable cable with subminiature socket
- Internal resonant frequ. compensation - linear up to 40 kHz (3 dB)
- Shear-type accelerometers: Low sensitivity to temperature transients; low influence of base bending effects
- IEPE output guarantees low EMI under rough environmental conditions; allows long cables

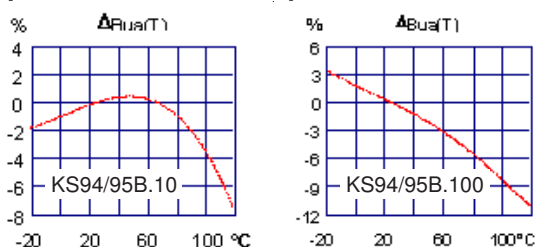


| Modell • Model  |                   | KS94B.10  | KS95.10 | KS94B.100  | KS95B.100 |
|---|-------------------|---|---------|--|-----------|
| <b>Piezoelement und integrierter Verstärker • Piezo element and integrated charge converter</b> |                   |   |         |  |           |
| Spannungsausgang • Voltage output   |                   | IEPE (Integrated Electronics Piezo Electric)  |         |  |           |
| Piezosystem • Piezo system  |                   | Scherprinzip • Shear design   |         |  |           |
| Spannungsübertragungsfaktor • Voltage sensitivity   | $B_{ua}$          | 10 mV/g $\pm 5\%$   |         | 100mV/g $\pm 5\%$  |           |
| Messbereich • Range   | $a_z/a$           | $\pm 600$ g   |         | $\pm 60$ g   |           |
| Bruchbeschleunigung • Destruction limit   | $a_{max}$         | 8000 g  |         |  |           |
| Eigenrauschen Effektivwert • Residual noise RMS   | $a_n$             | 3000 $\mu\text{g}$ @ 0.5 .. 20 000 Hz   |         | 600 $\mu\text{g}$ @ 0.5 .. 20 000 Hz   |           |
| Eigenrauschdichten • Residual noise densities   | $a_n$             | 300 $\mu\text{g}/\text{Hz}$ @ 0.1 Hz<br>100 $\mu\text{g}/\text{Hz}$ @ 1 Hz<br>30 $\mu\text{g}/\text{Hz}$ @ 10 Hz<br>10 $\mu\text{g}/\text{Hz}$ @ 100 Hz |         | 50 $\mu\text{g}/\text{Hz}$ @ 0.1 Hz<br>30 $\mu\text{g}/\text{Hz}$ @ 1 Hz<br>10 $\mu\text{g}/\text{Hz}$ @ 10 Hz<br>1 $\mu\text{g}/\text{Hz}$ @ 100 Hz |           |
| Speisestrom • Supply current  | $I_{const}$       | 2 .. 20 mA  |         |  |           |
| Arbeitspunktspannung • Output bias voltage  | $U_{Bias}$        | 12 .. 14 V @ $I_{const} = 4$ mA, T = 25 °C  |         |  |           |
| Resonanzfrequenz • Resonant frequency   | $f_r$             | > 75 kHz (+25 dB)   |         | > 42 kHz (+25 dB)  |           |
| Linear. Frequenzbereich • Linear frequ. range ( $\pm 3$ dB)                                     | $f_L$             | 0.2 .. 36 000 Hz  |         | 0.5 .. 28 000 Hz   |           |
| Querrichtungsfaktor • Transverse sensitivity  | $\Gamma_{90max}$  | < 5 %   |         |  |           |
| Ausgangsimpedanz • Output impedance   | $r_a$             | < 150 $\Omega$ @ $I_{const} = 4$ mA   |         |  |           |
| Keramikkapazität • Ceramic capacitance  | $C_i$             | 200 pF  |         |  |           |
| <b>Temperaturdaten • Temperature data</b>   |                   |   |         |  |           |
| Arbeitstemperatur • Operating temperature   | $T_{min}/T_{max}$ | -20 °C / 120 °C • -4 °F / 248 °F  |         |  |           |
| Temperaturkoeffizient von $B_{ua}$ • Temperature coefficient of $B_{ua}$                        | $TK(B_{ua})$      | +0.05 %/K @ T < 20 °C<br>$\pm 0.02$ %/K @ (20 < T < 80) °C<br>-0.06 %/K @ T > 80 °C   |         | -0,08 %/K @ T < 80 °C<br>-0,11 %/K @ T > 80 °C   |           |
| Temp.sprungempfindlichkeit • Temp. transient sensitivity  | $B_{aT}$          | 0.03 g/K  |         | 0.01 g/K   |           |
| <b>Mechanische Daten • Mechanical data</b>  |                   |   |         |  |           |
| Masse ohne Kabel • Weight without cable   | m                 | 2.4 gr. • 0.08 oz   |         | 3.2 gr. • 0.11 oz  |           |
| Gehäusematerial • Case material   |                   | Aluminium / Edelstahl • Aluminium / Stainless Steel   |         |  |           |
| Kabelanschluss • Cable connection   |                   | axial   | radial  | axial  | radial    |
| Buchse • Connection   |                   | Subminiatur M3 • Subminiature M3  |         |  |           |
| Befestigung • Mounting  |                   | M3 Innengewinde • M3 thread in base   |         |  |           |

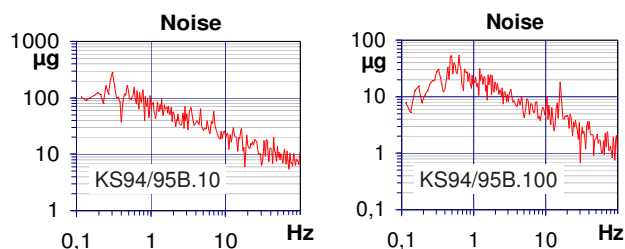
# Typischer Frequenzgang • Typical Amplitude Response



## Temperaturverhalten • Temperature characteristics



## Rauschverhalten • Noise characteristics



## Bestellinformationen

**KS94.10/01, KS94.100/01: Komplettes Zubehör**  
**KS95.10/01, KS95.100/01: Komplettes Zubehör**

Transportetui mit folgendem Inhalt:

- Sensor
- 1,5m Kabel, Ø 1,5mm  
Steckverbinder Subminiatur- UNF 10-32  
inkl. BNC - UNF 10-32 Adapter
- Zur Ankopplung: Klebewachs, Klebepad M3, Stiftschraube M3, Haftmagnet, Isolierflansch
- Dokumente: Bedienungsanleitung, Kennblatt

**KS94(.10/.100), KS95(.10/.100): Standard**

- Sensor
- Dokumente: Kennblatt

Der KS94B(.10/.100) und der KS95B(.10/.100) können direkt an die PC-Messtechnik des *VibroMatrix*<sup>®</sup>-Systems angeschlossen werden.

## Ordering information

**KS94.10/01, KS94.100/01: Complete accessory set**  
**KS95.10/01, KS95.100/01: Complete accessory set**

Transport box including:

- Sensor
- 1.5 m cable, Ø 1.5mm  
connector Subminiature - UNF 10-32  
incl. BNC - UNF 10-32 adapter
- For mounting: adhesive wax, adhesive mounting pad M3, stud bolt M3, clamping magnet, insulating flange
- Documents: instruction manual, individual characteristics

**KS94(.10/.100), KS95(.10/.100): Standard**

- Sensor
- Documents: individual characteristics

The KS94B(.10/.100) and the KS95B(.10/.100) can be directly connected to the measuring instrumentation of the PC-based *VibroMatrix*<sup>®</sup>-system.

Änderungen vorbehalten. • Specifications subject to change without prior notice.

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— D e u t s c h l a n d —

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