

## Sensing Vibrations

# Accelerometers HMA 11xx / 18xx



### Advantages

- Rugged
- Compact design
- Low weight
- Standardised sensor interface

### Applications

- Capturing mechanical vibrations at machines and structures
- Measuring absolute vibrational acceleration
- Connecting to vibration measuring and monitoring devices

### Options

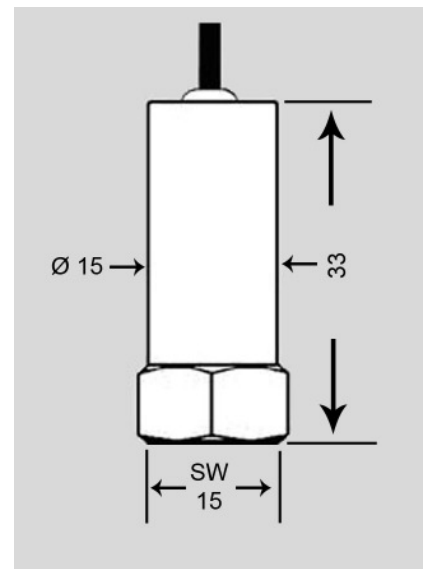
- 5 m connection cable
- Various connectors
- Versions for Ex-zones
- Magnetic mounting base
- Version for use in liquids

### Description

The HMA 11xx / 18xx series vibration transducers are used to convert mechanical vibrations to analogue alternating electric signals. The magnitude, frequency and phase of these signals can then be evaluated depending on the application.

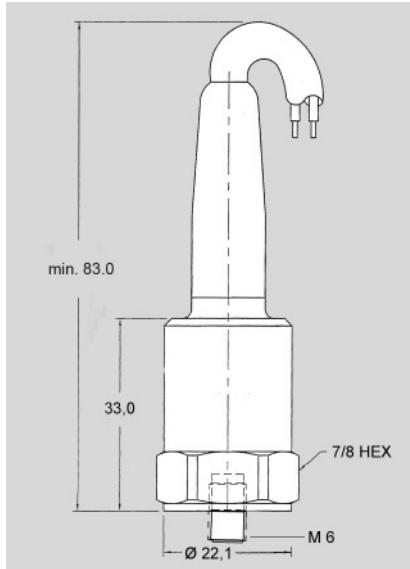
The sensors differ in sensitivity and configuration.

Their rugged design makes them suitable both for mobile and fixed installations for continuous vibration monitoring.

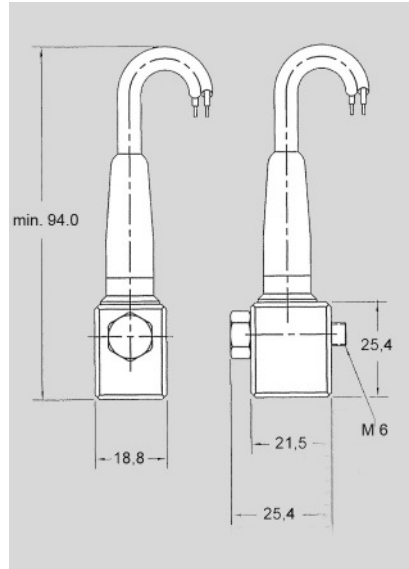


HMA 1140

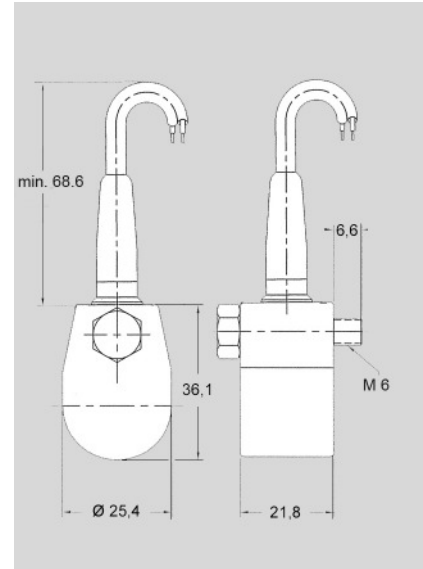
**All information without obligation,  
subject to change without notice!**



HMA 1135



HMA 1830



HMA 1835

## Technical data

|  |                               |  |
|--|-------------------------------|--|
| Input  | Vibration acceleration        |  |
| Orientation                                      | any spatial orientation       |  |
| Measuring direction                              | HMA 1140, HMA 1135            | in the direction of cylinder axis                  |
|  | HMA 1830, HMA 1835            | in the direction of mounting screw                 |
| Type of reference system                         | Absolute vibration transducer |  |
| Physical principle of measurement                | Piezo                         |  |
| Mounting method                                  | M6 screw                      |  |
| Type of output signal                            | Alternating electric voltage  |  |
| Dimensions                                       | refer to drawings             |  |
| Power supply                                     | 2 to 20 mA                    | 18 to 28 V DC                                      |
| Weight<br>(depending on cable length, connector) | HMA 1140                      | approx. 140 g                                      |
|  | HMA 1135                      | approx. 160 g                                      |
|  | HMA 1830                      | approx. 200 g                                      |
|  | HMA 1835                      | approx. 230 g                                      |
| Case material                                    | Stainless steel, non-magnetic |  |
| Operating temperature                            | -40 to +100 °C                |  |
| Connecting cable                                 | 1.5 m<br>non removable cable  | Free end or<br>various connectors                  |
| Protective rating                                | IP 68                         |  |
| Output voltage                                   | HMA 1140, HMA 1830            | 100 mV/g   |
|  | HMA 1135, HMA 1835            | 500 mV/g   |
| Internal resistance                              | approx. 150 Ω                 |  |
| Operating frequency range                        | 0.5 dB                        | 2.5 to 500 Hz                                      |
|  | 3 dB                          | 1 to 20,000 Hz                                     |
| Measurement range                                | HMA 1140, HMA 1830            | 0.0005 to 50 g or 0.005 to 500 m/sec. <sup>2</sup> |
|  | HMA 1135, HMA 1835            | 0.0001 to 10 g or 0.001 to 100 m/sec. <sup>2</sup> |
| Acceleration, max.                               | 500 g                         |  |
| Directional sensitivity                          | better than 1:20              |  |
| Natural frequency                                | approx. 22 kHz                |  |