



Acoustic Emission Processor SEP



Technical specifications:

Power supply SEP: +/- 15V, +/- 100mA

Temperature range: +5°C to +45°C

Cable connection (to Tool Monitor): 3 x 0.25mm² + shield (e.g. LiYC11Y)
(5m included in scope of supply,
Length: max. 100 m)

SEP casing: Aluminum alloy
EN AC 44300/EN AC-44200 (DIN EN 1706)
stainless steel cover screws 1.4567, captive

Material: Aluminum

Surface: Powder coating, oil-resistant

Weight: 570 g (w/o sensor)

Protection class: IP65 EN 60529

Dimensions (WxHxD): 150 x 35 x 63 mm

Mounting: 2 holes inside
for M4 fixation screws

- Amplifies, filters and rectifies the measured values of all acoustic emission sensors
- Logarithmic output of the rectified acoustic emission level
- 2 switchable frequency bands HF/NF
- Amplitude dynamics: 110 dB => no adjustment of measurement amplification to the height of the measured acoustic emission amplitudes required
- Water and oil tight (IP 65)

Sensor connection:

The acoustic emission processor **SEP** turns the signals from the sensor types **SEH**, **SEA(-Mini)**, **BSA**, **RSA**, **LSM** or **APS** into the measured value monitored by the **TOOL MONITOR**.

The acoustic emission processor **SEP** should be installed close to the sensor. The greatest possible distance is determined by the length of the sensor cable (3m). The processor may be installed within coolant splash zones. If you remove the cover, the **SEP** can be mounted using 2 M4 screws.

The wires of the sensor coax cable are connected to a terminal in the **SEP** with the contacts on the PCB marked "Masse" (ground) and "Seele" (core). When cutting the sensor cable to length, make sure to treat the end in the same way as delivered. The cable shielding of **SEH**, **SEA(-Mini)**, **RSA**, **LSM**, and **APS** must be connected to the metal housing by tightening the clamping screw in the lead-through terminal.

You can check the proper connection of the sensor using a voltmeter: The voltage between the ground and core terminals must be 7 to 8V (except for BSA). If the cable is shorted (e.g. due to a pinched cable), the voltmeter will show 0V. If the cable is broken or torn, the measured voltage between ground and core will be 15V.

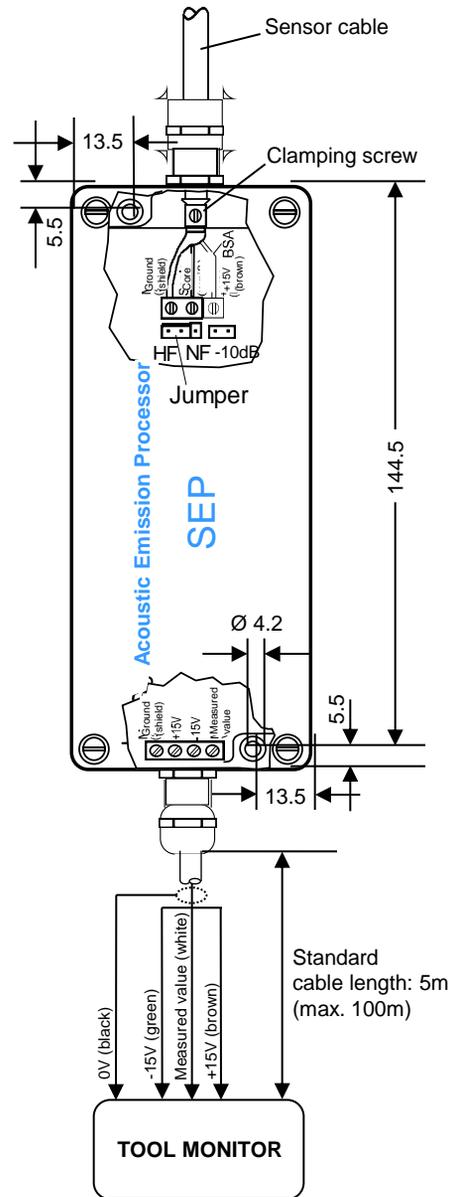
The shielded connection cable from the acoustic emission processor **SEP** to the **TOOL MONITOR** is oil resistant. The standard cable length is 5m (max. 100m). In combination with the SEA-MF or SEA-Mini-MF (MF = multi frequency), the **SEP** allows for measuring in either a high-frequency (HF) or a low-frequency (NF) measuring range. After opening the cover of the **SEP**, you can select the frequency range via a jumper. For measurements in the high-frequency range, the jumper is placed on the two leftmost of the three pins. For measurements in the low-frequency range, the jumper is placed more to the right; see NF mark in the drawing to the right (= factory setting). For the appropriate frequency range, please contact one of our application engineers.

The acoustic emission pickups SEA and SEA-Mini are also available as "NF" types in a special low-frequency version. The NF model has lower residual noise than the MF model. However, this is only an advantage so long as the ground noise of the tool machine does not raise the base level of the SEA(-Mini)-MF jumpered to NF, i.e. when the low residual noise of the machine allows for the measuring of even very weak acoustic emission signals. If the SEA(-Mini)-NF is used, then the jumper marked "-10dB" should be placed in order to adjust the measuring range of this sensor to the scale of the tool monitor. (The -10db jumper may also be used in combination with the SEA(-Mini)-MF for lowering a potentially too high measured value by 10dB.)

Pin assignment:

Sensors:

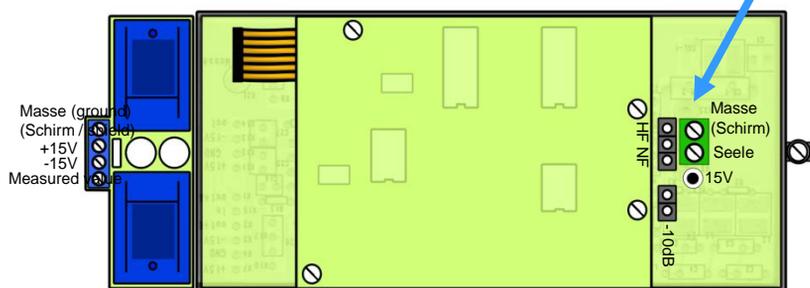
6.1.x	SEH (-Mini)	6.4.x	RSA
6.2.x	SEA (-Mini)	6.10.Q(L)	LSM
6.3	BSA	6.11.Q(L)	APS



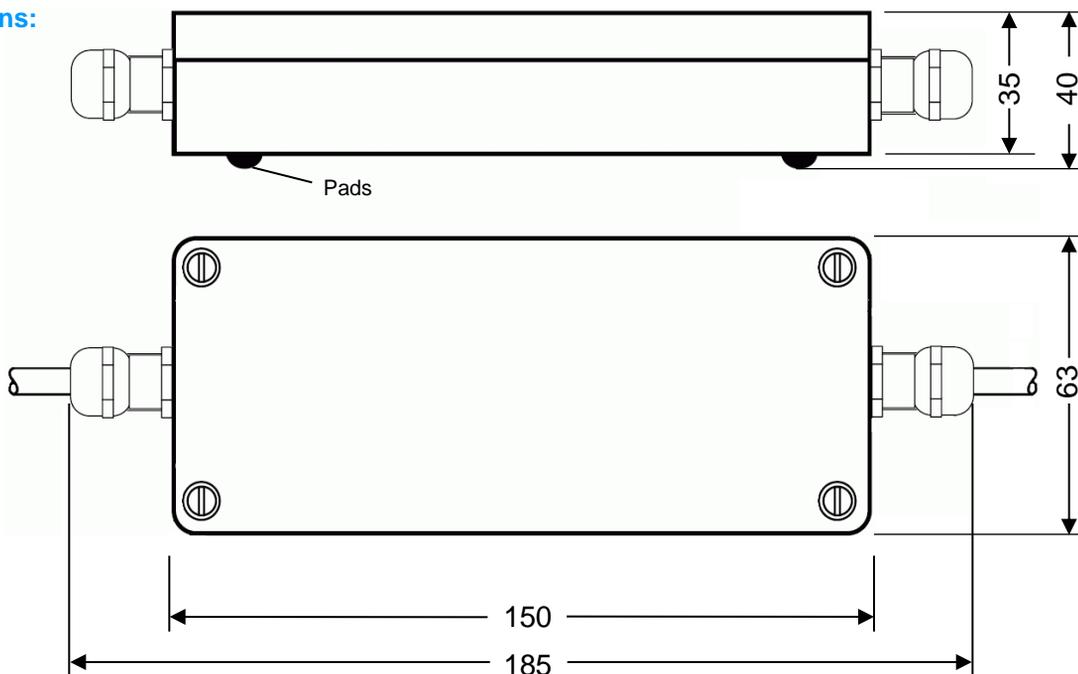
PCB layout:

Jumper assignment:

Marking	Function	Factory setting
HF	High-frequency measuring range	open
NF	Low-frequency measuring range	jumpered
-10dB	Reduction of measured value by -10dB	open



Dimensions:



Order code:

Application:

6.5	SEP	Acoustic emission hydrophone SEH with a nozzle diameter of 5mm, Acoustic emission pickups SEA(-Mini)-MF, SEA(-Mini)-NF, SEA-Feder
6.5.1.10	SEP	Acoustic emission hydrophone SEH with a nozzle diameter of 10mm
6.5.1.4	SEP	Rotating acoustic emission pickups RSA, RSA-2 and RSA-Ring
6.5.1 (3,10)	SEP	Crash sensor APS-Q/L and airborne noise microphone LSM-Q/L (3,10: alternative frequency ranges)
6.5.8.21	SEP	Non-contact acoustic emission pickup BSA