HAUBER
ELEKTRONIK

Smart Condition Monitoring

HE100 | HE101 | HE102 | HE103

Analogue vibration monitoring

Monitor vibration – avoid standstill

So that machines and systems can work economically, downtimes must be kept to a minimum. At the start of any measure to increase availability, it is therefore important to know the condition of the system.

The recorded process data of the critical variables such as temperature, noise and vibration represent the operating state. Therefore, precise predictions about the optimal maintenance times and the remaining service life are possible.

A key factor is the early detection of faults, wear processes and damage.

COMPACT
ROBUST
EX-CERTIFIED
HIGH OEE
RELIABLE
EVALUABLE
INTEGRATED

The HE10X series comes with analogue vibration sensors in high-quality stainless steel design and two-wire technology. Monitoring and protecting rotating machines at different frequency and measuring ranges. ***Ex approvals in Ex ib or Ex tb zone 1/21:***

- ATEX
- IECEx
- UKCA Ex
- EACEX
- CCC

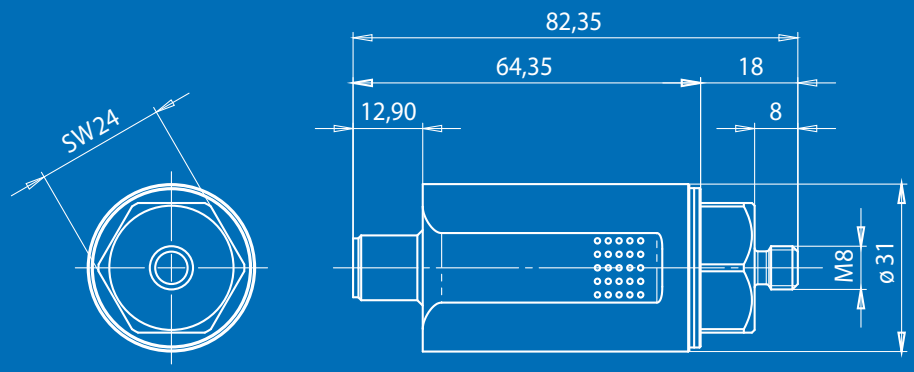
Zone 2/22:

- cULus Haz. Loc DIV2

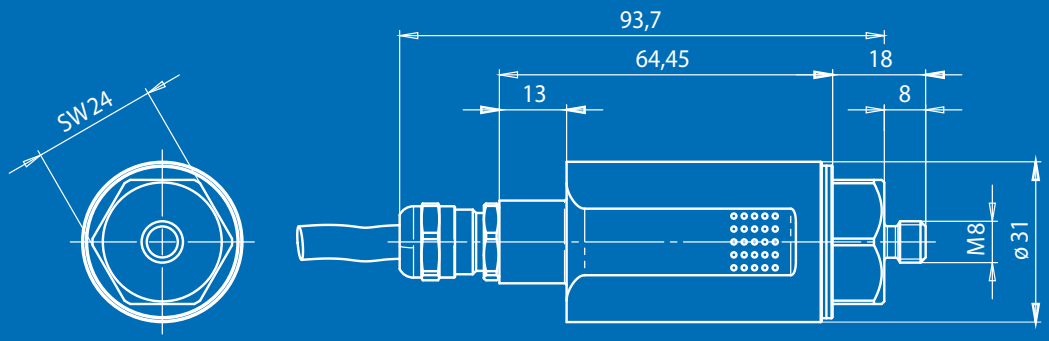
This means you can be sure that your machines and systems meet globally applicable standards.

Measurands:

- Vibration speed mm/s, rms
- Vibration acceleration g, rms
- Temperature in °C



With M12 connector - Standard and ATEX / IECEx / EACEx intrinsic safety Ex ib



With integrated cable - ATEX / IECEx / EACEx Ex d and Ex tb

Accessories

Designation	*Length*	*Item number*
Cable type A 4 pole, shielded, M12 socket (additional lengths on request)	2m / 5m / 10m	10520 / 10521 / 10458
Cable type E 4 pole, shielded, M12 socket for Ex ib (additional lengths on request)	2m / 5m / 10m	11141 / 11142 / 11143
Metal protective tubing for sensors with integrated cable	1.5m / 4.5m / 9.5m	11157 / 10995 / 10996
Rubber protective nozzle		10986

Optional mechanical adapter

Designation	*Item number*	*Designation*	*Item number*
Magnetic base	10054	M8 to M10	11104
EMC Adapter	10473	M8 M18	11108
Adhesive adapter	11650	M8 to 1/4"	11102
M8 to M8 Cone SPM	11112		

Predictive maintenance through condition-based monitoring

Unplanned downtimes can amount to almost a quarter of total production costs. Therefore, predictive maintenance solutions, can potentially lead to significant cost savings and increases in productivity. By reducing downtime and maintenance costs, both throughput and plant utilization are increased. With respect to product quality, predictive maintenance contributes to a constant level. Overall, this extends the entire service life of a machine or system. In short: A higher OEE (Overall Equipment Effectiveness).

Longer service life

Higher productivity

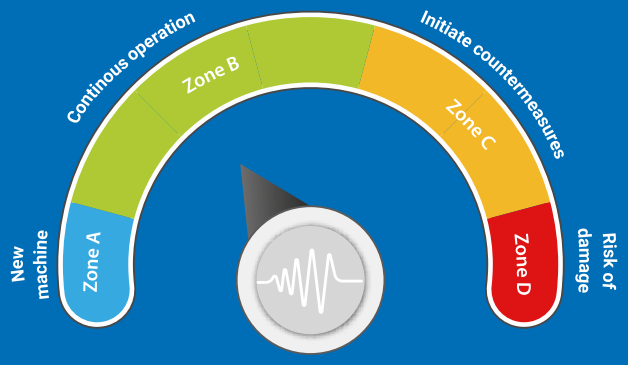
Reduced maintenance costs

Higher OEE (Overall Equipment Effectiveness)

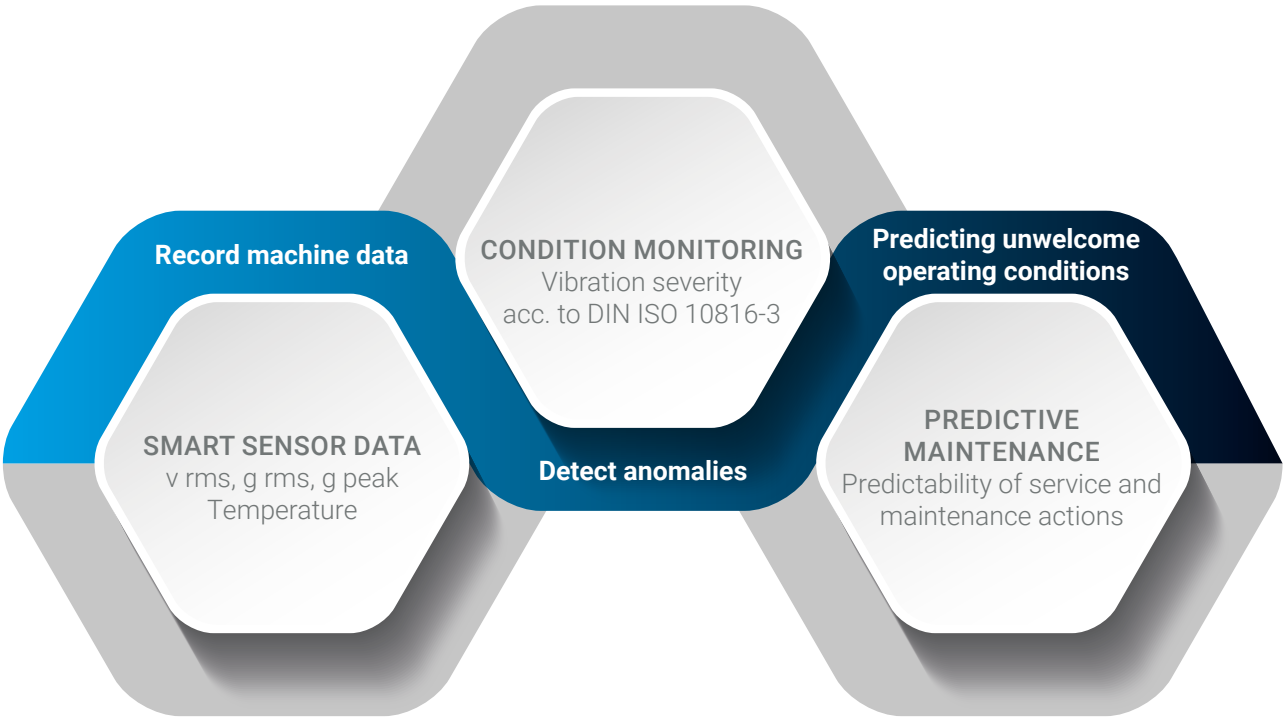
Condition monitoring

With the reliable and correct measurement results of our smart sensors, it is possible to evaluate the condition of a machine or plant on the basis of current and historical data.

At the same time, machine monitoring according to DIN ISO 10816 is ideal as a basis for evaluation and provides a clear decision-making aid. Characteristic of this standard is the identification of the machine condition by four evaluation zones depending on the vibration severity A, B, C and D. With this simple type of data evaluation, the corresponding measures can be taken at the right time. This means maintenance can be carried out before there is a critical condition or even standstill of the machine or system



Vibration severity according to DIN ISO 10816-3



Type key

Type (measurand)	Measurand mm/s rms	HE 100
	Measurand mm/s rms and temperature... 100°C	HE 101
	Measurand g rms	HE 102
	Measurand mm/s rms, averaging time 60 s	HE 103
Ex area	No Ex area (standard)	00
	ATEX / IECEx / EACEx / CCC Ex d and Ex tb (zone 1/2/ 21/22)	01
	ATEX / IECEx / EACEx / CCC Ex ib (zone 1/2/21/22)	02
	UL Proc. Cont. Eq. Haz. Loc. Division 2	03
Measuring range	8 mm/s rms (only available at frequency range >=10 Hz)	8
	16 mm/s rms (standard)	1,6
	32 mm/s rms	3,2
	64 mm/s rms	6,4
	128 mm/s rms	12,8
	2 g rms	2,g
	4 g rms	4,g
	6 g rms	6,g
	8 g rms	8,g
	10 g rms	10,g
Frequency range	10 … 1000 Hz (standard)	00
	1 … 1000 Hz	01
Housing material	1.4305 (V2A) (standard)	00
	1.4404 (V4A)	01
	1.4462 Duplex stainless steel	02
Housing- Fastening thread material	M8 x 8 mm; pitch 1.25 mm (standard)	00
	SPM thread cone	01
	M8 x 8 mm internal thread	02
Connection	M12 plug (standard)	000
	2 m integrated cable	020
	5 m integrated cable	050
	10 m integrated cable	100
Ambient temperature	-40 °C ... +60 °C	
Measuring head temp.	-40 °C ... +125 °C	
Protection class	IP 66/67	