



# PRODUCT INFORMATION

## PCH 1275/1277 COMPACT VIBRATION GUARD



The PCH 1275/1277 Compact Vibration Guard serie is Ex certified and approved for mines and other hazardous areas. It is suitable for monitoring blowers, ventilators, pumps, decanters, separators, compressors and mills. The vibration guard continuously monitors the machine vibration level. Two adjustable alarms can be used to ensure that the machine vibrations do not exceed the acceptable level. The operator will gain an active protection of the machine, which limits the damages to the machine and consequently will reduce the maintenance costs.

### Bearing damages

A bearing damage often occurs due to undetected unbalance or misalignment of a machine. Hence the machine runs for a very long time period with a much too high vibration level. This is the most common reason for serious machine crashes and down time.

### Avoid unscheduled production stops

Deciding not to invest in vibration monitoring simply due to price can be a very unwise decision. Often will this leads to unexpected expenses to machine repairs, not to mentioned the further economic loss due to the production stop.

### Price attractive alternative

For users who want a simple protection against damaging vibrations. PCH 1275/1277 is very price attractive and can easily be connected to a PLC or CTS system.

### Functionality

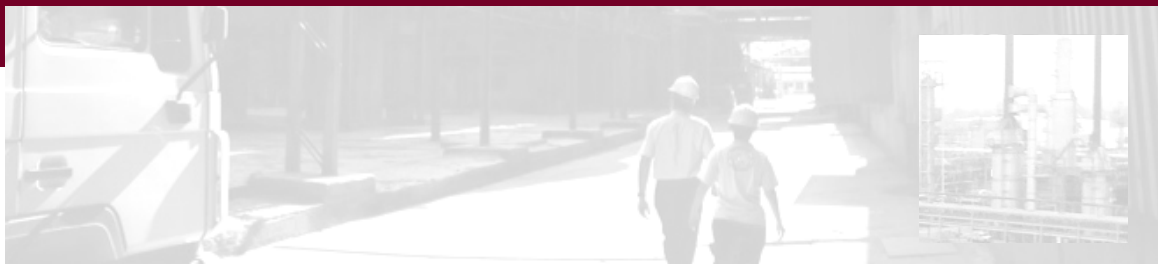
The PCH 1275/1277 consists of a vibration sensor as well as conditioning-, alarm- and output circuitry, all embedded in stainless steel housing. The PCH 1275/1277 monitors seismic mechanical vibrations according to DIN/ISO 10816. PCH 1275/1277 can be configured to measure velocity (mm/s) or acceleration (m/s<sup>2</sup>). Low frequency versions are available. Indi-

vidual measuring parameters can be customized. Measurement range, alarm limits and delay times can be adjusted directly in the PCH 1275/1277 according to the machine type and size, it has to monitor. For the PCH 1277 all settings can also be changed by using the PC control and display software. Incl. read-out of vibration level, status and FFT analysis.

The present vibration level is continuously compared with the two alarm limits and if the alarm limits are exceeded the **two alarm relays** A1/D1 will trigger and thereby inform the user, e.g. via a connected rotor light, beeper, controller or by directly shutting down the machine. Both alert (A1) and danger (D1) have build in delay time, which prevents false alarms due to momentary transients.

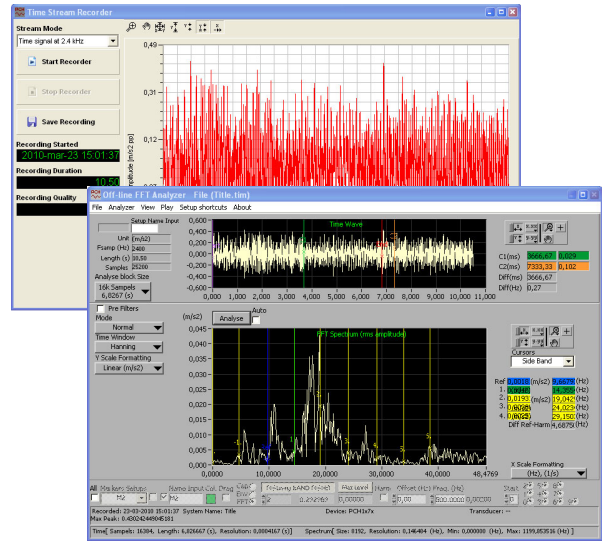
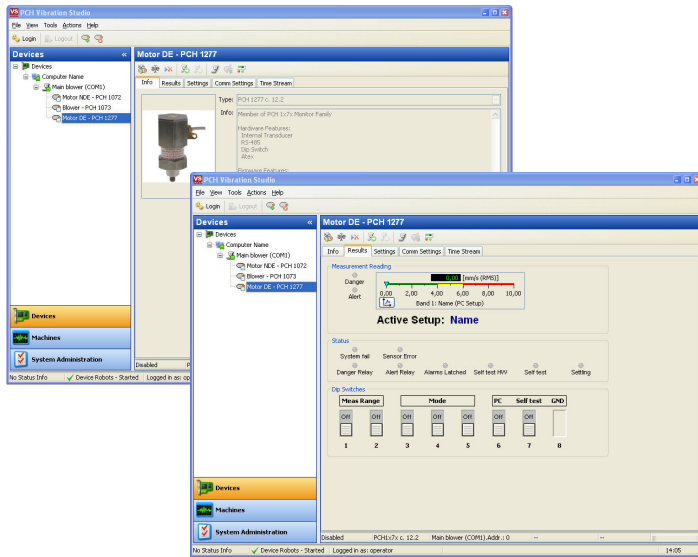
Also the PCH 1275/1277 has a built in **latch function**, ensuring the alarm relay stays triggered until it has been manually/remotely reset, even though the vibration level has decreased again. PCH 1275/1277 also provides a 4-20 mA signal, which always expresses the relative vibration level. The **4-20 mA output** can also be used to verify the alarm limits of the Vibration Guard.





# Technical data

## PCH 1275/1277 COMPACT VIBRATION GUARD



### Monitor set up

### Frequency analysis

**Sensor:** Capacitive accelerometer

**Measuring parameter:** Velocity (mm/s)  
Optional: Acceleration (m/s<sup>2</sup>)

**Measuring ranges (selectable):**  
 10 or 20 or 50 or 100 mm/s  
Optional: 2.5 or 6 or 12 or 24 m/s<sup>2</sup>

**Frequency range:** 10 Hz - 1000 Hz,  
 -1 dB, >18 dB/oct. (>60 dB/dec.)  
Optional: 1 - 300 Hz - Low Freq Version  
 (or to be agreed upon at ordering)

**Detector:** True RMS detector

**DC output:** 4 - 20 mA, relative to 0 - 100  
 % of measuring range. Load: max. 400 Ω

**Measuring accuracy:** ± 1.5 %  
**Max. measuring range:** ± 18 g or ± 6 g  
**Shock:** 1000 g

**Alarm detectors:**  
 Alert alarm with adjustable alarm limit.  
 Danger alarm with adjustable alarm limit.

**Alarm relays, break:**  
 A1: Alert relay, break  
 D1: Danger relay, break

Alert and Danger with Latch or auto reset  
 (selectable)

Max voltage:.....30 V  
 Max current:.....100 mA

**Delay time:**  
 A1: 10 s, D1: 5 s  
 The delay times are adjustable from 0 -  
 100 s. Other delay times can be agreed  
 upon.

Hang time for both A1 and D1: 1 s.

**Manual reset function:**  
 If alarm relays are latched reset can be  
 made, via controller/PLC or switch,

**Test function:**  
 Can be activated remotely or by switch.

**Grounding:**  
 Common/ground (0V) and chassis can be  
 disconnected via built-in switch.

**Power supply:**  
 +24 V DC, +/- 10 %, max. 60 mA DC

**Operating temperature:**  
 - 20 °C to + 65 °C

**Housing (IP68):**  
 Stainless steel type 1.4305  
Optional: 1.4404

**Cable:** 2 m PUR oil resistant, screened.  
 Different lengths can be ordered.

**Mounting:**  
 M12 internal thread with M12 threaded  
 stud.

**Dimensions:**  
 Height:.....117 mm  
 Diameter, without cable gland:.....64 mm  
 Weight:.....1560 g

**Compliance:**  
 Rated according to EN 13849, PL-d  
 ATEX:

- ⊕ II 2G Ex db IIC T6
  - ⊕ II 2D Ex tb IIIC T75 °C
  - ⊕ IM2 Ex db I T6
- Tamb: -20 °C ≤ Ta ≤ + 65 °C  
 NEMKO 07ATEX1261

