PRODUCT INFORMATION

PCH 1270 / 1272 COMPACT VIBRATION GUARD
PCH 1290 REDUNDANT VIBRATION GUARD

The PCH Vibration Guards series can be used on many different machines in a production. It is suitable for monitoring blowers, fans, cooling towers, 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 this will lead 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 Vibration Guards are very price attractive and can easily be connected to a PLC or a SCADA system.

Functionality
The PCH Vibration Guard consists of a vibration sensor as well as conditioning-, alarm– and output circuitry, all embedded in a stainless steel housing. PCH Vibration Guard monitors seismic mechanical vibrations according to DIN/ISO 10816 as default. The series can be configured to measure velocity (mm/s) or acceleration (m/s²). Low frequency versions are available. Individual measuring parameters can be customized. Measurement range, alarm limits and delay times can be adjusted directly in the monitor according to the machine type and size, it has to monitor. For the PCH 1272 all settings can also be changed by using the PC user software incl. readout of vibration level, status and offline 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 a build in delay time, which prevents false alarms due to momentary transients.

All monitors have 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. A 4-20 mA signal is provided, which always expresses the vibration level. The 4-20 mA output can also be used to verify the alarm limits of the PCH Vibration Guard.

Redundancy
PCH 1290 is a redundant vibration vuard with 2 individual sensors in the same casing. PCH 1290 is suitable for enhanced protection as both 2 individual processors and alarm relays work simultaneously in one vibration guard.

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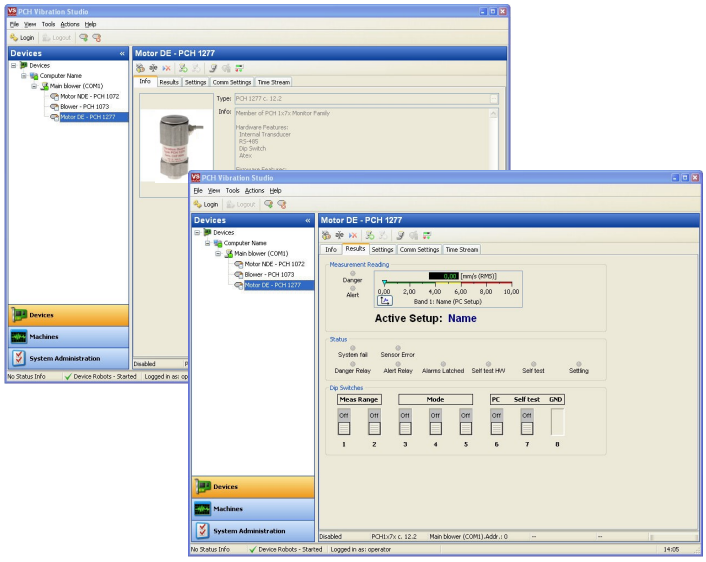
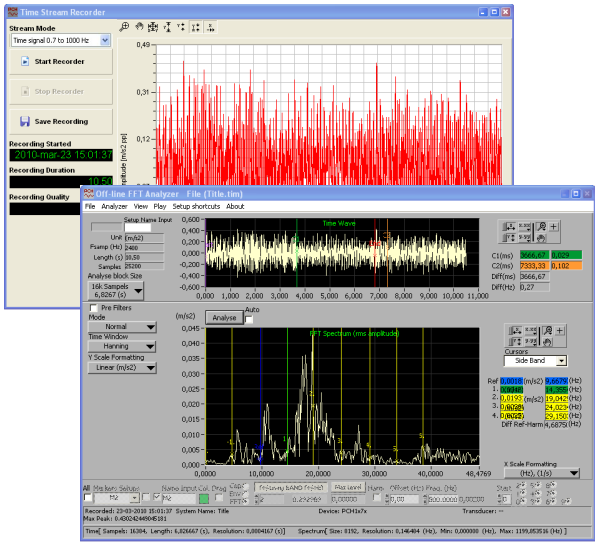
Technical data

PCH 1270/1272/1290 COMPACT VIBRATION GUARD





Monitor setup

Sensor: Capacitive accelerometer

Measuring parameter: Velocity (mm/s)
Optional: Acceleration (m/s^2), Displacement (µm, mm)

Measuring ranges (selectable):
10 or 20 or 50 or 100 mm/s
Optional: 10, 20, 50 or 100 m/s^2

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 (Namur NE43), 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:
A1: Alert relay, break
D1: Danger relay, break
Selectable Latch or auto reset

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. Hang time for both A1 and D1: 1 s.

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

Test function:
Can be activated remotely or by switch. DC output level adjustable between 4-20.4 mA.

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

Power supply:
+24 V DC, +/- 10 %, max. 60 mA/1.33W

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

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

Cable: 2 m PUR oil resistant, shielded 5 and 10 m lengths can be ordered.

Frequency analysis

Mounting:
M8 internal thread with threaded stud M8 or M10 (M12 for PCH 1290)

Dimensions PCH 127x / 1290:
Height:.....102/110 mm
Diameter, without cable gland:...47/65 mm
Weight:.....540/890 g
Weight of cable, approx.:.....110 gr/m

Compliance PCH 1270/1272: CE 0359
Rated according to EN 13849, PL-d

Compliance PCH 1290: CE 0359
Rated according to EN 13849, PL-d, Cat 3
MTTF(d):.....1359 years
Diagnostic Coverage (DC):..... 83.1 %
Architecture:..... 1002 D

Options:
PCH 1270/1272 can be supplied with M12 connector instead of integrated cable.

ETL listed version upon request (according to UL standards).

PCH Engineering A/S reserves the right to change all specifications and accessories listed in this sheet without notice.

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