Vibration Analyzer
PCE-VT 3900
PCE-VT 3900S

PCE-VT 3900 Series

Vibration analyzer with internal memory / route measurement / FFT mode / software for evaluating the saved data / measurement range up to 399.9 m/s² / PC interface

For fast and precise checking of vibrating parts, machines and systems, this vibration meter uses the external vibration sensor to determine the vibration displacement, the vibration velocity and the vibration acceleration. Various measurement parameters are available, such as RMS, peak, peak-peak and crest factor. The vibration meter has a mode that allows a measurement to be automatically evaluated according to the limit values of ISO 10816-3. The vibration meter analyzes the measured values and shows a corresponding good/bad rating on the display. In addition to the normal measuring mode, the vibration analyzer has an FFT mode. In FFT mode, the frequency spectrum for the measured vibration velocity or vibration acceleration is calculated and displayed. The calculated FFT lines are displayed in a graphical representation in an overall view for the entire frequency band and parallel to this in a zoom view to display the individual lines.

Another additional function is route measurement. The route measurement function is specially designed for recurring measurements at identical measuring spots. This enables an organized measurement of different measuring spots. Because of its extensive measuring functions, the vibration analyzer is therefore used for maintenance and repair work on machines.

- for mobile vibration measurement
- FFT analysis
- route measurement
- automatic ISO 10816-3 evaluation
- automatic firmware update

General features and specifications PCE-VT 3900 Series	
PCE-VT 3900 vibration analyzer	
Measurements	acceleration, velocity, displacement, rotational speed, RMS, peak, peak-peak, crest factor, FFT acceleration and velocity, route measurement, automatic ISO 10816-3 evaluation
Units	can be switched to metric / imperial
Manual memory	99 folders with 50 measured values each
Data logger	various start/stop triggers measurement interval between 1 s … 12 h 50 memory locations with 43200 measured values each
Menu languages	English, German, French, Spanish, Italian, Dutch, Portuguese, Turkish, Polish, Russian, Chinese, Japanese
Display	2.48" LC display
Interface	micro USB interface
Power supply	LiPo battery (3.7 V, 2500 mAh), rechargeable, with USB 5 VDC, 500 mA
Operating time	approx. 15 … 20 h (depending on display brightness)
Operating and storage conditions	-20 ... +65 °C / -4 ... 149 °F 10% RH ... 95% RH, non-condensing
Dimensions	165 x 85 x 32 mm / 6.5 x 3.3 x 1.3"
Weight	239 g / 8.4 oz

Technical specifications depending on measurement parameter	
Vibration acceleration	
Measurement range	0.0 … 399.9 m/s²
Resolution	0.1 m/s²
Accuracy*	±2 %
Frequency range	10 Hz … 10 kHz
Vibration velocity	
Measurement range	0.0 … 399.9 mm/s
Resolution	0.1 mm/s
Accuracy*	±2 %
Frequency range	10 Hz … 1 kHz
Vibration displacement	
Measurement range	0.0 … 3.9 mm
Resolution	1.0 µm
Accuracy*	±2 %
Frequency range	10 Hz … 200 Hz
Rotational speed	
Measurement range	600 … 50000 RPM
The maximum amplitude of the vibration velocity in the signal is determined and the corresponding frequency is displayed as RPM and in Hz. Faulty measurements may occur if there are any interfering factors in the signal at other frequencies	
FFT	
2048 FFT lines	
FFT acceleration	10 Hz … 8 kHz
FFT velocity	10 Hz … 1 kHz
Route measurement	
100 routes configurable via PC software, up to 100 machines per route, up to 100 measuring spots possible, 1000 readings per measuring spot	

* Accuracy with reference frequency 160 Hz

Model types differing only in sensors		
Technical Data vibration sensor	**PCE-VT 3900**	**PCE-VT 3900S**
Housing material	stainless steel	stainless steel and plastic
Resonance frequency	24 kHz	24 kHz
Transverse sensitivity	< 5 %	< 5 %
Destruction limit	5000 g (Peak)	5000 g (Peak)
Operating and storage temperature	-55 °C … +150 °C -67 °F ... +302 °F	-55 °C … +150 °C -67 °F ... +302 °F
Sensor dimensions	Ø 17 x 46 mm / Ø 0.67 x 1.8"	Ø 29 x 81 mm / 1.14 x 3.18"
Weight (without cable)	52 g / 1.8 oz	Ø 119 g / 4.2 oz
Mounting thread	¼" – 28 UNF	¼" – 28 UNF

Subject to change