



Vibration Analyzer Calibrator PCE-VC21



PCE-VC21 Vibration Analyzer Calibrator

For vibration acceleration, velocity and displacement / Adjustable vibration frequencies and amplitudes (RMS)

PCE-VC21 is a vibration analyzer calibrator used to calibrate vibration sensors, meters, analyzers and testers. Suitable for calibrating equipment weighing up to 600 g (1.32 lb), this vibration calibrator generates mechanical vibrations with adjustable quartz-stabilized vibration frequencies between 15.92 and 1280 Hz and adjustable vibration amplitudes between 1 m/s² and 20 m/s².

PCE-VC21 features load-independent vibration magnitude with:

- ▶ 7 adjustable vibration frequencies
- ▶ 5 adjustable vibration amplitudes

These adjustable vibration frequencies and amplitudes allow for the calibration of low-frequency vibration sensors such as those in structural vibration meters in line with DIN 4150-3 and in human vibration meters according to ISO 8041.

A control circuit and reference accelerometer inside the excitation or shaker head work in tandem to keep the vibration level constant. A display indicates the error percentage (%). The error % represents the deviation of the target value from the measured amplitude. In settled conditions, the display should come close to 0.0 % if the calibration is correct. If the error % is above 3 %, the device sounds an audible alert to indicate that the error limit is exceeded. In addition, the vibration calibrator switches off automatically in case of overload. Sensors can be connected via magnet or thread. A thread adapter is included in the delivery contents to accommodate M3, M5, M8, 1/4"-28 and UNF 10-32 threads.

The vibration calibrator has many versatile features for field and laboratory use, including a built-in rechargeable battery, battery-saving automatic power-off function, battery charge indicator and AC power adapter for charging. In addition, the supplied carrying case allows for convenient handling and safe transport.

- ▶ Adjustable vibration frequencies and amplitudes (RMS)
- ▶ Ideal for low-frequency calibration (DIN 415-3 and ISO 8041)
- ▶ For vibration acceleration, velocity and displacement
- ▶ Load-independent vibration magnitude
- ▶ Display shows frequency, amplitude, error percentage (%) and date of last calibration
- ▶ Sounds an alert if error limit exceeded
- ▶ Designed for use in the laboratory as well as the field

Subject to change

Specifications

Adjustable vibration frequencies and vibration amplitudes

Frequency (Hz)	15.92	40	80	159.2	320	640	1280
			1	1	1	1	
		1	2	2	2	2	
Acceleration RMS (m/s ²)	1	2	5	5	5	5	
	2	5	10	10	10	10	
			10	20	20	20	20
			1				
			2				
Velocity RMS (mm/s)	10	-	-	5	-	-	-
	20			10			
				20			
				1			
				2			
Displacement RMS (µm)	100	-	-	5	-	-	-
	200			10			
				20			

Max. sensor weight (g), depending on acceleration

at 1 m/s ²	-	500	500	500	500	500	500	500
at 2 m/s ²	-	500	500	500	500	500	500	500
at 5 m/s ²	-	-	500	500	500	500	500	500
at 10 m/s ²	600	-	-	500	500	500	400	200
at 20 m/s ²	-	-	-	-	250	200	100	50

Amplitude accuracy	± 3 % (0 ... 40 °C / 32 ... 100 °F) ± 5 % (-10 ... 55 °C / 14 ... 130 °F)
Frequency accuracy	± 0.05 %
Settling time	< 10 seconds
Level indication	Error percentage (%) display, above ± 3 % audible alert
Max. weight of test object for stated accuracy	600 g / 1.32 lb
Dynamic force of vibration exciter	10 N
Max. tightening torque of vibration exciter	2 Nm
Operating humidity range	< 90 % at 30 °C / 86 °F, non-condensing
Power supply	Built-in NiMH rechargeable battery, 7.2 V / 1.6 Ah
Max. operating hours with rechargeable battery	Approx. 5 hours at a weight of 100 g / 0.22 lb
Charging time	Approx. 4 hours
Charging status	Bar indicator
Automatic power off	10 minutes / 1 ... 30 minutes adjustable
Stray magnetic field at the vibration head	< 0.2 mT
Dimensions (L x W x H)	Approx. 100 x 100 x 120 mm / 3.9 x 3.9 x 4.7"
Weight	Approx. 2200 g / 4.9 lbs

See user manual for complete technical specifications.

More information

Manual



More product info



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