CV-10 Mobile Vibration Calibrator

One-Stop Solution for On-Site Calibration

Applications

- calibration of accelerometers, proximity probes and vibration velocity sensors
- on-site calibration of vibration meters and vibration test beds
- vibration test system for small devices

Selected Data

- powerful vibration exciter
- frequency range: 5 Hz…10 kHz
- acceleration, max.: 200 m/s² (20 g_n)
- payload, max.: 900 g (1.9 lb)
- battery operation up to 10 h

Features

- integrated signal conditioners
  - voltage, charge, IEPE, 4 mA…20 mA
  - amplifier for PR transducers (option)
- extension port for future options (e.g. special sensor power supplies)
- rugged case for daily on-site operation
- traceable to PTB, NIST etc.
- easy data exchange via USB
- expandable with future options

Specification

The CV-10 was specifically designed to simplify your on-site calibration of accelerometers, proximity probes, velocity sensors and many more.
An extensive, portable and lightweight calibration system, traceable to NIST and PTB, delivered in a rugged case – and available at low investment costs. Only 9 kg, up to 10 hours battery driven operation and powerful vibration exciters are just a few of numerous reasons why the CV-10 is the right choice for many industries like automotive, aviation, construction, condition monitoring or research and development. Accessories like the accessory set for proximity sensors or an extension module for PR sensors complement the CV-10 useful.

Technical Data

Frequency range	5 Hz…10 kHz (300 …600 000 CPM)	
Velocity, max. (sine peak)	700 mm/s (27 in/s)	
Acceleration, max. (sine peak)	200 m/s² (20.39 g_n)	
Displacement, max. (peak - peak)	5 mm (196 mils)	
Temperature range (for operation)	0 °C … +50 °C (32 °F …122 °F)	
Payload, max.	900 g (31.7 oz)	
Measurement Uncertainty (for accelerometer calibration and vibration generation)	5 Hz … 1 kHz > 1 kHz … 5 kHz > 5 kHz …10 kHz	1.5 % [1] (2.0 %) [2] 1.5 % [1] (3.0 %) [2] 3.5 % [1] (6.0 %) [2]
Harmonic distortion	< 1 % (> 100 Hz)	
Transverse motion	according to ISO 16063-21	
Power supply	100 V…240 V, 50 Hz…60 Hz (external)	
Rechargeable Battery	Sealed gel lead rechargeable battery (internal) typical battery operation up to 10 hours (100 g payload, 100 Hz, 1 g_n pk)	
Total weight	9 kg (19.8 lbs)	
Dimensions (H × W × D)	170 mm × 350 mm × 300 mm (6.7 in × 13.8 in × 11.8 in)	

All measurement uncertainties are determined according to GUM (ISO Guide to the expression of uncertainty in measurement) with k=2 (coverage factor)

1) under laboratory conditions: (23 ± 5) °C, max. acceleration: 30 m/s², max. payload: 30 g

2) under worst case conditions: 0 °C ... 50 °C, max. acceleration: 200 m/s², max. payload: 40 g

Further data

	Standard	Optional
Operation modes	✓ manual operation	✓ automatic sensor calibration (sine excitation) ✓ sensor measurement with sweep (sliding sine excitation) ✓ vibration measurement
Interfaces	✓ USB flash storage drive	✓ WiFi / Ethernet for connection with PC software [1)]
Data formats	✓ CSV text files for sensor data and test setups ✓ CSV and/or XML files for calibration results	✓ SPEKTRA CS compatible database format via PC software [1)]
PC-Software		✓ management of DUT in a database, test setups, protocols and measurement campaign[1)]

1) planned feature; in preparation

Accessories

included:

- ✓ Adapter:
  - 1/4-28 to 1/4-28 mounting stud
  - 10-32 to 1/4-28 mounting stud
  - Adhesive mounting base
- ✓ Power supply with plug adapters
- ✓ Mounting wrench
- ✓ USB flash drive with report generation worksheet
- ✓ PTB traceable calibration certificate (DAkkS)

optional:

- ✓ Proximity probe adapter
- ✓ Signal conditioner module for PR-sensors
- ✓ BN-17 IEPE transfer standard accelerometer
- ✓ Special sensor power supplies (on request)
- ✓ Adapter, cables and accessories

◄ *CV-10 with adapter for proximity probes*

◄ *CV-10 with signal conditioner module for PR-sensors*