Cirrus Research plc

SCANTEC Industries NV
Westkaai 7 • B-2170 Merksem-Antwerpen • België
Tel.: +32 (0)3/646.99.44 • Fax: +32 (0)3/644.04.05
A BGI company

CV:31A
Revo Vibration Meter for Hand-Arm, Whole-Body & Machinery

revo VIBRATION METERS

The **CV:31A Revo™ Vibration Meter** provides a simple and convenient way to measure, analyse and assess vibration data in accordance with standards such as ISO 5349 and European Directive 2002/44/EC.

Capable of measuring four channels simultaneously, the **CV:31A** meets the requirements of ISO 8041:2005 and is ideal for assessing hand-arm and whole-body vibration exposure. The instrument can be used to measure whole-body vibration to ISO 2631, as well as vibration on passenger and merchant ships to ISO 6954. In addition to the measurement of vibration for human exposure, the **CV:31A** can also measure three channels of FFT data that can be used to analyse vibration in machinery, vehicles and other vibrating structures.

The **CV:31A** is typically supplied as part of a complete measurement kit, the **CK:31A**, which includes the accessories required to carry out Hand-Arm vibration measurements, including handle mounts for the Triaxial accelerometer.

A range of accessories is available including the KD:103 Triaxial Whole Body Seat Accelerometer allowing the **CV:31A** to be used in a wide range of additional applications.

Applications

- Hand-Arm Vibration Exposure measurements in accordance with ISO 5349:2001, European Directive 2002/44/EC & the Control of Vibration at Work Regulations 2005
- Whole-body vibration measurements to ISO 2631
- Vibrations on passenger and merchant ships to ISO 6954
- SEAT measurement at driver seats with options KD:103 Triaxial Whole Body Seat Accelerometer
- Condition monitoring of rotating machinery in three axes
- Vibration measurement in vehicles and other vibrating structures
- Display of running and interval RMS, maximum RMS (MTVV), vibration dose value (VDV), vector sum, peak and maximum peak value

Key features

- Meets ISO 8041:2005
- Supplied as a complete Hand-Arm vibration kit with Triaxial Accelerometer
- Four independent measuring channels with IEPE inputs & TEDS support
- Fourth channel for SEAT measurements at driver seats
- Measurement of acceleration for Hand-Arm & velocity/ displacement for Machine Vibration
- Weighting filters to ISO 8041 Wh for hand-arm vibration and Wb, Wc, Wd, Wj, Wk & Wm for whole-body vibration
- Display of interval and running RMS, maximum RMS (MTVV), interval RMS, estimated Vibration Dose Value (eVDV), Vector Sum, Peak and Maximum Peak values
- 3-channel FFT for the detection of main frequencies
- Stores up to 10,000 measurement and up to 1000 FFT measurements
- Simple software for data transfer and calculation of Daily Exposure A(8)
- Very compact design with colour OLED display
- 10-14 hours operation with 3 x AAA batteries
- USB interface for data transfer to a PC

Preliminary Specifications

Standards	ISO 8041:2005 ISO 5349-1:2001 ISO 5349-2:2001
Measurements	
Human Vibration (Acceleration)	Interval RMS, vector sum, max. running RMS (MTVV), vibration dose value (VDV)
Acceleration, Velocity & Displacement	Running RMS, maximum RMS, vector sum, peak value, maximum peak value
Daily exposure A(8)	A(8) calculation for different activities and test persons via software
Frequency analysis (FFT)	125 lines for X/Y/Z, peak spectrum of acceleration 3 - 240 / 6 - 480 / 12 - 960 / 24 - 1920 Hz
Weighting Filters	Wb, Wc, Wd, Wh, Wj, Wk, Wm Unweighted: 6.3Hz - 1259 Hz (H/A) / 0.4Hz - 100 Hz (G/K)
Frequency Range	Acceleration: 0.1 - 2000 Hz / 1 - 1000 Hz Velocity: 1 - 100 Hz / 2 - 1000 Hz / 10 - 1000 Hz Displacement: 5 - 250 Hz
Channels	4 low-power IEPE inputs TEDS support (IEEE1451.4, Template 25)
Measurement Range	Acceleration: 800 m/s^2 Velocity: 100 - 10000 mm/s Displacement: 250 - 15000 µm
Linearity Range	> 75 dB for ± 6 % error
Noise Floor	< 0,003 m/s^2
Sensor Input	Low-power IEPE, sensitivity 0.8 - 120 mV/ms-2
Memory	Up to 10,000 measurements Up to 1,000 FFTs Each measurement stored with date, time and comments
Display	Colour OLED
USB Interface	USB 2.0 via ZL:311 cable
Power	3 x AAA Alkaline LR03 Typically 10-14 hours operation
Environmental	Temperature: -20°C to 60 °C Humidity: Up to 95% RH Non-condensing
Dimensions (without connectors)	125 mm x 65 mm x 27 mm
Weight	140gms

Ordering Information

The CV:31A can be ordered as a complete measurement kit with all of the accessories needed to make Hand-Arm vibration measurements.

The CK:31HA kit contains the following items:

CV:31A	Vibration Meter
CK:301	Carrying Case for CV:31A
ZL:311	USB Cable for CV:31A
SP:208	AAA Batteries
UM:31A	User Manual for CV:31A
KD:903	Triaxial Accelerometer for CV:31A
ZL:312	3m Sensor Cable for CV:31A
ML:311 & ML:312	Handle Adaptors

Optional Accessories

KD:103	Triaxial Whole Body Seat Accelerometer

Please note, details in this datasheet are subject to change.

Cirrus Research plc

A BGI company

SCANTEC Industries NV
Westkaai 7 • B-2170 Merksem-Antwerpen • België
Tel.: +32 (0)3/646.99.44 • Fax: +32 (0)3/644.04.05

bsi. ISO 9001 Quality Management FM 531001 ISO 14001 Environmental Management EMS 552104

Member BRITISH SAFETY COUNCIL

BSiF Registered Safety Supplier Confidence through Compliance

Institute of Acoustics sponsoring organisation