



→ WHOLE-BODY  
VIBRATION DOSIMETER



- User friendly operation and use (even by non-experts)
- Automatic computation of the exposure levels as defined in the European directive 2002/44/CE
- Automatic measurement of exposure time
- Direct access to the measurement results using a laptop or PocketPC
- Very short learning curve
- Reasonable cost
- Automatic detection and removal of unwanted effects
- Developed in partnership with INRS (Research Center for Safety, France)

## Compliance with standards

- The EVEC whole-body vibration dosimeter has been developed in partnership with INRS (Institut National de Recherche et de Sécurité, France) under the agreement No.5061249. INRS has verified that this device can be used for whole-body vibration exposure measurements.
- Acceptance testing has been carried out according to EN ISO 8041:2005, section 12.
- Each manufactured device is tested according to ISO8041:2005, section 13

## Frequency Weightings

- $W_d$  along X and Y axis
- $W_k$  along Z axis

Those frequency weightings conform to ISO2631 which is the standard referred to for whole-body vibration exposure measurements

## Storage Capacity & Autonomy

- Sensor storage capacity: 36 hours of measurement
- Autonomy when measuring (Bluetooth® disabled): > 20 hours
- Minimum Number of battery charge cycles: 500

## Measurement Results

- Display resolution for RMS weighted accelerations: 0.01m/s<sup>2</sup>
- Maximum error on RMS weighted accelerations over a 8-hour period: 0.05m/s<sup>2</sup>



## Sensor Physical Characteristics

- Dimensions: diameter 205 mm, height: 12 mm (complies with ISO10326-1)
- Weight: 350 grams

## Environment

- Sensor operating range: from -10°C to 50°C (0°C to 40°C when charging)

## Charger

- Input: 100~240VAC 50~60Hz 150mA
- Output: 5VDC 1000mA

## Wireless Link

- Bluetooth® Class 2
- Communication up to 30 m, open field
- Nominal emission power: +4 dBm
- Nominal sensitivity: -84 dBm
- ISM Band 2.4 GHz

## Electromagnetic Compatibility

- Radiated emissions tested according to EN 55022
- Immunity tested according to EN 61000-4-8/6/2/3

## Sensor Dynamics

Parameter	Conditions		Min.	Max.	Unit
Error – weighted accelerations along X, Y and Z	Sine wave Amplitude: 1m/s <sup>2</sup> Frequency: 15.915Hz T°=23°C			±4	%
Sensitivity to temperature – weighted accelerations	T° from - 10°C to 50°C	Ambient temperature		±5	%
		Surface temperature		±4	%
Frequency weighting and response	T°= 23°C	f ≤ 0.2512Hz	-100	+26	%
		0.2512Hz < f < 0.631Hz	-21	+26	%
		0.631Hz ≤ f ≤ 63.1Hz	-11	+12	%
		63.1Hz < f < 158.5Hz	-21	+26	%
		158.5 ≤ f	-100	+26	%
Linearity Error - Amplitude	T°from -10°C to 50°C			6	%
Linear Measuring Range	T°from -10°C to 50°C		60		dB
Response to normalized pulses – tolerance on RMS values	T°=23°C			±10	%
Resolution of exposure time measurements	T°from -10°C to 50°C		1		s
Time measurement accuracy	T°from -10°C to 50°C		0.1		%
Electrical crosstalk	T°= 23°C			0.5	%
Mechanical crosstalk	T°= 23°C			5	%
Accelerometer resonant frequency	T°= 23°C		800		Hz
Chocks resistance	T°from -10°C to 50°C		1000		m/s <sup>2</sup>