DASY*Lab*Ò add-on module 8041
Human response to vibration

Standards

Compliant with ISO/DIS 8041: 2004.

Frequency weightings

Calculation of all frequency weightings according to ISO/DIS 8041. The frequency weighting may be selected by the user.

		Based on
W_b	vertical whole body vibration, z-axis, seated, standing or recumbent person	ISO 2631-4
W_c	horizontal whole body vibration, x-axis, seat back, seated person	ISO 2631-1
W_d	horizontal whole body vibration, x- or y-axis, seated, standing or recumbent person	ISO 2631-1
W_e	rotational whole body vibration, all directions, seated person	ISO 2631-1
W_f	vertical whole body vibration, z-axis, motion sickness, seated or standing person	ISO 2631-1
W_h	hand-arm vibration, all directions	ISO 5349-1
W_j	vertical head vibration, x-axis, recumbent person	ISO 2631-1
W_k	vertical whole body vibration, z-axis, seated, standing or recumbent person	ISO 2631-1
W_m	Whole-body vibration in buildings, all directions	ISO 2631-2

Frequency weighted values

Calculation of all frequency weighted values according to ISO/DIS 8041. The output value may be selected by the user.

		ISO/DIS 8041 : 2004 chapter
time-averaged weighted acceleration value in m/s²	frequency-weighted r.m.s. vibration acceleration value in a specified axis	3.2.5.1.
time-averaged weighted acceleration level in dB	frequency-weighted r.m.s. vibration acceleration level expressed in decibels	3.2.5.2.
running r.m.s. acceleration value	frequency-weighted running r.m.s. vibration acceleration in m/s²	3.2.5.3
maximum transient vibration value (MTVV)	maximum value of the running r.m.s. vibration acceleration value when the integration time is equal to 1 s.	3.2.5.4
motion sickness dose value (MSDV)	integral of the squared weighted instantaneous vibration acceleration $a_w(t)$ in $m/s^{1,5}$	3.2.5.5
Vibration Dose Value (VDV)	integral of the fourth power of the weighted instantaneous vibration acceleration $a_w(t)$ in $m/s^{1,75}$	3.2.5.6
vibration total value	combined vibration from three axes of translational vibration (vector addition)	3.2.5.7
peak vibration value	maximum modulus of the instantaneous (positive and negative) peak values of the frequency weighted acceleration	3.2.5.8

crest factor	parameter for a measurement period, given by the peak vibration value divided by the r.m.s. acceleration value	3.2.5.9

Time averaging

Calculation of all time averagings according to ISO/DIS 8041. The time averaging may be selected by the user.

Time averaging	**Time constant**
Linear	0.125 / 1 / 8 s
Exponential	0.125 / 1 / 8 s

Calibration

The transducer with calibrator connected is detected automatically and the calibration value is evaluated.

Languages

The user interface and the help files of the add-on module are available in English and in German.

Registration

The add-on module 8041 runs as a demo for evaluation purposes for some hours. After that time you have to enter a key number available from Nehring PC-Messtechnik.