

# TYPE 2239 B / 2537

## INTEGRATING SOUND LEVEL METER AND HAND-ARM VIBRATION METER/ HAND-ARM VIBRATION METER

### Type 2239 B

Type 2239 B is identical to Type 2239 A as a sound level meter but adds the hand-arm vibration functions conveniently in one and the same instrument. To change from a sound level meter to a vibration meter, simply unscrew the microphone/preamplifier assembly and replace it with the accelerometer/charge amplifier assembly. The instrument detects the change automatically.

Two weightings are available: hand-arm and linear. The hand-arm weighting makes the instrument sensitive to frequencies that most affect the human body when working with hand-held tools. The linear setting provides a flat frequency response. Like the sound level meter function, the vibration meter function features two parallel detectors. This enables it to display and record both RMS and Peak readings simultaneously. During measurement, the following parameters are available on the screen:

- Equivalent constant acceleration (Aeq)
- Equivalent 8 hour constant exposure (Aeq8)
- Equivalent 4 hour constant exposure (Aeq4)
- Maximum RMS acceleration (Amax)
- Minimum RMS acceleration (Amin)
- Maximum peak acceleration (Amp)
- Maximum peak acceleration from last 1 s (Peak)
- Instantaneous RMS acceleration (Inst)

### BRIEF SPECIFICATIONS

#### Standards

IEC/ANSI/ISO standards:

See table on page 37

#### Input

0.35 pC/ms<sup>-2</sup> for Accelerometer

Type 4505A

#### Frequency Weightings

Linear (unweighted): 8–5000 Hz

Hand-arm Vibration: 8–1000 Hz

#### Measuring Ranges

Hand-arm: 5–1500 Hz

Linear: 6.3–5000 Hz (–3 dB)

Inst., Low Range Setting:

0.1–316 m/s<sup>2</sup>

Inst., High Range Setting:

1–3160 m/s<sup>2</sup>

Peak, Low Range Setting:

0.14–447.2 m/s<sup>2</sup>

Peak, High Range Setting:

1.4–4472 m/s<sup>2</sup>

#### Detectors

RMS Averaging Time: 1 s

Peak Rise Time: <100 μs

#### Transducer

Accelerometer Type 4505 A



### ORDERING INFORMATION

**Type 2239 B** Sound Level and Hand-Arm Vibration Meter includes the following accessories:

**Type 4188:** Pre-polarized Free-field ½-inch Condenser Microphone

**ZC 0027:** Preamplifier

**Type 4505 A:** Accelerometer

**ZE 0777:** Charge Amplifier

**DB 3585:** Mounting Stud

**KE 0323:** Shoulder Bag

**UA 1236:** Protective Cover

**4 × QB0013:** 4 × 1.5V LR6/AA Size

Alkaline Cells

**AO 0038:** Low-noise Cable

### TYPE 2537

Type 2537 is a dedicated Hand-arm Vibration meter. All its functions are identical to the vibration functions of Type 2239 B

### ORDERING INFORMATION

**Type 2537:** Hand-Arm Vibration Meter

All accessories as for Type 2239 B (except microphone and preamplifier)