

For electrical calibration of the Type 2230 and connected instruments such as chart or tape recorders, a reference oscillator is built-in. The sensitivity adjustment of the Type 2230 is made using the potentiometer located on the side panel

Reset

The instrument is reset completely either by pressing RESET "All" or when changing the measurement range. When the instrument is reset manually, two types of resetting are possible: a reset of the complete instrument, or a reset of the max. and min. detectors, i.e. without interruption of L_{eq} and $L_{EA,T}$ measurements.

Pause

A pause function allows exclusion of unwanted noise events from L_{eq} , $L_{EA,T}$ or Max./Min. measurements. The Pause function also permits spatial averaging of the SPL.

Power supply

The power is supplied from 4 alkaline cells (IEC LR 6) which will provide approximately 8 hours of continuous operation. A warning is displayed when the batteries are low. Alternatively, the Mains Power Supply and Charger ZG 0254 (option), including a drawer with rechargeable cells, can be used. ZG 0254 can power the Sound Level Meter and recharge the cells simultaneously.

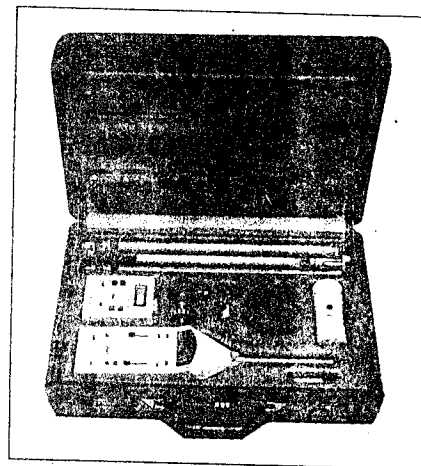


Fig. 8. Field Measuring Set

Specifications 2230

MEASURING RANGE:

FSD ¹	Measuring Range		
	Lower limit for S/N ratio >5 dB (A-weighting)	Max. peak level ³	Upper limit for signals of crest factor =10 (20dB) ³
70	24	83	63
80	24	93	73
90	30	103	83
100	40	113	93
110	50	123	103
120	60	133	113
130 ²	70	143	123
140 ²	80	153	133

¹ FSD on quasi analogue display

² Only with attenuator ZF 0020 employed

³ Values may diverge slightly from nominal value depending on microphone K_0 factor

FREQUENCY RESPONSE:

See Figs.3 and 4

FREQUENCY WEIGHTING:

A, C weighting to IEC 651 Type 1
Linear (20 Hz -20 kHz)
All-pass (10 Hz -50 kHz)

DETECTOR:

Characteristics: RMS, peak
Linearity range: 70 dB
Pulse range: 73 dB
Crest factor capability: 13 dB at FSD

TIME WEIGHTING CHARACTERISTICS:

"I": to IEC 651 Type 1
"F": to IEC 651 Type 1
"S": to IEC 651 Type 1
"Peak": rise time <50 μ s
Max. Hold decay rate: 0 dB/s (digital)

L_{eq} RESPONSE TIME FOR CONSTANT

INPUT SIGNAL:
1 s after reset

MAXIMUM MEASUREMENT PERIOD:

Only limited by battery life

DISPLAY:

Digital: 4 digits 7 segments, liquid crystal, 8 mm high, resolution 0,1 dB
Quasi-analogue: 60 dB scale with 2 dB resolution for monitoring current SPL

Additional functions:

Overload occurring: †
Overload has occurred: †
Battery near low level: BAT flashing
Battery low level: BAT (flash.) † (non-reset.)
Illegal setting: †

AC OUTPUT:

1 V RMS for full scale, output impedance $\leq 120 \Omega$, short circuit protected, mini-jack socket

DC OUTPUT:

3 V for full scale, 0 V bottom scale, 50 mV/dB, output impedance $\leq 500 \Omega$, short circuit protected, mini-jack socket

RESET FUNCTION:

Automatic reset all occurs when changing FSD setting.

Reset all: Max./min. detectors, L_{eq} , $L_{EA,T}$ and overload detector are reset

Reset max./min.: Only max./min detectors are reset

MICROPHONE:

Type: 1/2 inch B & K Prepolarized Condenser Microphone Type 4155
Sensitivity: 50 mV/Pa
Capacitance: 15 pF
Windscreen effect: <0,9 dB up to 10 kHz

CALIBRATION:

Acoustical: With Sound Level Calibrator Type 4230 or Pistonphone Type 4220 by potentiometer adjustment

Electrical: With internal reference source by potentiometer adjustment

REFERENCE CONDITIONS FOR ACOUSTICAL CALIBRATION WITH TYPE 4230:

Type of Sound Field: Free
Reference Incidence Direction: Perpendicular to microphone diaphragm
Reference SPL: 94 dB (re 20 μ Pa)
Reference Frequency: 1 kHz
Reference Temperature: 20°C
Reference Measuring Range: 110 dB FSD

WARM-UP TIME:

<5 s for 0,5dB; <10 s for 0,1 dB

EFFECT OF HUMIDITY (AT 40°C AND 1000 Hz):

<0,5 dB for 30% <RH <90%

EFFECT OF TEMPERATURE:

Microphone: -0,006 dB/°C typically

Complete instrument:

<0,5 dB -10 to +50°C

Operating range: -10 to +50°C (+14 to 122°F)

Storage without batteries: -20 to +70°C (-4 to 158°F)

EFFECT OF MAGNETIC FIELD:

80 A/m (1 \AA sted) at 50 Hz gives:
<25 dB (A) or <44 dB (Lin)

VIBRATION SENSITIVITY: 72 dB max. at

40 Hz and 1 ms⁻².

BATTERIES:

Type: Four 1,5 V Alkaline cells IEC type LR 6 (B&K order No. QB 0013)
Life: approx. 8 hours

OVERALL DIMENSIONS AND WEIGHT:

370 x 85 x 47 mm (14,7 x 3,3 x 1,8 in)
860 g (1,9 lb) with batteries

ACCESSORIES INCLUDED:

Half-inch Prepolarized Condenser Microphone Type 4155
2,5 mm mini-jack plug (x2) JP 0213
Windscreen UA 0237
Input Adaptor JJ 2614
Screwdriver QA 0001
Cells (x4) QB 0013
20 dB Attenuator ZF 0020

ACCESSORIES AVAILABLE:

Carrying case KE 0226
Tripod UA 0801
Sound Level Calibrator Type 4230
Level Recorder Cable AO 0173
3 m Microphone Extension cable AO 0134
Mains Power Supply and Charger ZG 0254