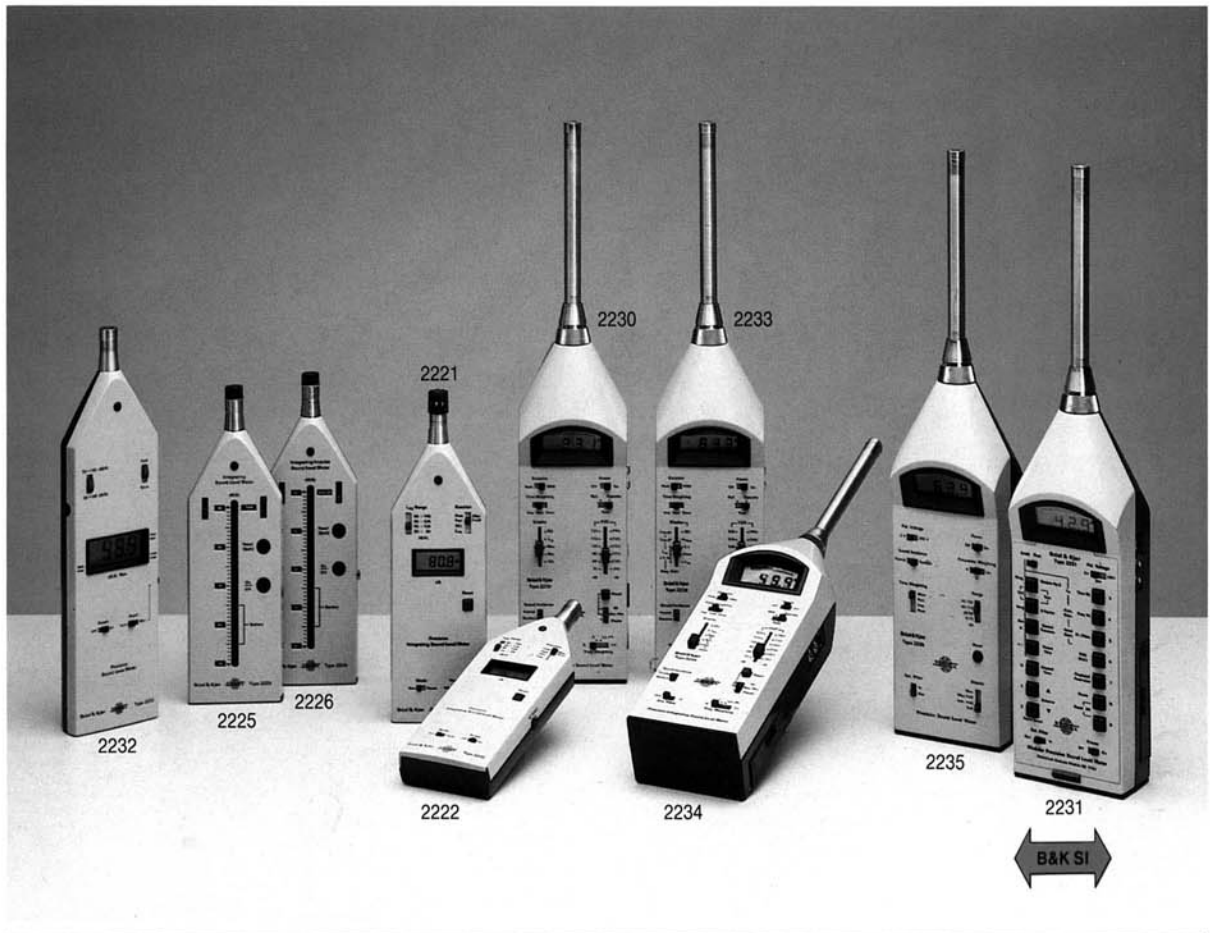


# Sound Level Meters



**Type 2232 Precision Sound Level Meter.** IEC Type 1 instrument for precision sound measurements and noise surveys.

- A-weighting
- RMS Fast, Slow and Max. Hold; reset every 1 s or manually
- 34 to 130 dB A measuring range
- DC output for recording
- Slim-line, pocket format, only 460 g
- Windscreen UA0459 and Random Incidence Adaptor DZ9566 included

**Type 2225 Integrating Sound Level Meter.** IEC Type 2<sup>1</sup> instrument for general environmental and factory noise surveys, etc., and where assessment of the risk of hearing damage is important.

- A-weighting
- $L_{eq}$  for fixed period of 60 s
- RMS Fast and Slow, and Peak Hold response
- 25 to 140 dB A measuring range
- 40 dB, linearly graduated, "thermometer" type display with 0.5 dB resolution
- DC output for recording
- Slim-line, pocket format. Weighs only 370 g
- Windscreen UA0459 included. 3 m and 10 m Mic. Extension Cables **AO 0185** and **AO 0186** available

**Type 2226 Integrating Impulse Sound Level Meter.** IEC Type 2 (Impulse) instrument for general environmental and factory noise surveys, etc., and where assessment of the

annoyance or subjective effects of impulsive noise is important.

- Identical to Type 2225 except that it has Impulse Hold instead of Peak Hold, and RMS Max. Hold can be chosen on all functions

**Type 2221 Precision Integrating Sound Level Meter.** IEC Type 1 instrument for precision sound measurement and assessment of occupational and community noise environments. Investigation of cyclical, fluctuating and impulsive noise as well as single noise events.

- Linear and A-weighting
- $L_{eq}$  for periods up to 2.77 hours
- Sound Exposure Level, SEL
- Max. Hold, Fast and Peak response with manual reset function
- 25 to 145 dB A measuring range (40 to 145 dB for Max. Hold functions) in four overlapping 60 dB sub-ranges
- 3 $\frac{1}{2}$ -digit liquid crystal display. 0.1 dB resolution
- AC output for recording instantaneous A-weighted and Lin signal
- Windscreen UA0459 and Random Incidence Adaptor DZ9566 included. 3 m and 10 m Mic. Extension Cables **AO 0185** and **AO 0186** available

**Type 2222 Precision Integrating Sound Level Meter.** IEC Type 1 instrument for precision sound measurement and assessment of occupational and community noise environments.

- Identical to Type 2221 except that it has Max. Hold Slow instead of Max. Hold Fast

**Type 2230 Precision Integrating Sound Level Meter.** IEC Type 1 (Impulse) instrument for environmental certification and factory noise investigations, including cyclical, fluctuating and impulsive noise measurements, as well as assessment of the risk of hearing damage.  $\frac{1}{1}$ - and  $\frac{1}{3}$ -octave analysis using Filter Set Type 1624 or 1625.

- A-, C-, Lin. and All Pass weighting
- Five measuring modes, all simultaneously updated:  $L_{eq}$  and SEL (measuring period approximately 8 hours — limited by battery life only); the current 1 s Max. sound pressure level SPL (as required in IEC 651 and ANSI S1.4 standards); the maximum and minimum detected levels in the measuring period, Max. and Min. respectively
- RMS Fast, Slow, Impulse, and Peak response
- 24 to 130 dB A measuring range in six overlapping 70 dB sub-ranges. 30 to 150 dB A with 20 dB Attenuator included
- 4-digit liquid crystal display updated every second. 0.1 dB resolution. 60 dB quasi-analogue display of the instantaneous level in 2 dB steps, updated 64 times/second
- Reset, Max. and Min. Hold Reset, and Pause functions
- AC and DC outputs for recording
- Windscreen UA0237 and Input Adaptor JJ2614 included. 3 m, 10 m and 30 m Mic. Extension Cables **AO 0027**, **AO 0028** and **AO 0029** respectively, available

B & K Type no.		2232	2225	2226	2221	2222	2230	2233	2234	2235	2231 <sup>1</sup>
Type of Noise	Continuous										
	Fluctuating, Erratic										
	Noise events										
	Impulsive										
Frequency Response	Linear	—	—	—	Peak only	Peak only	●	●	●	●	●
	Weighted	A	A	A	A	A	A;C	A;C	A;C	A;C	A;C
	Filters	—	—	—	—	—	1624/25	1624/25	1624/25	1624/25	1624/25/27
Measurement Modes	RMS <sup>2</sup>	F,S	F,S	F,S,I	—	—	F,S,I	F,S,I	F,S,I	F,S,I	F,S,I
	Peak	—	●	—	●	●	●	●	●	●	●
	Max. Hold	●	(Peak only)	●	F	S	● <sup>3</sup>	●	● <sup>3</sup>	●	● <sup>3</sup>
Averaging	—	60 s L <sub>eq</sub>	60 s L <sub>eq</sub>	L <sub>eq</sub> , SEL	L <sub>eq</sub> , SEL	L <sub>eq</sub> , SEL	L <sub>eq</sub> , SEL L <sub>FTM</sub> , L <sub>im</sub>	L <sub>eq</sub> , SEL	—	L <sub>eq</sub> , SEL <sup>4</sup>	
Dynamic range dB	70	60	60	60	60	70	70	70	70	70	
Outputs	DC <sup>5</sup>	DC	DC	AC	AC	AC, DC	AC, DC	AC, DC	AC, DC	AC, DC	AC, DC Digital <sup>6</sup>
Complies with SLM standards	IEC 804 DIN 45655 Type	—	2	2	1	1	1	1 <sup>7</sup>	— <sup>8</sup>	—	1 <sup>9</sup>
	IEC 651/DIN Type	1	2 <sup>10</sup>	2 (Imp)	1	1	1 (Imp)	1 (Imp)	—	1 (Imp)	1 (Imp) <sup>9</sup>
	ANSI S1,4 Type	S1 A	S2 A	S2 A	S1 A	S1 A	S1	S1	—	S1	S1 <sup>9</sup>
Microphone Type	4176	4129	4129	4176	4176	* 4155	4155	4155	4176	4155	
Microphone Polar. Voltage V	0	0	0	0	0	0	0	0	0–200	0–28–200	
Battery Type (included)	2xIEC6LF22/9V	3xIECLR6/AA size				4xIECLR6/AA size					
Dimensions (HxWxD) cm	25x7x2	20x7x2				37x8x5					
Weight kg (lb)	0,46 (1,0)	0,37 (0,8)		0,4 (0,9)		0,86 (1,9)					
Mic. ext. Cable (option)	—	AO 0185 – AO 0186				AO 0027 – AO 0028 – AO 0029					

1) With Integrating Module BZ 7100  
 2) RMS time constant: Fast, F; Slow, S; Impulse, I;  
 3) Plus Min. Hold  
 4) Plus "Taktmaximal" level L<sub>FTM</sub> with Module BZ 7102  
 5) AC instead of DC: option WH 1242 (SD)

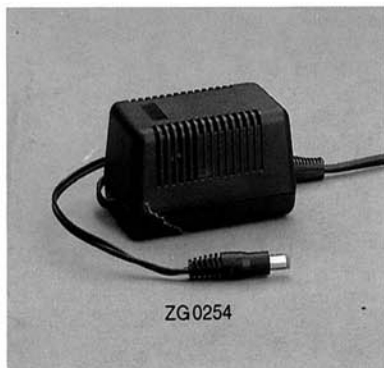
6) Option  
 7) Fulfills DIN 45645 (TA-Lärm)  
 8) Complies with Japanese proposed JIS standard  
 9) Type 0 using Mic. Type 4133 (IEC) or Type 4134 (ANSI) and Extension Cable AO 0027  
 10) Except for RMS Max. Hold

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**Type 2233 Precision Integrating Sound Level Meter.** Same as Type 2230 but for measurements conforming to German "Takt-Maximalpegelverfahren".

- Measurement of L<sub>eq</sub>, L<sub>im</sub> and L<sub>FTM</sub> for determination of noise rating levels and effective levels according to DIN 45641, DIN 45645, VDI 2058 and TA-Lärm
- Updating interval 1, 3 or 5 s
- Displays measuring time instead of Min. Hold level

**ZG 0254 Mains Power Supply and Charger** for Sound Level Meters Types 2230, 2231, 2233, 2234, and 2235. Includes a battery box with 4 rechargeable Ni-Cd batteries QB 0032.



ZG 0254

**Type 2234 Precision Integrating Sound Level Meter.** Similar to 2230 but including measurement of *instantaneous* sound pressure level, sampled every second (conforming to Japanese standard), instead of the current 1 s Max sound pressure level.

**Type 2235 Precision Sound Level Meter.** IEC Type 1 instrument for precision sound measurements including impulsive noise. 1/1- and 1/3-octave analysis using Filter Set Type 1624 or 1625.

- A-, C- and Lin weighting
- RMS Fast, Slow, Impulse and Peak response
- 24 to 130 dB A measuring range in four overlapping 70 dB sub-ranges. 20 dB Attenuator ZF 0020 available for extended range to 150 dB
- Windscreen UA 0237 included. Input Adaptor JJ2614 available

**Type 2231 Modular Precision Sound Level Meter.** IEC Type 1<sup>3</sup> (Impulse) instrument accepting interchangeable plug-in application modules for various noise investigations. 1/1- and 1/3-octave analysis using Filter Set Type 1624 or 1625. Infra- and ultra-sound analysis using Filter Set Type 1627. Type 2231 includes Integrating Module BZ 7100.

- 70 dB dynamic range, 73 dB pulse range
- May be used with almost any microphone in the B & K range

- A-, C-, Lin and All Pass weighting
- Frequency range: 2 Hz – 70 kHz (depends on selected microphone)
- Measuring range with supplied Microphone Type 4155: 24 to 130 dB A. 30 to 150 dB A with 20 dB Attenuator included.
- Digital output (with B & K Serial Interface module Z19100) for connection of printer or computer for further processing
- Windscreen UA 0237 and Input Adaptor JJ2614 included

**BZ 7100 Integrating Module** for comprehensive noise investigations including cyclical, fluctuating and impulsive noise measurements, assessment of hearing damage risk, and single noise event measurement.

- Eight simultaneous measuring modes: MAXP (Max. Peak); PEAK (Max. Peak/1 s); INST (Sampled RMS/1 s); SPL (Max. RMS/1 s); MAXL (Max. RMS); MINL (Min. RMS); L<sub>eq</sub> and SEL
- User-definable measuring period. Max. 100 h (or limited by battery life)
- Special functions include: Last second's signal cancellation to reject unwanted noise event; preprogrammed L<sub>eq</sub> intervals for automatic plot of L<sub>eq</sub> histograms; Digital output mode/format selection, etc.
- RMS Fast, Slow and Impulse
- Parallel RMS and Peak measurements
- AC and DC output for recording

<sup>3</sup> With supplied Microphone Type 4155. Type 0 with optional Microphones Type 4133 (IEC) or 4134 (ANSI) and Extension Cable AO 0027