

“Challenger for your future needs”

Sound Level Meter TYPE-6236

Precision Sound Level Meter TYPE-6238

On-site measurement of environmental noise is strongly expected to have high resolution and real-time analyzing function on the spot. Moreover, in the field of product development such as car parts electric appliances, etc., it is required to measure and analyze the sound of ultra-low level more accurately, corresponding to the rise of consciousness that the acoustic characteristics such as silence, tone quality, etc., should be the part of the product, which is deeply related to our human hearing sensation. The function of **TYPE-6236/TYPE-6238** can be extended quite easily to those such as measurement of various parameters for environmental noise, only by inserting option FFT Analysis Card into the card slot. Also, this equipment is provided with newly developed “0-dB function” for measuring ultra-low sound pressure level, symbolizing the next-generation sound level meter with extremely high resolution and reliability.

World first!! “0-dB measurement-function”



By employing the original DSP technology, which eliminates the self-noise of the microphone with preamplifier, the lower limit of measurement has been drastically extended to lower than 0 dB-SPL. Linearity range, extended to 100 dB in the usual state, further expands to that corresponding to the measurement range 0~80dB(A) by holding the 0-dB function in ON position.

It enables to measure ultra-low sound pressure level, so displaying its greatest power as in the quietness measurement of, or tone quality evaluation of, various silent-type IT/OA equipments, as well as in the measurement of air-conditioning noise or sound isolation in a concert hall with ambient noise below NC-20.

※Technology relating to “0-dB measurement function” is the fruit of joint research work with Shizuoka University.

Function Enhancement - Program card (SD card) -

Replacing the card with SD card (option) enables to add the specified analyzing function to TYPE6236.

- 1/1 and 1/3-octave Real-time analysis card
- FFT analysis Card
- RSR card (Real Sound Recording Card)



Equipped with a function of displaying NC bar graph with evaluated NC index



In response to your great deal of needs, the function of displaying NC-bar with evaluated **NC** index finally equipped!!

By inserting "**1/1 and 1/3-octave Real-time Analysis Card**" in TYPE-6236/TYPE-6238, evaluated **NC** index is displayed in real time, empowering the evaluation of on-site noise measurement.

Embedded high precision microphone



TYPE-6236/TYPE-6238 is equipped with high precision electret condenser microphone(TYPE-7052NR/TYPE-7146NR) which ACO is most proud of.

The measurement frequency range covers entire audible frequencies, TYPE-6236 : 20Hz ~ 20kHz, TYPE-6238 : 5Hz ~ 20kHz.



ACO Microphone is made as one with highly anti-shock capability



"Microphone has a image of breakable object needing frequent replacement"

Such an image is broken down by ACO microphone of highly anti-shock capability, developed through lengthy research and development work.

ACO Microphones, clearing various strength tests,delivers the customers from very delicate handling of the microphone, offering the environment focused on sound measurement.



Measurement Items

A-weighted sound pressure level(L_A/L_C)

A-weighted sound pressure level is measured when time weighting is [Fast] or [Slow], and Frequency weighting [A]. The instantaneous A-weighted sound pressure level is displayed on the liquid crystal screen. Displayed digital data is updated in each second, as well as bar graph in each 0.1 second.

Sound Pressure Level(L_p)

Sound pressure level is measured when time weighting is [Fast] or [Slow], and Frequency weighting [Z]. The instantaneous Sound pressure level is displayed on the liquid crystal screen. Displayed digital data is updated in each second, as well as bar graph in each 0.1 second.

Equivalent continuous A-weighted sound pressure level (L_{Aeq})

Set the Time weighting to 「Fast or Slow」, and the frequency weighting to [A]. Measurement time is selected from

1sec/3sec/5sec/10sec//1min/5min/10min/15min/30min/1h/8h/12h/24h. Moreover the manual measurement is available. Data in past 3 sec or 5 sec could be deleted when [Pause] key is pressed during the measurement. The process of L_{Aeq} calculation is displayed on the liquid crystal screen.

Percentile level(L_N)

By pressing 「Start」Key, the percentile level ($L_{max}, L_{05}, L_{10}, L_{50}, L_{90}, L_{95}, L_{min}$), the Sound exposure level(L_{Ae}), A-weighted Sound pressure level(L_A) and Equivalent continuous A-weighted sound pressure level(L_{Aeq}) can simultaneously be measured.

Additional index

- Peak sound pressure level(L_{peak})
- C-weighted peak sound level(L_{Cpeak})
- C-weighted equivalent continuous sound level(L_{ceq})
- Power average of maximum sound level in a given interval(L_{atm5})
- Impulse sound level(L_{AI})
- Impulse equivalent continuous sound level(L_{Aieq})

Function Enhancement - Option -

Program card (SD card)

Real-time 1/1 and 1/3-octave Analysis Card

Embedded octave filter conformed with JIS C 1514 (IEC61620) Class1. This card enables real time analysis in 1/1 or 1/3-octave.

FFT Analysis Card

This card enables frequency analysis based on FFT. Time window is selected from rectangular and hanning window.

RSR card (Real Sound Recording Card)

This card enables automatic recording with specified level and time, namely adding the function of recording real wave data. The data is recorded in WAVE file format (48kHz 16bit Mono), easily corresponding to most common application software of acoustic analysis, as well as displaying its greatest force in all kinds of acoustic analysis.

Other features

- Data recording function for memory card(SD card)
- AC signal output function
- DC signal output function
- Print-out data output
- Timer function
- Calendar function
- Real-Time communication function with PC (USB)

Contents

1. Main Body
1. Memory Card(SD Card)
1. BNC pin cord(※only TYPE6238)
1. Windscreen
1. Batteries
1. Screw Driver
1. Strap
1. Instruction Manual(CD)
1. Carrying Case

Specifications

Item		
Type	TYPE-6236	TYPE-6238
Type approval number	SLS101	SLF101
Name	Sound Level Meter	Precision Sound Level Meter
Applicable Standards	JIS C1509-1:2005 ClassII IEC 61672-1:2002 Class II	JIS C1509-1:2005 classI IEC 61672-1:2002 ClassI
Frequency Range	20Hz ~ 20kHz (Conforms with measurement law 20Hz ~ 8kHz)	5Hz ~ 20kHz (Conforms with measurement law 20Hz ~ 12.5kHz)
Microphone Type (Sensitivity)	TYPE 7052NR (-33dB,Stand-alone -31dB)	TYPE 7146NR (-29dB,Stand-alone -27dB)
Measurement Level	A:28 ~ 130dB (0 ~ 80dB/0-dB measurement function in ON) C:36 ~ 130dB Z(FLAT):40 ~ 130dB C peak:55 ~ 141dB Z(FLAT)peak:60 ~ 141dB	A:28 ~ 130dB (0 ~ 80dB/0-dB measurement function in ON) C:37 ~ 130dB Z(FLAT):39 ~ 130dB C peak:55 ~ 141dB Z(FLAT)peak:60 ~ 141dB
Self-noise level	The lower limit of the measurement range in dB lies 6dB higher than self-noise level.	The lower limit of the measurement range in dB lies 8dB higher than self-noise level.
Level Range Control	10dB 6step 20 ~ 80dB、20 ~ 90dB、20 ~ 100dB 20 ~ 110dB、30 ~ 120dB、40 ~ 130dB (0 ~ 80dB / 0-dB measurement function in ON)	
Linearity Range	100dB	
Time weighting	Fast、Slow、Impulse	
Frequency weighting	A、C、Z(FLAT)	
Measurement items	Sound pressure level(L_p) A-weighted sound pressure level C-weighted sound pressure level(L_A/L_C) Equivalent continuous A-weighted sound pressure level(L_{Aeq}) Sound Exposure level(L_{AE}) Maximum sound pressure level(L_{Amax}) Minimum sound pressure level(L_{Amin}) Percentile sound pressure level(5 freely selectable values、 L_{AN}) Peak Sound Pressure level(L_{peak}) C- weighted Peak Sound Pressure level(L_{Cpeak}) Power average of maximum sound pressure level in a given interval(L_{Atms}) Impulse Sound pressure level(L_{Ai}) Impulse equivalent continuous sound pressure level(L_{Aeq})	
Measurement time	1s/3s/5s/10s/1min/5min/10min/15min/30min/1h/8h/12h/24h Manual(Max. 199h59m59s)	
Sampling Time	20.8 μ s(L_{eq} 、 L_{max} 、 L_{min})、100ms(L_N)	
Data clear Function	Pause, and a function that deletes preceding 3 or 5 sec. dat Memory start ; Selectable Auto or Manual	
Timer function	A marker can be set to start and stop the measurement at any specified moments.	
Display	Liquid crystal and Backlight(128 \times 64 points)	
Digital display	Display range:4digit display Display cycle : display Period: 1s	

Bar display	Display Period:0.1s
Warning	Over ; +3dB from upper limited scale Under ; - 0.6dB from lower limited scale
Battery display	Battery 5 steps display
Date	year/month/day/hour : minute : second
T Pause	ormal pause function, as well as the function of canceling the data before pausing the measurement, are available.
Calibration signal	Electric calibration with internal oscillator (1kHz sine wave)
AC Output	φ2.5Jack Output : 1Vrms(FS) Output impedance : 600Ω Load impedance : more than 10kΩ
DC Output	φ2.5Jack Output : 2.5V(FS) 0.25V/10dB Output impedance : 50Ω Load impedance : more than 10kΩ
RMS detection circuit	True RMS detection circuit (computing type)
Processing	Digital
Data Storage Functions	Sound pressure level or Processed values stored in built-in Memory or Memory card Manual Storage : Sound level, Calculation value, Memory time, Store the Sampling to Built-in memory or on Memory card, Auto Storage : Sampling interval 100ms, 200ms, sound level, Leq etc. Processing Card : Storage of calculation results
I/O	Direct output to printer, control and output data to computer Digital output of real-time noise waveform with USB interface
Comparator Output	Comparator Function with threshold level
Battery Type	Four 1.5V Alkaline cells IEC type LR6, Optional AC adapter
Battery life	Alkaline dry cell ; Approx.9hours when Switch on a back light ;Approx.1/3
Operating temperature	Temperature : -10 ~ 50°C Humidity : 30% ~ 90%RH(no condensation)
Size	86(W) x 285(H) x 46(D)
Weight	Less than APPROX (450g(including Batteries)