

*auto range + Type K Temp.
optional Humidity, Light, Anemometer*

SOUND LEVEL METER

Model : SL-4112

ISO-9001, CE, IEC1010



EM-900P probe
(optional)



Laboratory Equipment Manufacturer
www.mrclab.com



SOUND LEVEL METER

Model : SL-4112

FEATURES

* Large LCD display, easy to read.
* Frequency and Time weighting meet IEC 61672 class 2.
* A, C frequency weighting networks is selected.
* Time weighting (Fast & Slow) dynamic characteristic modes.
* 0.5" standard microphone head.
* AC output for system expansion.
* RS232/USB computer interface.
* Auto range & Manual range selection.
* Available for external calibration adjustment.
* Condenser microphone for high accuracy & long-term stability.
* Memory function to store the Max. & Min. value.
* Hold and Peak Hold functions.
* Build in type K and type J thermometer.
* Optional probe (EM-900P) for Humidity/Temp., Light and Anemometer measurement.
* DC 1.5 V battery (UM-4, AAA) X 6 or DC 9V adapter in.
* Operation key used push button.
* LCD display for low power consumption & clear read-out even in bright ambient light condition.
* Using the durable, long-lasting components, including a strong, light weight ABS-plastic housing case.
* Small and light weight design allow one hand operation.
* Patent.

Electrical specification for Sound level meter

Function	dB (A & C frequency weighting), Time weighting (Fast, Slow), Hold, Memory (Max. & Min.), Peak hold, AC output, RS232 output.
Meter default function	Range set to auto range. Frequency weighting set to A weighting. Time weighting set to fast.
Measurement Range	30 - 130 dB.
Resolution	0.1 dB.
Range selector	<i>Auto range :</i> 30 to 130 dB. <i>Manual range :</i> 3 range, 30 to 80 dB, 50 to 100 dB, 80 to 130 dB, 50 dB on each step, with over & under range indicating.
Frequency	31.5 to 8,000 Hz.
Microphone type	Electric condenser microphone.
Microphone size	Out size, 12.7 mm DIA. (0.5 inch).
Frequency weighting network	Characteristics of A & C. <i>* A weighting :</i> The characteristic is simulated as "Human Ear Listing" response. Typical, if making the environmental sound level measurement, always select to A weighting. <i>* C weighting :</i> The characteristic is near the "FLAT" response. Typical, it is suitable for checking the noise of machinery (Q.C. check) & knowing the sound pressure level of the tested equipment.
Range selector	Manual range: 3 ranges (30 to 80 dB, 50 to 100 dB, 80 to 130 dB). Auto range: 30 - 130 dB.
Time weighting (Fast & Slow)	Fast - t = 200 ms, Slow - t = 500 ms, * "Fast" range is simulated the human ear response time. * "Slow" range is easy to get the avg. values of vibration sound level. * The "Fast" & "Slow" response range are designed to meet IEC 61672 class 2 requirement.
Calibrator	B & K (Bruel & kjaer), MULTIFUNCTION ACOUSTIC CALIBRATOR 4226.
Output Signal	* <i>AC output :</i> AC 0.5 Vrms corresponding to each range step. Out put impedance - 600 ohm. * <i>RS232 output.</i>
Output terminal	<i>Terminal 1 :</i> RS232 computer interface terminal, photo couple isolated. <i>Terminal 2 :</i> AC output terminal. <i>Terminal socket size :</i> 3.5 mm dia. phone socket.
Calibration VR	Build in external calibration VR, easy to calibrate on 94 dB level by screw driver.

Electrical specification for Type K/J thermometer

Sensor Type	Resolution	Range	Accuracy
Type K	0.1 °C	-50.0 to 1300.0 °C	± (0.4 % + 0.8 °C)
		-50.1 to -199.9 °C	± (0.4 % + 1 °C)
	0.1 °F	-58.0 to 2372.0 °F	± (0.4 % + 1.5 °F)
-58.1 to -327.8 °F		± (0.4 % + 1.8 °F)	
Type J	0.1 °C	-50.0 to 1100.0 °C	± (0.4 % + 0.8 °C)
		-50.1 to -199.9 °C	± (0.4 % + 1 °C)
	0.1 °F	-58.0 to 2012.0 °F	± (0.4 % + 1.5 °F)
-58.1 to -327.8 °F		± (0.4 % + 1.8 °F)	

* Accuracy value is specified for the meter only.
* Temp. probe (Type K, TP-01 TP-02A, TP-03, TP-04) is the optional accessories.

GENERAL SPECIFICATION

Display	51 mm x 37 mm LCD (Liquid crystal display), 5 digits with annunciator.
Operating Temp.	0 to 50 °C (32 to 122 °F).
Operating Humidity	Less than 80% RH.
Power Supply	DC 1.5 V battery (UM4, AAA) x 6 PCs, or equivalent.
Power Consumption	Approx. DC 19 mA.
Dimension	245 x 68 x 41 mm (9.6 x 2.7 x 1.6 inch).
Weight	358 g/0.79 LB (including battery).
Accessory Included	Instruction Manual 1 PC.
Optional Accessories	<i>94 dB Sound Calibrator :</i> Model : SC-941, SC-942. <i>Sound wind shield ball</i> Model : SB-01 <i>RS232 cable (isolated RS232 cable) :</i> Model : UPCB-02. <i>USB cable</i> Model : USB-01 <i>Application windows software :</i> Model : SW-U801-WIN. Type K Temperature probe : Model : TP-01 TP-02A, TP-03, TP-04

ELECTRICAL SPECIFICATIONS FOR OPTIONAL PROBE EM-900P

Anemometer

A. Air velocity

Measurement	Range	Resolution	Accuracy
m/S	0.4 - 25.0 m/s	0.1 m/s	± (2% + 0.2 m/s)
km/h	1.4 - 90.0 km/h	0.1 km/h	± (2% + 0.8 km/h)
mph	0.9 - 55.9 mile/h	0.1 mile/h	± (2% + 0.4 mile/h)
knot	0.8 - 48.6 knots	0.1 knots	± (2% + 0.4 knots)
FPM	80 - 4930 ft/min	1 ft/min	± (2% + 40 ft/min.)

Note:

m/S - meters per second	km/h - kilometers per hour
FPM - feet per minute	knot - nautical miles per hour
mph - miles per hour	(international knot)

B. Temperature

Measuring Range	0 °C to 50 °C/32 °F to 122 °F
Resolution	0.1 °C/0.1 °F
Accuracy	± 0.8 °C/1.5 °F

Humidity/Temp. meter

A. Humidity

Measuring Range	0 % to 95 % R.H.
Resolution	0.1 % R.H.
Accuracy	≥ 70%RH ± (3% reading + 1% RH). < 70%RH ± 3% RH.

B. Temperature

Measuring Range	0 °C to 50 °C/32 °F to 122 °F
Resolution	0.1 °C/0.1 °F
Accuracy	± 0.8 °C/1.5 °F

Light meter

Measuring Range	LUX	0 to 20,000 LUX.
	Ft-cd	0 to 1,860 Ft-cd
Resolution	LUX	1 LUX
	Ft-cd	0.1 Ft-cd
Accuracy	± (5% rdg + 8 dgt)	

Note: Ft-cd : Feet candle