



Sound pressure levels in dB(A)

The depreciation of sound vs distance assumes that measurements are taken in still air 'open field' conditions, and that the sound will not be interrupted by buildings, hills or other objects.

The sound level emitted by a sounder is usually measured in dB at 1 metre. As the distance from the sounder increases the audible level of the sounder reduces.

The rate of reduction, normally known as attenuation, is approximately 6 dB as the distance doubles.

e.g. For a sounder with an output of 100 dB at 1 metre, the audible level will be 94 dB at 2 metres, 88 dB at 4 metres, and 82 dB at 8 metres.

From the following table you can calculate the dB level required from a sounder to achieve a given alarm sound level at a known distance from the sounder. It can be seen on the table that to achieve 84 dB at 128 metres distance, a sounder with an output of 126 dB must be used.

METRES	SOUND PRESSURE LEVEL IN db(a)																					
1	95	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138	140
2	89	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134
4	83	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122	124	126	128
8	77	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118	120	122
16	71	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116
32	65	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
64	59	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	102	104
128	53	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98
256	47	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92
512	41	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
1024	35	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80
2048	29	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74

LGM Products Ltd, Unit 3, Quantum Business Park, Beacon Hill Road, Fleet GU52 8DY

+44 1252 725257 sales@lgmproducts.com support@lgmproducts.com

technical@lgmproducts.com Find us on LinkedIn