Norsonic

Enivronmental monitoring

IEPE Outdoor microphone Nor1218

Environmental monitoring

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for semi-permanent installations

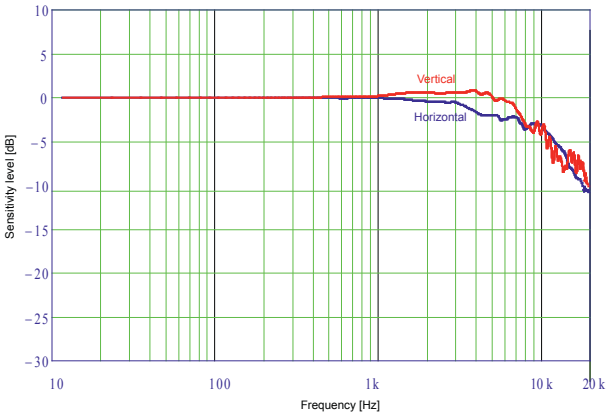
The Outdoor Microphone Nor1218 is a high quality measurement microphone for all-weather conditions, designed for semi-permanent application requiring low power. The Nor1218 uses the standard preamplifier and microphone from the Nor131/Nor139, making it a very cost effective solution.

The Nor1218 is designed for use with the Nor131 and Nor139 Sound Analyser. The instrument allows a direct connection via Nor4531 microphone cable supplied in various lengths. There is no need for extra adapter box or power supplies. The Nor131/ Nor139 has selectable frequency correction for both community and airport applications.

The Nor1218 uses the microphone and preamplifier supplied with the sound level meter. Nor131 is supplied with the Nor1207 IEPE preamplifier and the pre-polarised microphone Nor1228, while the Nor139 is supplied with the same preamplifier, but normally with the pre-polarised microphone Nor1227.

Frequency response

The Nor1218 satisfies IEC 61672 Class 1 requirements and related national standards when used with Nor131 or Nor139. These instruments applies a frequency correction to the measured noise signal when the Nor1218 and the vertical or horizontal noise incidence criteria is selected in the instruments transducer selection menu.



Key Features

Outdoor microphone for community and aircraft noise.

Fulfils IEC 60651, IEC 61672 class 1 and ANSI S1.4 type 1.

Protection class IP 55 (dust and water).

Easy to calibrate with a normal ½" sound calibrator.

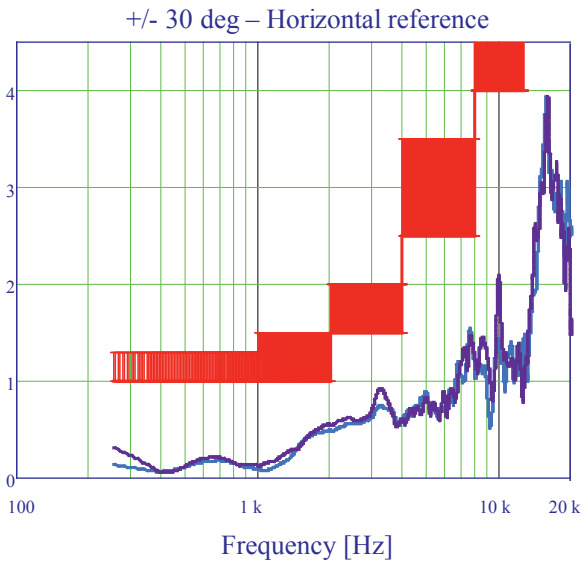
Low self noise – typically below 18 dB, A-weighted.

Low cost. Use microphone and pream-plifier supplied with Nor131 and Nor139 sound level meters.

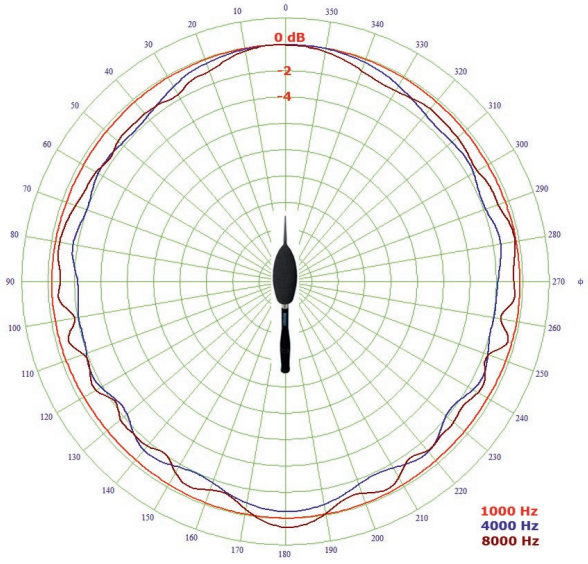
Delivered with individually calibration certification.

Type approved by PTB, Germany.

Directional response



Maximum deviations from an ideal circular response within ±30 degree from a horizontal reference axis as a function of frequency (blue curves) and the tolerance limits as specified in IEC 61672, class 1 (red).



Directional response in a verticfal plane.

Calibration

The Outdoor Microphone may be calibrated with a normal sound cali-brator suitable for ½" working standard microphones (WS2) without the need for extra accessories. Access to the microphone cartridge is easily gained by dismounting the upper part of the microphone.

The base is made of an electrical insulating material. The microphone body will be fully insulated from the mounting mast thereby reducing pick-up of electrical hum and noise.

By removing the upper part, the outdoor micro-phone may be calibrated as an ordinary ½" micro-phone.

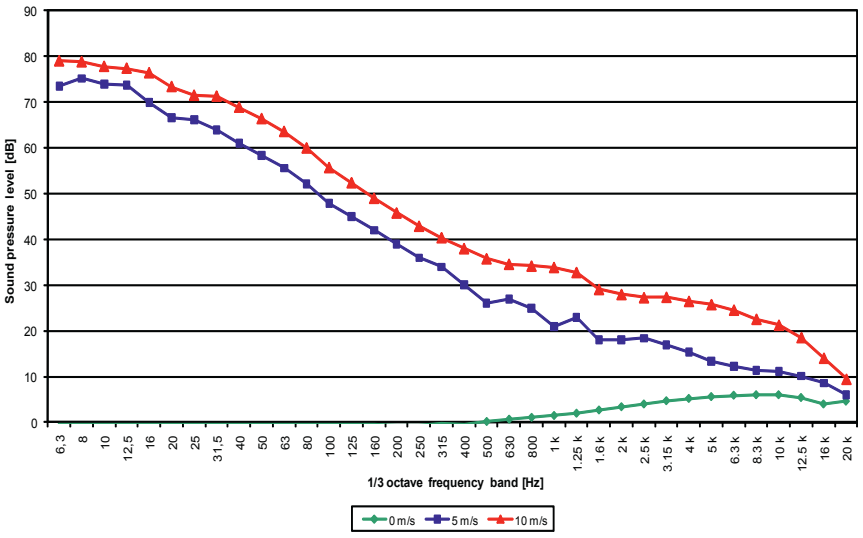
Wind induced noise

Compared to a standard measurement micro-phone, the Outdoor Microphone Nor1218 improves the measurement accuracy by reducing the wind noise and by improving the directional response for sound from different directions.

The diagram shows the typical noise floor for different wind speeds. The noise is typically 20 dB less than an unprotected microphone.

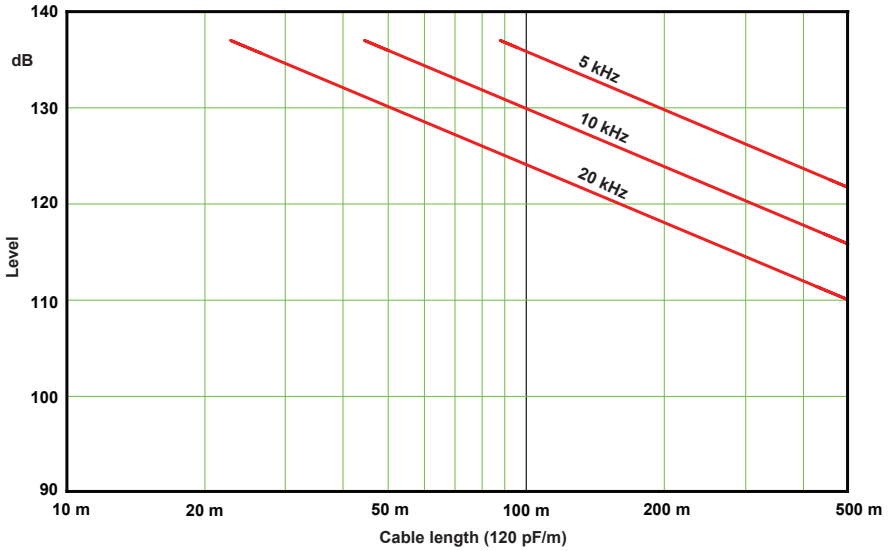
A 200 mm wind shield Nor4576 may be added to further reduce the wind induced noise, as required by some applications and standards. Frequency correction for the combination of the original windshield with the 200 mm added is supported by the Nor131/139.

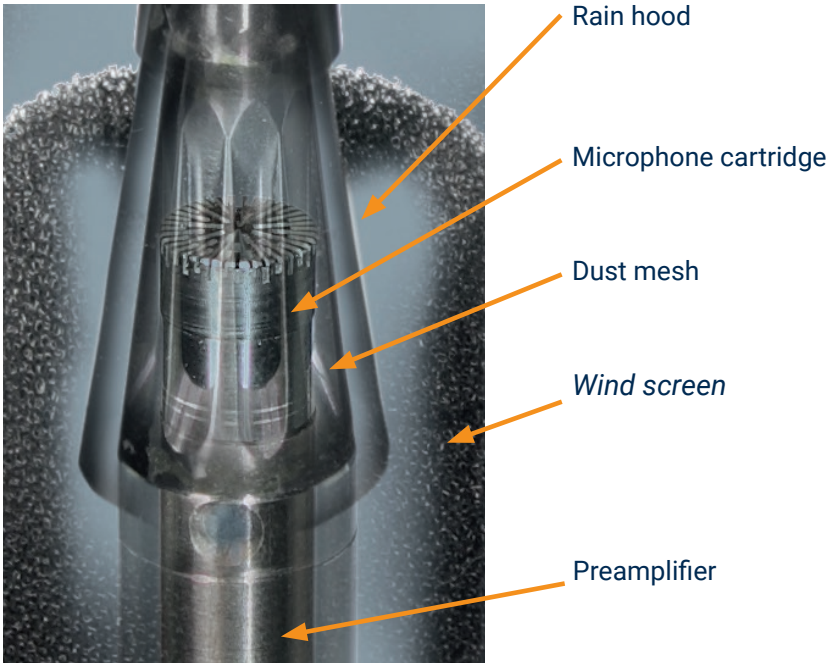
The correction for this combination of windshields is supported for horizontal direction only.



Nor4576 windscrenn

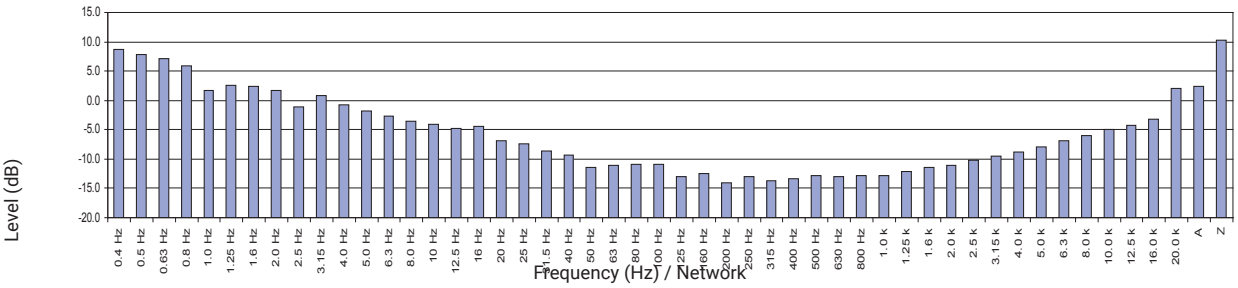
The figure below shows the maximum level as function of cable length and frequency. 20 kHz corresponds to the bandwidth of the microphone system with the normal microphones supplied with the instrument.





The microphone cartridge is protected by dust mesh, rain hood and windscreen to obtain Ingress Protection Category IP55 according to IEC 60529.

SysCheck verification



Typical self-noise of the microphone system when the microphone is substituted by a capacitor with similar capacitance as the microphone. Note that the acoustical self-noise for a real microphone will be higher due to thermal noise in the microphone cartridge.

Accessories and spare parts

Windshield upper part	Nor4529
Assembled upper part w/windscreen	Nor4560
Microphone	Nor1227 or Nor1239
Microphone preamplifier	Nor1207
Sounc calibrator	Nor1255 or Nor1256
Microphone cable	Nor4531 standard lengths 5, 10, 1, 20, 30 and 50 m - other lenghts on request
Extra wind protection	200 mm windshield Nor4576

Technical Specifications

Acoustic performance	IEC 60651, IEC 61672 class 1 and ANSI S1.4 type 1 (frequency correction applied) with a suitable instrument (Nor131/Nor139)
Max. sound pressure level	>140 dB pea
Microphone cartridges	Nor1227, Nor1228 or Nor1239 1/2" Free-field 50 mV/Pa **Use of special microphones** Other microphones than the standard microphones supplied with the sound level meter may be used to measure high sound pressure levels or low frequency noise levels. Consult Norsonic for further information.
Polarization voltage	0 volt
Inherent noise	< 18 dB A-weighted
Reference direction	Vertical or horizontal dependent on the applied frequency correction
Ingress protection category	IP55 according to IEC 60529
Supply voltage	IEPE
Current consumption	30 mW (dependent on supplied current)
Connector	TNC
Temperature range	-40 °C to +85 °C
Height	375 mm / 14.8" (1" pipe mounting) 450 / 17.7" with tripod adaptor
Diameter	Approx 80 mm / 3.1" (with windshield)
Weight	Approx 300 g with preamp microphone
Mounting thread	Standard 1" pipe threads according to ISO 228. When using the tripod adapter: 3/8" UNC

Ordering information

Nor1218	Outdoor microphone for community and aircraft noise. Excluding preamplifier and microphone.
Nor1207/1227	Microphone set; Nor1207 preamplifier and Nor1227 microphone
Nor1207/1239	Microphone set; Nor1207 preamplifier and Nor1239 microphone

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PD Nor1218 - October 2024