A sophisticated family of fast, energy-efficient, weatherproof, wireless noise monitoring stations that store their measurement data real-time in the INSIGHTNOW™ cloud portal.

Sound recognition
The NP-series is the new generation that supports advanced sound recognition, alongside all IEC 60651/60804/61672 features. In the cloud portal, sounds in the living environment are identified (level, time, sound source and location). Common sounds in the environment are automatically recognized. Unknown sounds can be identified, with the support of listening, and added to the database for future automatic recognition.

Never lose data
The NP-series is suitable for indoor and outdoor use and measures all sound parameters, 1/3 octave, spectral data and audio streaming. The meters also store their measurement data and high quality audio internally. So their data is never lost.

Ideal meters for difficult circumstances
The NP family is robust and extremely suitable for outdoor mounting on lamp posts. The NP-series uses the energy-efficient IoT communication LTE-M, which also allows measurements at locations with insufficient 4G coverage. The NP-series also supports WiFi and, optional, Ethernet.

Reliable and autonomous
The meters can also act as a hub for our other measurement systems, like the SP-series noise meters and our air quality monitoring stations. The NP family can operate up to three days on the internal rechargeable Li-Ion battery. An optional battery pack extends measurement time to more than 15 days. And in combination with a solar panel, these meters measure continuously.

The NP-series are ideal for measurements where energy and/or internet are not available.

Sound recognition
IEC 60651/60804/61672
Realtime, online, selfsufficient, wireless, auto recovery
Internal storage of measurement data and WAV up to 3 months
Visualization via INSIGHTNOW™ portal
LTE-M IoT communication; reliable and energy efficient
About Munisense
Munisense develops, produces, supplies and manages innovative measurement solutions for businesses and governments. Solutions that give stakeholders direct online insight into noise, water quality, water levels and air quality. The information is online available at any time for visualization, analysis or periodic reports. This way managers and policymakers can measure in real time; remotely, reliable and smarter.

About Munisense NP-series
These meters come complete with power adapter/charger, pole clamp (20-80 mm) and 5 meter power or ethernet cable.

Optional are items such as:
Rugged carrying case, solar panel 30W, battery pack, lamp post connecting set, 24V POE adapter, lamp post support and wind protection (20 cm).

### Munisense NP-series: NP2 NP4

<table>
<thead>
<tr>
<th>Parameter</th>
<th>NP2</th>
<th>NP4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>IEC 60651/60804/61672</td>
<td>IEC 60651/60804/61672</td>
</tr>
<tr>
<td>PTB Admission</td>
<td>Class 2</td>
<td>Class 1</td>
</tr>
<tr>
<td><strong>Meetwaarden</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$L_{10}$, $L_{100}$, $L_{90}$, $L_{P90}$</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Advancing $L_{eq}$; $T=1$, $60$, $180$, $300$, $900$, $3600$ sec</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>$L_{eq}$; $T=0.125$ sec</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Calculated values *</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Frequency weightings</td>
<td>$dBA$, $dBC$ and $dBJ$</td>
<td>$dBA$, $dBC$ and $dBJ$</td>
</tr>
<tr>
<td>Time weighting</td>
<td>Fast, Slow, Impulse</td>
<td>Fast, Slow, Impulse</td>
</tr>
<tr>
<td>Measurement range total</td>
<td>30 - 130 $dBA$</td>
<td>20 - 140 $dBA$</td>
</tr>
<tr>
<td>Measurement ranges (overlap)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01 $dBA$</td>
<td>0.01 $dBA$</td>
</tr>
<tr>
<td>Accuracy</td>
<td>1.5 $dBA$</td>
<td>0.7 $dBA$</td>
</tr>
<tr>
<td>Noise floor meter ($dBA$)</td>
<td>22 $dBA$</td>
<td>5 $dBA$</td>
</tr>
<tr>
<td>Spectra, 1/3 Octave</td>
<td>20 Hz - 8 kHz</td>
<td>10 Hz - 20 kHz</td>
</tr>
<tr>
<td>Audio</td>
<td>OggVorbis and/or WAV</td>
<td>OggVorbis and/or WAV</td>
</tr>
</tbody>
</table>

**Sound recognition options:**
- Mel-Frequency Cepstral Coeff. (MFCC)
- Gammatone Cepstral Coeff. (GTCC)
- Detection weather conditions
- Fireworks detection

**Microphone**
- Type: Omni
- Diameter: $\frac{3}{4}$” $\frac{1}{2}$”
- Heating: Yes
- Microphone cable extendable: No
- Weather protection: Poly Carbonate

**Storage**
- Levels (second values): 6 mth 1 year
- Spectra: 6 mth 1 year
- Audio: 1 mth 3 mth
- Capacity: 64 Gb 265 Gb

**Network**
- WAN: LTE-M (4G, GPRS optional)
- LAN: WiFi (Ethernet optional**)

**Energy**
- Consumption using LTE-M: 1.1 $W$
- Consumption using 4G: 3 $W$
- Connector adapter: 12 - 30 $V$
- Supports solar energy (MPPT): Yes
- Battery (Li-Ion): 74 Wh
- Operating time (days): 1 - 3

**Environmental conditions**
- Long term outdoor measurements: Yes
- Temperature: -20 - 60 °C
- Temperature charging Li-Ion battery: -20 - 45 °C
- Humidity: 10 - 99 %
- Ingress Protection: IP65
- Other conditions:
  - Timestamp (accuracy): 100 $\mu$s
  - Real time clock: Yes
  - GPS location: Yes
  - Device temperature visible: Yes

**Dimensions and weight**
- Dimensions (L x W x H) (mm):
  - Body and microphone: 80x60x400 80x60x440
  - Incl. weather protection: 80x60x480 80x60x540
  - Incl. weather prot. and antenna: 80x60x540 80x60x600
  - Weight (grams): 1200 1500

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* Percentile $L_{10}$, $L_{90}$, $L_{NN}$ / Equivalent noise $L_{eq}$ (1 second - 1 year) / Dose effect noise $L_{A}$ CEL / $L_{ax}$ (nuisance)
** The NP2-E and NP4-E versions include Ethernet