# LoRaWAN Sensor Device

## 11 Parameter Weather Station

### Sensors

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar radiation</td>
<td>0 to 1750 W/m²</td>
<td>1 W/m²</td>
<td>± 5% of measurement typical</td>
</tr>
<tr>
<td>Precipitation</td>
<td>0 to 400 mm/h</td>
<td>0.017 mm</td>
<td>± 5% of measurement from 0 to 50 mm/h</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0 to 47 kPa</td>
<td>0.01 kPa</td>
<td>varies with temperature and humidity, ±0.2 kPa typical below 40 °C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>0 to 100%</td>
<td>0.1%</td>
<td>varies with temperature and humidity, ±3% RH typical</td>
</tr>
<tr>
<td>Air temperature</td>
<td>-50 to 60 °C</td>
<td>0.1 °C</td>
<td>± 0.6 °C</td>
</tr>
<tr>
<td>Humidity sensor temperature</td>
<td>-40 to 50 °C</td>
<td>0.1 °C</td>
<td>± 1.0 °C</td>
</tr>
<tr>
<td>Barometric pressure</td>
<td>50 to 110 kPa</td>
<td>0.01 kPa</td>
<td>± 0.1 kPa</td>
</tr>
<tr>
<td>Horizontal wind speed</td>
<td>0 to 30 m/s</td>
<td>0.01 m/s</td>
<td>the greater of 0.3 m/s or 3% of measurement</td>
</tr>
<tr>
<td>Wind gust</td>
<td>0 to 30 m/s</td>
<td>0.01 m/s</td>
<td></td>
</tr>
</tbody>
</table>
Accuracy: the greater of 0.3 m/s or 3% of measurement

Wind direction  
Range: 0 to 359°  
Resolution: 1°  
Accuracy: ± 5°

Tilt  
Range: -90° to +90°  
Resolution: 0.1°  
Accuracy: ± 1°

Lightning strike count  
Range: 0 to 65,535 strikes  
Resolution: 1 strike  
Accuracy: variable with distance, >25% detection at <10km typical

Lightning average distance  
Range: 0 to 40 km  
Resolution: 3 km  
Accuracy: variable

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**Sensor type**  
METER Group ATMOS 41  
5m cable, longer cable on request

**LoRaWAN specifics**  
Device class A  
Over the air activation (OTAA)  
Adaptive data rate (ADR)  
Frequency band: EU868 MHz (EU Version), US915MHz (US Version), or AU920 (Australia Version)  
Input Sensitivity: -148 dBm (EU Version)

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**Supply**  
Internal battery 2 x C-type  
Integrated sensor supply

**Operating conditions**  
-30°C to 60°C  
100% RH

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**Weight**  
250g w/o batteries

**Dimensions**  
80 x 135 x 70 mm

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**Enclosure**  
Weatherproof IP67, impact and UV-resistant polycarbonate enclosure
Dimensional drawings (only enclosure)