



## MSGD1 - GeluidDuider \*)

**The GeluidDuider, a smart noise localizer, makes noise and nuisance visible. Simple, affordable and reliable. With real-time insight into what is happening in the environment, the GeluidDuider helps municipalities, companies and organizations to improve the quality of life, safety and well-being in public spaces.**

### Smart and accessible noise monitoring

The MSGD1 makes noise monitoring simple, accurate and affordable. The compact, energy-efficient design has been developed for mounting on lamp posts and fixtures via the standardized ZHAGA connector.

The MSGD1 works autonomously, has its own communication system, bridges power-free periods and does not require any specialist knowledge for installation or maintenance.

In short: connect, activate and measure.

### Recognize and locate

The MSGD1 recognizes, localizes and classifies sounds in the living environment. With four sensitive, weatherproof microphones and powerful built-in processing technology, various sound sources are recognized, such as traffic, construction and industry to music, sirens and fireworks. The measurements comply with international standards IEC 60651/60804/61672 class 2 and are processed in real time in the INSIGHTNOW™ platform.

### Fully integrable into your Smart City platform

The MSGD1 uses the latest 4G/5G IoT standard, for real-time communication with the ISO27001-certified INSIGHTNOW™ platform.

All measurement data and noise events are available via an open data interface for integration within other (smart city) platforms.

**In this way, sound becomes part of a data-driven approach for quality of life, safety and sustainability.**

### For temporary or permanent use

**Quick installation on any ZHAGA connector/fixture**

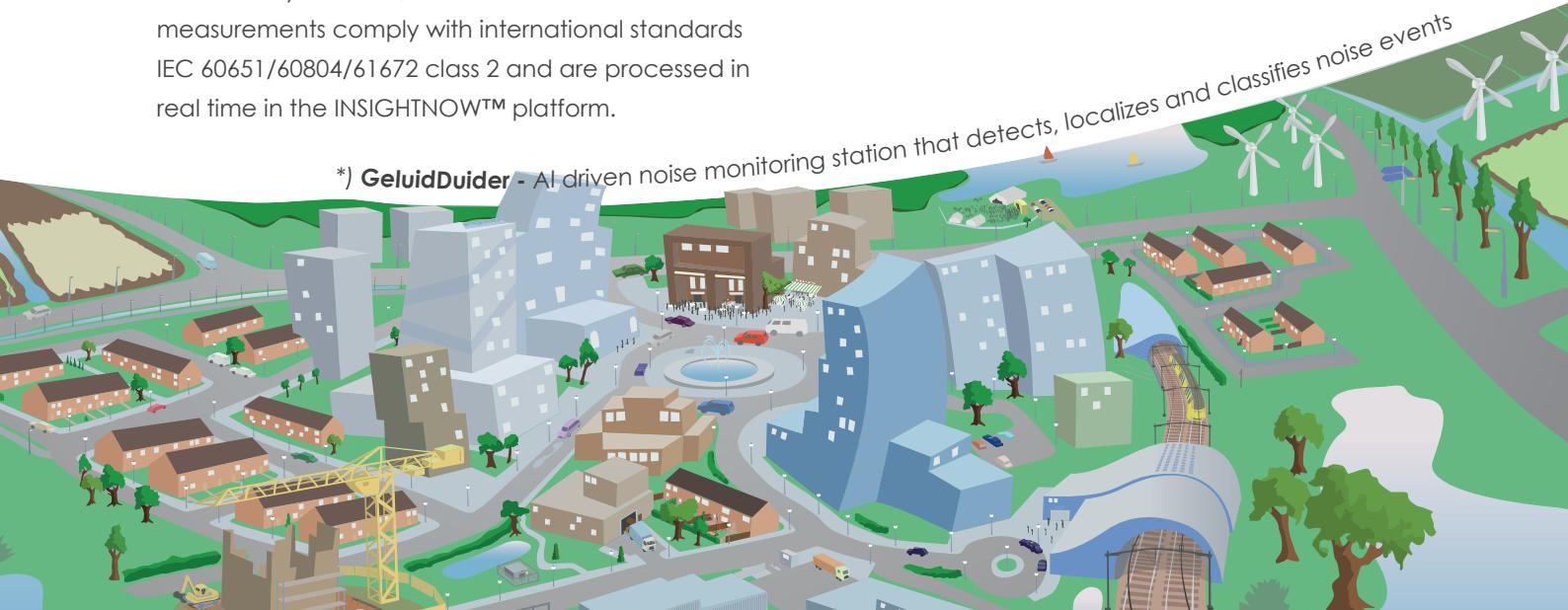
### Compact, energy efficient and unobtrusive

**IEC 60651/60804/61672/20906**

### Sound recognition and localization

**Works autonomously and bridges power-free periods of up to 6 days**

\*) **GeluidDuider** - AI driven noise monitoring station that detects, localizes and classifies noise events



Munisense GeluidDuider	MSGD1
<b>Standard</b>	
IEC 60651/60804/61672	Class 2
<b>Measured values</b>	
Supported noise levels 1 sec.	$LAF_{MIN\ MAX}$ , $LAS_{MIN\ MAX}$ , $LAI_{MIN}$ , $LA_{EQ}$ , $LCF_{MIN\ MAX}$ , $LCS_{MIN\ MAX}$ , $LC_{PEAK}$ , $LC_{EQ}$
Supported noise levels 125 msec.	$LAF$ , $LAS$ , $LCF$ , $LCS$
Advancing $L_{EQ}$	$T = 1, 2, 3, 5, 15, 30, 60$ min.
Percentiles (LAS and LAF 125 ms)	$L0.5, L01, L02, L05, L10, L25, L50, L75, L90, L95, L99, L99.5$
Long term per 24 hrs	$L_{day}$ , $L_{evening}$ , $L_{night}$ , $L_{den}$
Noise recognition detection (conform ISO 20906)	absolute, relative level and delta
Frequency weightings	$dB(A)$ , $dB(C)$ , $dB(Z)$
Time weighting	Fast, Slow, Impulse, Peak
Measurement range total	20 - 125 $dB(A)$
Resolution	0,01 $dB$
Accuracy	1 $dB$
Noise floor of the MSGD	20 $dB(A)$
Spectra, 1/3 Octa	12 $Hz$ - 10 $kHz$
Audio (configurable quality)	OggVorbis quality (20 $kHz$ )
<b>Microphone</b>	
Type	4x MEMS (Omni)
Sound direction Azimuth accuracy	-180° - +180°, 5°
Sound direction elevation accuracy	0 - 90°, 10°
<b>Sound recognition</b>	
Sound recognition ML modelling	Vehicles, screaming, horns, sirenes, fireworks, music etc.
Remotely adaptable and expandable	Yes
<b>Internal storage</b>	
Period measurement storage	1-365 days
Period audio OggOpus storage	1-365 days
<b>Network and connections</b>	
WAN	LTE-M
Authentication (server and client)	TLS v1.2
Wireless LAN	ZigBee
Light control	DALI
<b>Energy</b>	
Consumption	1,5W / 3 days
Connecting adapter ZHAGA	12 - 30 V
Supports solar energy (MPPT)	Yes
<b>Environmental conditions</b>	
Long term outdoor measurements	Yes
Temperature	-20 - 60 °C
Temperature charging Li-Ion accu	-5 - 45 °C
Humidity	10 - 99 %
Ingress Protection	IP65
<b>Other characteristics</b>	
Accuracy timestamp	GPS 1 $\mu$ Sec, NTP 100 mSec
Real time clock	Yes
GPS locator	GPS, GLONASS, GALILEO, BEIDOU/COMPASS, QZSS
Integrity monitoring	Temperature and humidity
<b>Dimensions and weight</b>	
Dimensions (diameter x H)	
ZHAGA module	80x90 mm
Incl. weather protection	110x110 mm
Weight	400 gram

### Recycling e-waste

Of course you can deliver or send us your old Munisense devices. We then ensure that they are included in our recycling process.

### The power of simplicity

With the GeluidDuider noise monitoring finally becomes affordable, practical, scalable and future-proof.

One compact sensor with endless possibilities, for a living environment in which people feel comfortable, safe and heard.



### 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.

Munisense BV  
Touwbaan 38 - A0.08  
2352 CZ LEIDERDORP  
The Netherlands  
info@munisense.com  
T +31 (0)71-711 4623  
www.munisense.com

**munisense**  
**INSIGHTNOW™**