munisense

MSGD1 - Sound Locafier

Creating a healthy and safe environment is an important challenge of our time.
Detailed (real-time) information in time and space provides an accurate insight in actual noise disturbance and nuisance. However, until now this was complex and expensive.

This all changes today

Sound monitoring becomes simple and affordable using the Sound Locafier, model MSGD1. In addition to being small and unobtrusive, the Sound Locafier is energy-efficient. The MSGD1 is optimized for connection to light poles/luminaires, with the standardized ZHAGA connector. The Sound Locafier is completely autonomous, has its own communication, bridges a voltage-free day period and does not require any specific knowledge for installation and maintenance.

Measuring, localizing and recognition

The Sound Locafier can recognize, locate and classify virtually any noise in the environment. It features four highly sensitive weatherproof microphones as well as scalable processing power to process customizable sound recognition models remotely. It supports all sound levels, spectral and statistical values common in Europe and complies with the IEC 60651/60804/61672 class 2 standard.

All measurement data from the Sound Locafier is available in real time in the INSIGHTNOW™ platform. Supports various user-configurable ML models tailored to specific sound applications like classifying and locating vehicles, aircraft, fireworks, screams, horns, alarm sounds, sirens, construction sounds, music, etc. Optionally, sound recognition can trigger light levels via DALI.

Communication and (smart city) integration

The Sound Locafier uses LTE-M (latest 4G/5G IOT standard) for real-time communication with the ISO27001 certified Munisense INSIGHTNOW™ platform.
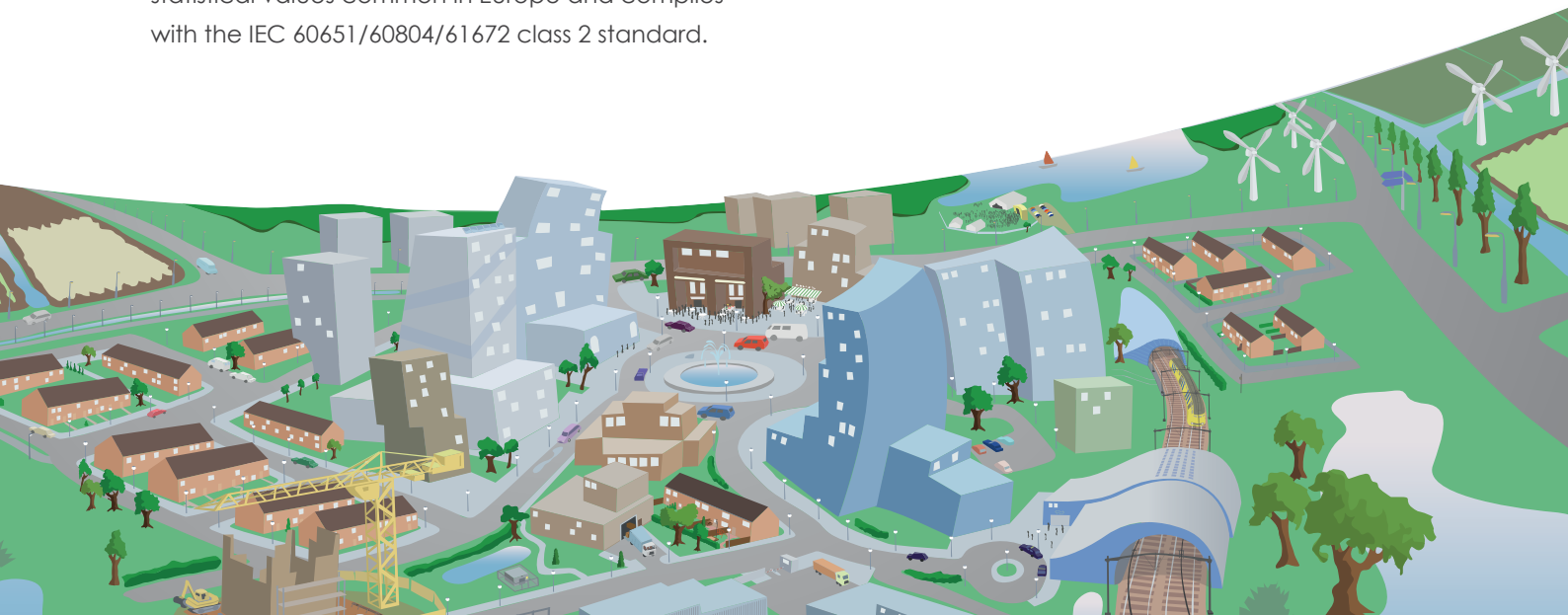
For long-term or permanent use

Quick installation on ZHAGA light fixtures

Small, energy efficient and unobtrusive

IEC 60651/60804/61672/20906

Sound recognition and locator

Munisense Sound Locafier	MSGD1
Standard	
IEC 60651/60804/61672	Class 2
Measured values	
Supported noise levels (1 sec.)	$LAF_{MIN \& MAX}$, $LAS_{MIN \& MAX}$, LA_{EQ}, $LCF_{MIN \& MAX}$, $LCS_{MIN \& MAX}$, LC_{EQ}
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 Harmonica Index, 1 hour , L_{day}, $L_{evening}$, L_{night}, L_{den}
Noise recognition detection (conform ISO 20906)	Reporting start, duration, top LAS, top LA_{EQ}, SEL noise type
Frequency weightings	dB(A), dB(C), dB(Z)
Time weighting	Fast, Slow, Impulse, Peak
Measurement range total	20 - 140 dB(A)
Resolution	0,01 dB
Accuracy	0,7 dB
Noise floor of the MSGD	5 dB(A)
Spectra, 1/3 Octa	12 Hz - 10 kHz
Audio (configurable quality)	OggVorbis quality (12 kHz)
Microphone	
Type	4x MEMS (Omni)
Sound direction (Azimuth accuracy)	5°
Sound recognition	
Sound recognition ML modelling	Vehicles, screaming, horns, sirenes, fireworks, etc.
Remotely adaptable and expandable	Yes
Realtime soundscapes (sound experience)	
Hinder indices	Based on sec., min., and hour
Storage	
Period (adaptable) max.	3 month
Network	
WAN	LTE-M
Authentication (server and client)	TLS v1.2
Wireless LAN	ZigBee
Light control (optional)	DALI
Energy	
Consumption	2 W
Connecting adapter ZHAGA	12 - 30 V
Supports solar energy (MPPT)	Yes
Environmental conditions	
Long term outdoor measurements	Yes
Temperature	-20 - 60 °C
Temperature charging Li-Ion accu	-5 - 45 °C
Humidity	10 - 99 %
Ingress Protection	IP65
Other characteristics	
Accuracy timestamp	GPS 1 µSec, NTP 100 mSec
Real time clock	Yes
GPS locator	GPS, GLONASS, GALILEO, BEIDOU/COMPASS, QZSS
Integrity monitoring	Temperature and humidity
Dimensions and weight	
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.

v 0.1.5

The real-time measurement data and the sound events are available via an open data platform for integration within other (Smart-City) platforms.

The Sound Locafier can be installed on any ZHAGA light fixture, or with a ZHAGA bracket on any light pole, and only requires energy at night.

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.

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INSIGHTNOW