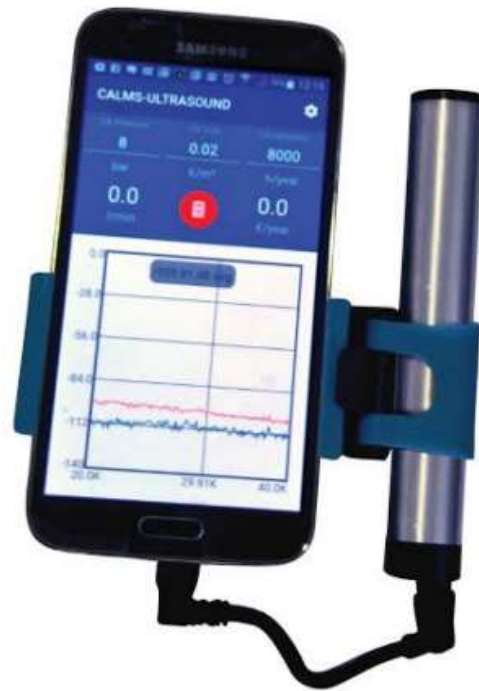


# DATA SHEET

## CALMS ULD-Ultrasound Leak Detector

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## CALMS ULD

ULD is USB Ultrasonic microphone for Android smartphones and tablets with driver and application for Compressed Air Leak detection and management with real leak cost calculation. The MEMS (Micro Electro-Mechanical Systems) microphone is very sensitive, with a good signal/noise ratio and small form factor.

### Benefits & Features

- Fast leak detection;
- Immediate flow and cost estimation;
- CALMS leak management system synchronization;
- FFT graphical leak detection;
- Data export option (csv);
- Save energy costs on leaks, inappropriate uses & artificial demand;
- Save your time and improve the organization;
- Improve your environmental image;
- ISO 11011, Compressed Air Assessment compliant.

## CALMS Process diagram



CALMS ULD Android app is used to collect ULD Ultrasonic sensor detector data on mobile phone when doing Leak Survey or Leak repair in the factory. All data will be stored in the local database and after synchronization will be sent to cloud web server via API and then on CALMS platform, where you can see all leaks, end uses, inappropriate uses and artificial demand. CALMS will give you a detailed report about leaks for a selected period.

## Specifications

CALMS ULD	Description
<b>Sensor</b>	MEMS high sensitivity ultrasonic acoustic sensor
<b>CPU</b>	Integrated micro-controller 32-bit
<b>Type</b>	Digital, with high quality low noise analog pre-amplification
<b>Sampling rate</b>	190 samples / seconds
<b>Frequency range</b>	96kHz
<b>Resolution</b>	16bit
<b>Communication</b>	USB 2.0
<b>Software</b>	ULD for Android version 6 or higher with USB OTG*
<b>Operating range</b>	0-45°C
<b>Power supply</b>	USB 5VDC
<b>Size</b>	L130mm x W18mm
<b>Weight</b>	120g
<b>Materials</b>	Enclosure: ALU, Cable entry ABS plastic, EPDM rubber
<b>Phone holder</b>	Yes (up to 5.5")
<b>Scope of supply</b>	ULD detector, holder, USB cable type C or B, Bluetooth headphones
<b>EMC</b>	EC 2004/108/CE, 2006/95/CE
<b>Class</b>	IP54
<b>Approvals</b>	CE

\*Tested devices: Samsung S5, S6, S7, S20, Nexus X5, LG... App is not available for iOS. For more please contact [info@calms.eu](mailto:info@calms.eu)

## Connection:

ULD is factory set to work with CALMS ULD software. No field adjustment needed. Connect ULD sensor to your Android smartphone or tablet and it will immediately be recognized as a new input. Additionally you can connect Bluetooth wireless headphones. With CALMS ULD Android software ULD sensor will be recognized and ready to find leaks. Next step is to login to CALMS web service and sync data to start doing Leak Management.

## CALMS Ultrasound application:

CALMS ULD Android App is used to collect ULD Ultrasound Sensor Detector data on mobile phone when doing Leak Survey (Audit) or Leak repair in the factory. App is running on smartphones and helps us to enter leak survey data very fast and easy, you do not need to enter data twice in the system. CALMS app synchronise with cloud server application and upload all data only with a press of the button. ULD is Ultrasonic USB microphone for Android smartphones and tablets with driver and application for Compressed Air Leak detection and management.





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