ES-642 Cloud Lite

AcSoft Cloud Solutions

The ES-642 Cloud Lite brings together the Met One ES-642 MCERTS dust system with Svantek's leading Class 1 sound level meter, the SV 307. The ES-642 Cloud Lite is plugged directly into the SV 307 with data from both systems being uploaded live to our cloud platform, SvanNET, providing you with full PM10 and noise data sets.

Our dust system, the ES-642 Cloud, has the advantage of only needing to be calibrated every 2 years, bringing the dust calibration interval in line with noise and vibration systems. This keeps your calibrations aligned and reduces the total cost of ownership, making it much lower than other solutions available.

The ES-642 Cloud Lite and SV 307 system offers:

- PM10 or PM2.5 averaged and instantaneous results
- Configurable logger steps
- Advanced alarms for dust data alongside noise and vibration alarms
- Controlled input heater
- Lifetime warranty on Microphone
- Inbuilt acoustic calibrator
- Automatic advanced acoustic analysis

Remote Dust Monitor Model ES-642

The ES-642 Remote Dust Monitor is an industrial air-quality sensor designed to provide accurate measurements of particle concentration in both indoor and outdoor environments.

The unit is supplied in a rugged weatherproof enclosure. It includes an LCD display to provide information about particulate concentration, flow rate, instrument status and power. The electronics and optical system are protected from moisture by a built in intake heater that is humidity level controlled. Additional features include a purge air system and an automatic zero calibration routine. The sensor can be wall mounted using its built in bracket.

The ES-642 is supplied with a 10 ft cable and connector for power (15 to 40 VDC) and signal output. The ES-642 measures particulate concentration using a highly sensitive forward scatter laser nephelometer, having a measurement range of 0 to 100 mg/cubic meter or 0 to 100,000 ug/cubic meter. Optional sharp-cut cyclones are used to set the measurement level of the ES-642. As supplied it provides particulate monitoring for TSP, with the addition of the sharp-cut cyclone it can be set for particulate smaller than PM10 or smaller than PM2.5, or PM1. The accuracy of the instrument is set for particles +/-5% based on a traceable PSL 0.6 micron reference standard.

Specifications

Measurement Principles	Particulate concentration by forward light scatter laser Nephelometer.
Available Cut Points	TSP Inlet Standard. PM10, PM2.5, and PM1 sharp- cut cyclone inlets available.
Measurement Range	0 to 100 mg/m3 (0 to 100,000 µ g/m3)
Display	2 X 16 back lit LCD. Provides information on operation including: Power, Flow Operation, Status and Concentration.
Zero Calibration	Automatic Zero Calibration every hour or as programmed from 1 to 999 minutes.
Power Consumption	350 mA (no heater) 1.1 A (with heater) @ 15 VDC.
Operating Temperature	0 to +50°C . (Ambient Temperature Sensor Range -30 to +50°C).
Intake Moisture Control	Automatic 10 Watt inlet heater module controlled to sample RH set point.
Factory Service Interval	24 Months typical, under continuous use in normal ambient air.
Mounting Options	Wall mount bracket standard or EX-905 tripod.
Unit Weight Unit	2.27 kg (6.0 lbs)
Dimensions	22.9cm high, 17.8cm wide, 10.8cm deep, (9.0" x 7.0" x 4.25"), w/out inlet assy. 48.3cm high, 17.8cm wide, 10.8cm deep, (19.0" x 7.0" x 4.25"), w/ inlet assy.

Applications:

- Construction
- Infrastructure
- Demolition Military
- Applications
- Environmental Clean Up Sites
- Air Pollution Level Monitoring

Specifications are subject to change at any time.

SV 307 Noise Monitoring Station

- The **SV 307** is a new Noise Monitoring Station dedicated for permanent noise monitoring. The SV 307 integrates Class 1 sound level meter with a modem in the compact waterproof housing.
- SV 307 is a new **CLASS 1** noise monitoring station designed for permanent noise monitoring with built-in community & airport characteristics.
- Wide frequency range up to 20 kHz with lifetime warranty microphone1 in MEMS technology.
- Patented **system check** with an inbuilt reference sound source producing level of 100 dBA at 1 kHz.
- As an option, the SV 307 can perform real time frequency analysis in **1/1 and 1/3 octave bands** and save results with the time history data. Additionally, it can record the audio signal as standard **WAVE** files for noise source recognition.
- A large colour **OLED** display and 10 pushbuttons enable easy configuration of the SV 307 in the field without needing an external handset or reconnection to a PC.
- The system is specially designed for **easy installation** - SV 307 is small, light weight and easy to install by a single person.
- The **SV 307** is equipped with a new MEMS microphone with a **life-time warranty.** The measurement data is stored on the microSD card.
- The **large windscreen** is highly efficient in reduction of a wind noise effects even at high wind speeds. Metal spikes protects station against birds.
- The **removable & weatherproof** housing protects the SV 307 noise monitoring terminal against extreme weather conditions while fulfilling Class 1 accuracy.
- The SV 307 has an internal Li-Ion battery and interface for connecting **solar panels**. A waterproof mains adapter for charging the battery and powering the station is also included.
- The **GSM MODEM** provides fast data transfer over the Internet to PC with standard Internet connectivity.
- The accurate **GPS module** provides information on the localization as well as measurement time synchronization.
- **SvanNET** enables a plug & play connection to Internet and easy management of measurement projects. Regardless of the SIM card type, Public or Private, SvanNET will establish connection, giving full access to the measurement data via WEB BROWSER.

What's inside the SV 307 kit?

The SV 307 is an integrated Noise Monitoring Station which means that the sound level meter has been integrated with a 4G modem and outdoor enclosure. The waterproof power supply is also provided for continuous operation in the field. Each SV 307 has its factory calibration certificate and 36-MONTHS WARRANTY CARD. The part of the kit is the new MEMS microphone1 with a lifetime warranty.

SV 307 Technical Specifications

The SV 307 must be located within 10 meters of the dust unit.

Standards	Class 1: IEC 61672-1:2013, Class 1: IEC 61260-1:2014	
Weighting Filters	A, B, C, Z, LF	
RMS Detector	Digital True RMS detector with Peak detection, resolution 0.1 dB Time constants: Slow, Fast, Impulse	
Microphone Preamplifier	Patented1 MEMS design microphone ST 30A in 1/2" housing	
Linear Operating Range	Integrated	
Dynamic Measurement	30 dBA RMS ÷ 128 dBA Peak (in accordance to IEC 61672)	
Range Internal Noise Level	23 dBA RMS ÷ 128 dBA Peak (typical from noise floor to the maximum level)	
Frequency Range Meter	Less than 23 dBA RMS	
Mode Results	20 Hz ÷ 20 kHz	
	Elapsed time, Lxy, Lxeq (LEQ), Lxpeak (PEAK), Lxymax (MAX), Lxymin (MIN), LxyE (SEL), 2 x LR (ROLLING LEQ),10 x LN (LEQ STATISTICS), Lden, LEPd, Ltm3, Ltm5, GPS coordinates Simultaneous measurement in three profiles with independent set of filters (x) and detectors (y)	
Statistics	Ln (L1-L99), complete histogram in meter mode and 1/1 & 1/3 octave analysis Simultaneous measurement in three profiles with independent set of filters and detectors	
1/1 Octave Analysis2 (optional)	Real-time analysis meeting class 1 requirements of IEC 61260 (31,5 Hz ÷ 16 kHz)	
1/3 Octave Analysis2 (optional)	Real-time analysis meeting class 1 requirements of IEC 61260 (20 Hz ÷ 20 kHz)	
Data Logger	Logging of summary results (SR) and spectra data with interval step down to 1 second and time history (TH) of selected parameters with shorter interval step down to 100 milliseconds.	
Audio Recording2 (optional)	Time domain records to wav file format on demand with selectable bandwidth and recording period	
Ingress Protection Rating	IP 65	
Inputs	Power supply LEMO 4-pin, extended I/O port LEMO 5-pin	
Remote System Check	Real-time system check1 and Built-in sound source producing level of 100 dB at 1 kHz	
Memory	Micro SD card 16 GB (removable)	
Display & Keyboard	OLED colour display 128 x 160 px and 10 push-button keyboard	
Communication Interfaces	USB, 4G Modem	
GPS	For time synchronization and localization	
Power Supply	Li-Ion rechargeable battery (non-removable)	
	Operation time on battery (7.2 V / 10 Ah)	
	Modem off	up to 6 days
	Modem on	up to 5 days3
	Solar Panel (not included)	MPPT voltage 17.0 V ÷ 20.0 V
	AC power supply (included)	Input 100 ÷ 240 VAC, output +15 VDC 2.5 A, IP 67 housing
	External DC source (not included)	voltage range 10.5 V ÷ 24 V e.g. 12 V or 24 V accumulator
Environmental Conditions	Temperature	from -20 °C to 50 °C
	Humidity	up to 95 % RH
Dimensions	680 mm length; 80 mm diameter excluding windscreen (windscreen diameter 130 mm)	
Weight	Approx. 1.8 kg	

patent pending function operates together with sound level meter mode depends on modem usage

The policy of our company is to continually innovate and develop our products. Therefore, we reserve the right to change the specifications without prior notice.

SvanNET

SvanNET is an online solution that supports multi-point connection with Svantek's noise, vibration & dust monitoring stations. To ensure the reliability and data security the SvanNET has been located on the Microsoft Azure™, the cloud platform working through global network of Microsoft-managed data centers.

Multipoint Monitoring

To support noise, vibration & dust monitoring SvanNET provides online connection services such as web interface, access to data files in the monitoring station or status alarms. SvanNET is an online solution which means it doesn't require software installation and is accessible through a web browser. The responsive design enables use of SvanNET on various devices such as smartphones or tablets.

Dust

The dust system uses a mobile network modem to send the data to our cloud storage to both store and display data in an easy and understandable way for both the consultant and your construction team.

SV 307

SvanNET supports remote connection with SV 307. The SvanNET allows usage of all types of SIM cards with the SV 307 modem regardless if they have public or private IP. The connection over the SvanNET allows users to use a web browser to watch real time measurement results, download manually files and reconfigure the station as well. users.

SvanNET **Projects**

SvanNET Projects is a payable extension offering fully automated management of multi-point noise and vibration monitoring task.

Automatic Files Download (AFD)

The Automatic Files Download maintains the remote connection with monitoring stations and downloads the measurement data for each project separately.

Advanced Alarms

The SvanNET Projects tools are capable to analyse data files downloaded by AFD in order to generate E-mail Alarms based on exceeding the level thresholds in specified time periods (e.g. Leq for day and night). System is flexible enough to alert different people depending on the day of the week or the time of day.

Data Storage

The main advantage of SvanNET Data Storage is a quick access to the measurement data that can be conveniently browsed and downloaded by the time range. The data is stored on the Microsoft Azure™ cloud platform ensuring reliable connection on the global scale.

Data Sharing

Data Sharing allows access to selected Projects to other SvanNET users.

Online Data Publishing

The SvanNET offers data preview in the form of a customized website with the public or restricted access. The preview website can be customized with the custom logo and individual project name. The preview content such as map, current results or time history step can be configured in SvanNET interface that works as the Content Management System (CMS). The access to the preview can be publicly open or be protected by the password.

SvanNET Projects - **Building Vibration Interface**

The ES-642 Remote Dust Monitor is an industrial air-quality sensor designed to provide accurate measurements of particle concentration in both indoor and outdoor environments.

PPV Time History

SvanNET Data Storage provides a quick access to the Building Vibration measurement data and can be conveniently browsed by the time range. The Peak Particle Velocity time history from number of points can displayed together with position of measurement points on a map.

Events List

Whenever the vibration criteria are exceeded the building vibration monitoring station records an Event indicating the highest PPV value and its dominant frequency. SvanNET automatically downloads the Events from monitoring stations together with FFT analysis and waveform associated with each Event.

Vibration Event Analysis

SvanNET Projects provide tools for a displaying and comparison of vibration velocity measurements with reference curves in accordance to commonly used standards such as DIN 4150-3 or BS 7385-2 that use Peak Particle Velocity and Dominant Frequency method.

Building Vibration Reports

SvanNET creates reports in a very fast and easy way. The user selects an event and the measurements data are automatically grouped into form of the report. The PDF or MS Word™ report is generated with a single click on the export button.

For more information:

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AcSoft Noise • Vibration • Air Quality