

SIEMENS



Siemens PLM Software

LMS SCADAS XS

Extra small. Extra smart.

[siemens.com/plm/lms](https://www.siemens.com/plm/lms)

Your personal testing solution

Record, monitor and validate

LMS SCADAS™ XS hardware, a Siemens PLM Software product, is a powerful and portable data acquisition system designed for typical noise and vibration testing. The system combines the characteristic broad functionality of the LMS SCADAS hardware system with the autonomy and testing freedom that comes with a pocket-sized solution.

From lab to mobile to portable

The LMS SCADAS product family helps test engineers in the automotive and transportation, aerospace and defense, industrial machinery and many other mechanical industries deliver the data they need for advanced noise and vibration testing.

With solutions specifically designed for in-lab testing, as well as mobile front ends that cover the most challenging field test setups, the LMS SCADAS series already covers a wide range of testing needs. LMS SCADAS XS now adds a truly portable solution to further broaden this successful product range.

Pocket-sized testing freedom

There is continuous pressure these days to test products in real-life circumstances and against ever-stricter deadlines. LMS SCADAS XS answers this challenge by allowing on-the-go investigation diagnostics and troubleshooting, even by nonexpert users who need to perform fast and reliable measurements.

With its attractive, compact design, LMS SCADAS XS literally fits in your hand. Combined with reliable onboard data storage and a full working day's battery autonomy, it offers test engineers the flexibility they need to take testing efficiency to the next level.

Versatility

The unique hardware and usability features of LMS SCADAS XS make it suitable for your day-to-day test setups, be they remote, laboratory, or in-the-field use cases:

- A 7" tablet, featuring a tailor-made Android application, allows mobile test setups, measurement and on-the-go data validation while recording to a micro SD card on LMS SCADAS XS.
- Preconfigured in the lab, LMS SCADAS XS can be used as a standalone recorder. Thanks to an intuitive start-stop button, even nonexpert users can perform tests with ease.
- Fully compatible with LMS Test.Lab™ software, the device can be used as a traditional front end. Data is streamed to and stored on a PC via a standard USB connection.



12-plus channel system

LMS SCADAS XS offers high channel-density capabilities and integrated signal conditioning. The device is available in an entry-level 6-channel version and an advanced version supporting 12 analog input channels.

In addition to these analog input channels (for V/I/CP and TEDS sensors), LMS SCADAS XS supports the LMS SCADAS 3D Binaural Headset for binaural recording and stereo audio replay, a digital artificial head through a dedicated SPDIF binaural input, dual analog tacho, digital CAN and GPS. And as these additional signals come on top of your 6 or 12 analog input channels, LMS SCADAS XS is truly a "12-plus" channel system.

Key benefits

- Compact, portable solution
- 6+ hours of battery autonomy (typical use)
- Set up, monitor and validate on the go
- Replay in full standalone mode
- Use in standalone mode, with a tablet, or with a PC
- 12+ channels

Key applications

- Typical noise and vibration testing
- Field diagnostics, mobile measurements and laboratory testing
- For both expert and nonexpert users

12-plus channel system

Key hardware specs



LMS SCADAS XS fully supports recording and stereo audio replay through the LMS SCADAS 3D Binaural Headset (optional). The headset offers an easy and cost-effective solution for binaural recording and immediate, high-quality data replay of any analog, SPDIF or headset channel.



Compact and rugged design

- 170 mm in height, 114 mm in width and 23 mm in depth
- Internal battery autonomy of 6+ hours
- Onboard storage capacity: micro SD card (32 GB)
- MIL-STD-810 tested (14 grms random vibration, 50 g shock, drop tested 1.2 m)
- Ultralight (± 0.5 kg)

High channel density

- 6 or 12 V/ICP and TEDS channels
- Input/output for binaural recording and stereo audio replay with optional LMS SCADAS 3D Binaural Headset
- SPDIF for an HMS digital artificial head
- Dual analog tacho for pulse signals up to 20 kHz
- Input for GPS antenna
- Digital CAN bus input

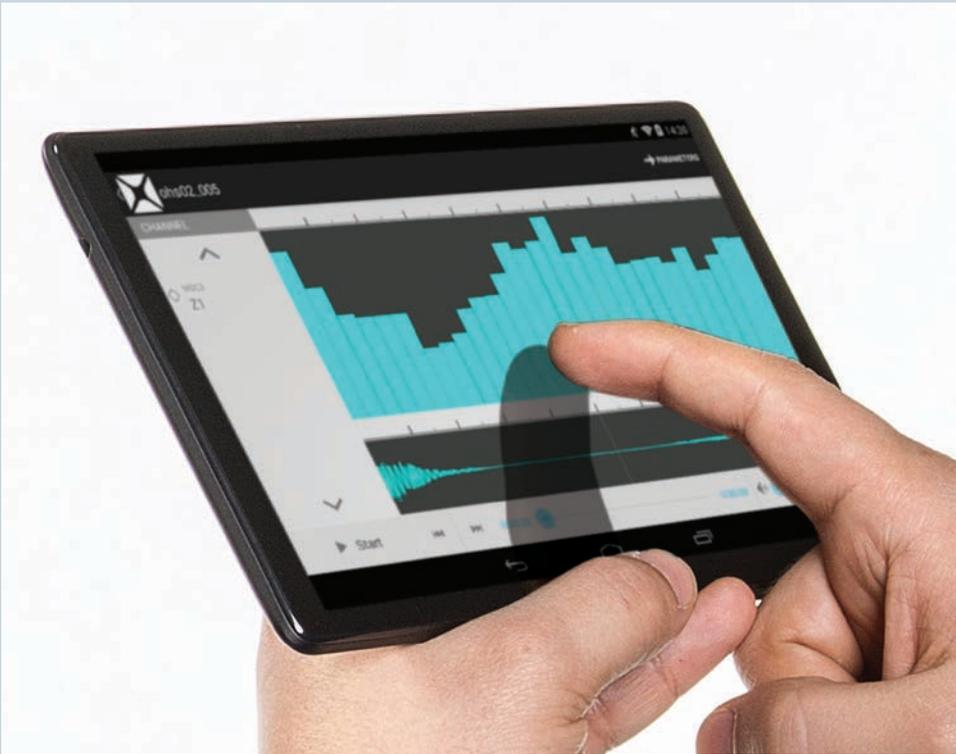
What's in the bag?

The various items are delivered in a handy, soft storage bag.

- LMS SCADAS XS
- Charger and USB cable
- Micro SD card and card slot adapter
- CAN, GPS, SPDIF and tacho cables
- 7" tablet (including LMS Smart™ Scope application and USB charger)
- Small hard case for safe storage of LMS SCADAS XS and the tablet

LMS Smart Scope

Configure, monitor and validate tests on the go



Maximum testing flexibility implies that test engineers should be able to work independently, away from their PCs and work stations. To serve this need, Siemens has developed LMS Smart Scope. This tailor-made application runs on a 7" Android tablet, which comes included with the LMS SCADAS XS system.

A finger on the pulse

Through a wireless connection with LMS SCADAS XS, the LMS Smart Scope app allows engineers to monitor and control the test settings and measurements, flip through existing measurement setups and past measurement runs, or create a new test configuration from scratch. A wide range of display types and layouts offers online data viewing, post-run data validation and signal replay at the push of a button.

Freedom of movement

Use of the tablet brings additional freedom to test engineers, making it possible, for instance, to install LMS SCADAS XS on or near the test object and walk around freely during a test, calibrating or monitoring signals on the tablet in real time.

App menus at a glance

- Channel and measurement setup
- Channel configuration and calibration
- Measurement setup and control
- Real-time monitoring
- Quick validation and audio replay

Multiple recording views

- Base view for concise control and relevant parameter feedback
- Strip-chart time overview of the channels
- Level bars and numerical displays with configurable layouts
- Customized view for quick validation of time signals, frequency or octave content, orders, and more

Unlimited application range

The portability and ease of use of LMS SCADAS XS maximizes testing efficiency. The system opens up a whole new range of possibilities to engineering teams in noise and vibration testing.



Examples from the field – automotive

Vehicle development

LMS SCADAS XS performs well as a standard mobile data acquisition system for in-vehicle recording. You can use it in standalone mode, with a tablet, or connected to LMS Test.Lab on a PC. After measurement, data can be validated on the spot using signal replay or through quick validation in the frequency or order domains, or by assessing dedicated sound quality metrics.

Like other LMS SCADAS systems, LMS SCADAS XS can be used as a regular front end with LMS Test.Lab for real-time, online analysis.

In-field target setting and validation

Repetitive testing requires a consistent set of measurement data and an easy way to collect typical parameters consistently. A preconfigured LMS SCADAS XS with a fixed

setup and a dedicated set of sensors makes data collection and vehicle comparison easier than ever.

Field diagnostics

A preconfigured LMS SCADAS XS can easily be handed over to nonexpert users for field diagnostics in response to field complaints. When faced with specific customer concerns, engineers and technicians can go on site or even send an LMS SCADAS XS unit for targeted remote field diagnostics, allowing in-depth analysis of the acquired data afterwards.

Other automotive applications include:

- Chassis and driveline testing
- In-field benchmarking
- Lab-based component testing
- Powertrain testing
- Field quality testing
- Quality validation at manufacturing sites
- Structural and acoustic testing
- Sound quality testing

Examples from the field – aerospace and defense

In-flight diagnostics, remote field testing

LMS SCADAS XS makes noise and vibration diagnostics more accessible and cost-effective, even for testing at remote sites. Equipped with a standalone LMS SCADAS XS and an LMS SCADAS 3D Binaural Headset, engineers and technicians can easily record the required acoustic or vibration data in a test flight or even on a commercial flight. Test data is subsequently brought or sent home to the lab for detailed analysis.

Operational data collection with LMS SCADAS XS

Thanks to its ability to support up to twelve analog channels, LMS SCADAS XS can measure any combination of voltage, acceleration and acoustic signals. This makes LMS SCADAS XS an excellent tool for collecting operational data to enable further test tailoring.

Other aerospace and defense applications include:

- Acoustic comfort
- Cockpit noise testing
- Defense proving-ground testing
- Field diagnostics
- Fighter aircraft testing
- Landing gear testing
- Passenger flight testing
- Sound diagnostics

Examples from the field – machinery and other mechanical industries

Servicing

To minimize machine downtime, a regular survey of the machine's vibration levels during normal operation is often recommended or even required. The multipurpose and portable LMS SCADAS XS is an ideal tool to ascertain on a regular basis, without complex setup procedures or even the need for an onsite expert, that vibration levels don't exceed the recommended threshold.

Onsite troubleshooting

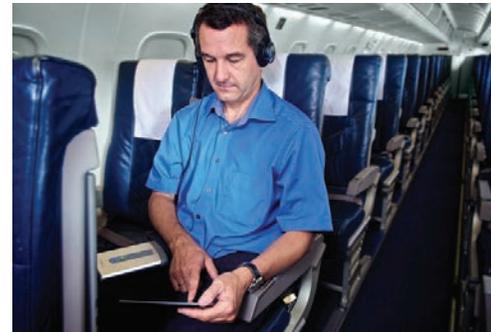
With machines installed on multiple, sometimes remote sites, onsite troubleshooting often comes at a high expense. The need for a system and an expert onsite, and travel and shipping time can strain any budget. Now, engineers can easily share one or several LMS SCADAS XS devices between multiple sites. Thanks to the preconfigurable system, the engineers' physical presence during the test may not even be required.

Field data collection

Suppliers of mechanical systems who receive a complaint from the field can easily preconfigure an LMS SCADAS XS system. The standalone test system, along with the appropriate sensors and detailed instructions, can be sent to the customer for local data collection. Afterward, the customer returns the device to the supplier for detailed data analysis.

Other applications include:

- Acoustic product testing
- Production line testing
- Remote testing
- Sound diagnostics
- Noise and vibration testing



About Siemens PLM Software

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a world-leading provider of product lifecycle management (PLM) software, systems and services with nine million licensed seats and 77,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software helps thousands of companies make great products by optimizing their lifecycle processes, from planning and development through manufacturing and support. Our HD-PLM vision is to give everyone involved in making a product the information they need, when they need it, to make the smartest decision. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.

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