# ASSISTANCE AND POSITION-DETERMINING SYSTEM SARISSA

Number 1 in position determination in the field of electric mobility

High-voltage storage assembly

sarissa®

# Exact positioning, in every position and at any angle

## Screwing of battery models in every position

In order to reach the required screwing positions more ergonomically, large-area products such as battery modules have to be swiveled to a certain angle to be worked on. Yet regardless of the angle of the workpiece or its position, the LPS from Sarissa can supply the corresponding coordinates for every tool position. Whether on the production line with multiple variants of assemblies or in the re-working stations, the Sarissa assistance and position-detection system ensures the prevention of assembly mistakes caused by human error.

Sarissa reliably delivers coordinates, even in any position.

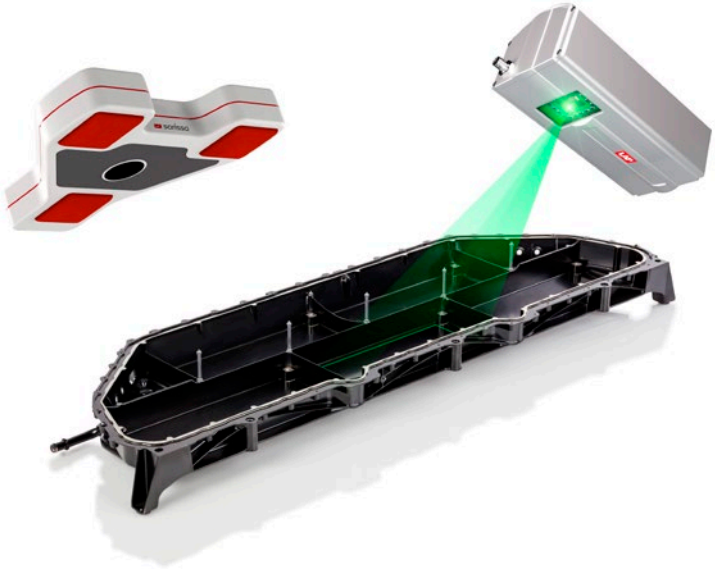
## Exact positioning at any angle

The tool is locked into or released from a controlled position, or it receives different parameter sets. The Sarissa sensor technology is characterized by its ability to reliably determine the position of adjacent screws with an accuracy of just a few millimeters, even if the transmitter is turned away from the receiver by up to 70 degrees. Under certain conditions, it is even permissible to turn 90 degrees away from the receiver.

Screw connection of a battery module at a specific angle.

# Visualization of worker guidance with laser projections

In high-voltage storage assembly, operator guidance can be easily taken over by a laser visualization instead of a instead of a display on the screen. The combination of the Sarissa system with the high-quality laser projector from LAP opens up completely new application possibilities. Where previously a monitor screen was needed for displaying worker guidance, now a laser is used to project the work steps directly onto the work surface, visualizing the next position to be addressed as each step is completed by the worker. Visualization of worker guidance is achieved with colored laser projections instead of pick-to-light, projected images, or on-screen displays.



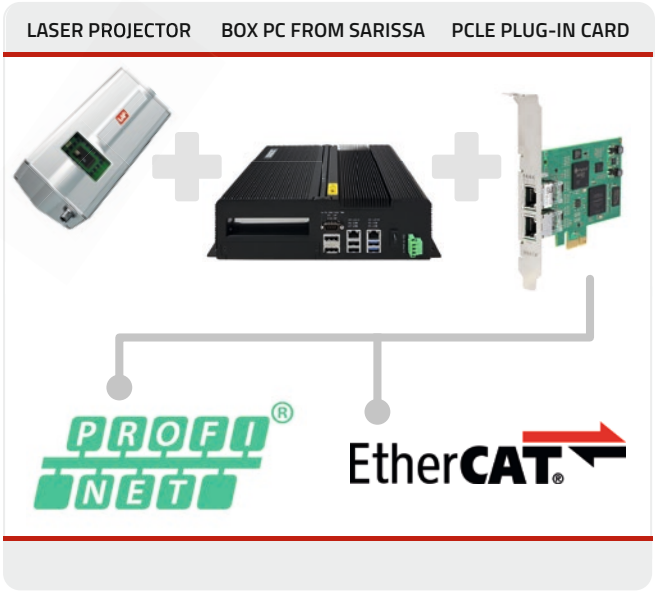
Laser visualization on the battery module of the Audi *e-tron*, with Sarissa Position Receiver

## The Sarissa PositionBox has numerous standard interfaces:

- ☑ PROFINET
- ☑ TCP/IP
- ☑ EtherCAT

The cyclic process image makes it possible for PLC pro-grammers and system integrators to obtain the position data of the position recognition system with the utmost reliability, and to incorporate that data into the workflow. For communication in high-level language (C#) XML or web services can be used as an alternative.

- ☑ **No unwanted or interfering contours** – many diverse tools including pistol-grip and angle tools can be used freely.



## Your advantages by using the Local Positioning System in the battery assembly

### Flexibility

- Individual process steps in battery assembly can be quickly adapted or changed, for example for new positions and new tools.
- Different battery types can be produced at the same station.

### Ergonomics

- The position of the battery does not have to be defined (in contrast to handling systems).
- The battery can be rotated 360 °.
- The battery can be adjusted in height.

### Accessibility

- The screwdriving tool can be used in all directions.
- Screw positions are easily accessible.
- The cycle time in the process is reduced.

When using the system from Sarissa, the battery can be ergonomically positioned.

**Integrated tool tags**

- For Bosch Rexroth, Cleco, Atlas Copco, Desoutter (e-Link) and HS-Technik tools, Sarissa offers integrated tool tags which receive their power supply from the tool.
- No external power supply is required.
- By means of an Open-Protocol command, the Local Positioning System can deactivate the tool.
- Any number of tools can be used.

**Angular position determination of the screwdriver**

- If desired, the tool can only be activated in certain angular position, while it remains deactivated in other angular positions.

Moving workpieces in flow production are referenced by the Local Positioning System.

**Moving Line – Automated Guided Vehicle (AGV)**

- Markerless referencing is possible.
- The AGV is continuously referenced.
- The power supply for the reference tag can be taken from the AGV.
- Moving workpieces in flow production can be „passed on" from receiver to receiver.
- Either with moving workpieces or with an AGV that stops at different positions, the Sarissa tool transmitter refers to a moving coordinate system and calculates its position with the highest accuracy.
- The location information from the conveyor control can be used.

The AGV stops at different positions as the Sarissa tool transmitter references a moving coordinate system.

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