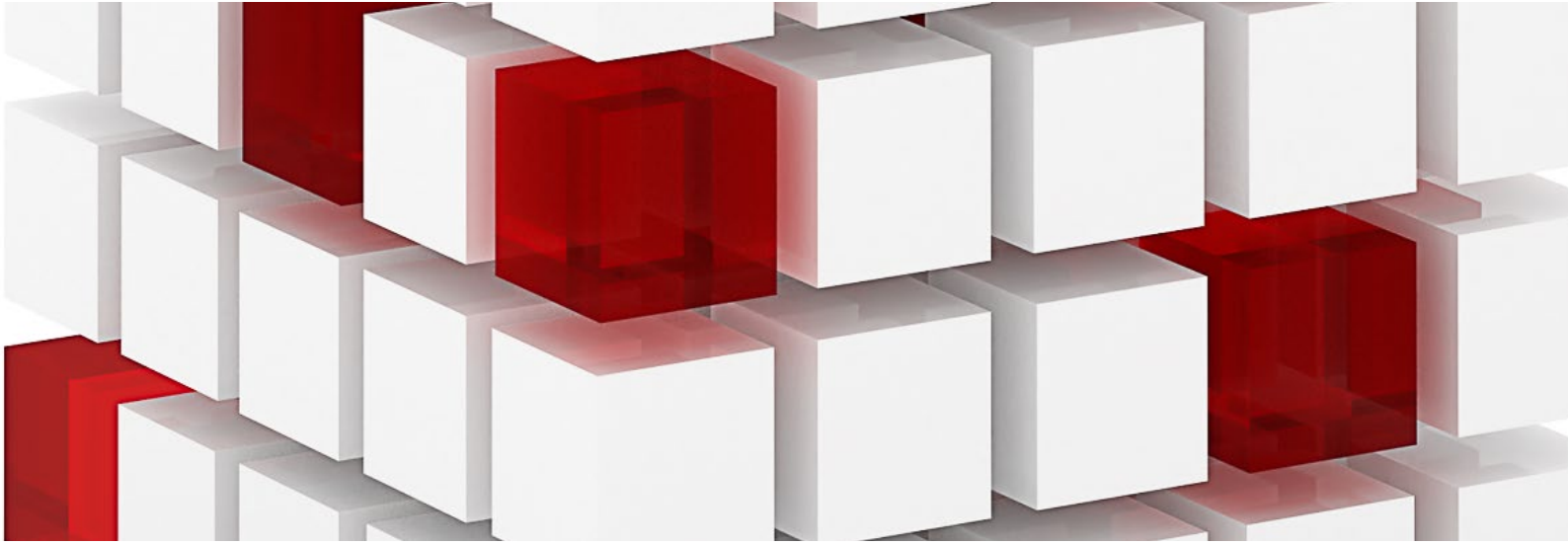
LASER VISUALIZATION
WITH THE LOCAL POSITIONING SYSTEM



sarissa®

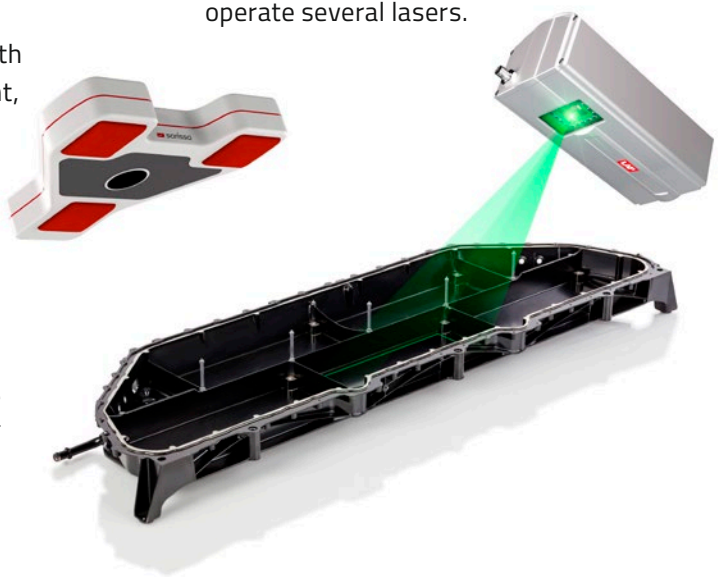
Laser Visualization with the Sarissa Local Positioning System

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.

How it works

- The Local Positioning System communicates with the laser projector via an API developed by Sarissa. The customer therefore operates only one piece of software.
- The laser projector visualizes the next work step, and the Sarissa system supports the correct execution of each work step.
- Several laser projectors can be connected to a single PC or PLC, meaning one PC or PLC can operate several lasers.



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

Advantages for assembly users

- Sharp projections on the work surface, independent of ambient room light
- Workers' eyes remain on the workpiece at all times
- Reduction of throughput time
- Simple operator guidance
- Color laser projection for visualization:
  - → Green: Correct tightening result and correct gripping
  - → Red: Incorrect screw connection or other mistake
- Long range
- One system can be used for several applications (picking & assembly)

Laser Visualization for Picking Applications

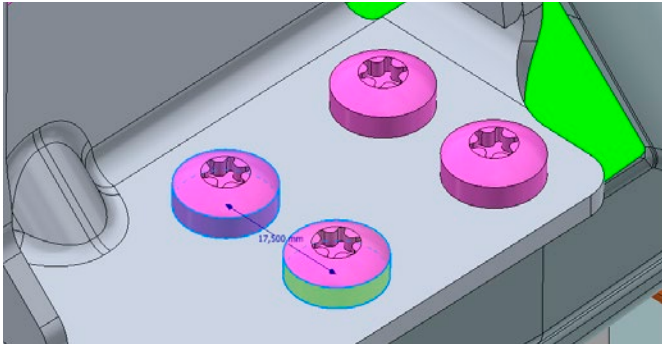
Color visualization on the picking bin

The worker is guided to the next bin to pick from.

Simple Configuration and Installation

- Thanks to the Sarissa interface to the laser system, screwdriving and gripping positions to be visualized are easily programmed in using the position pointer
- Since no images or graphics need to be created, a significant amount of time is saved in comparison with solutions requiring a screen
- The configuration is very simple; the Sarissa system and the laser projector from LAP use a shared coordinate system
- Integration time of the overall system is strongly reduced, as complex visualization by PLC software is now unnecessary
- No effort required through additional PLC software
- Programming and maintenance of only one system means less work, lower costs

The positions are either programmed in directly with the tool, or by using the position pointer.

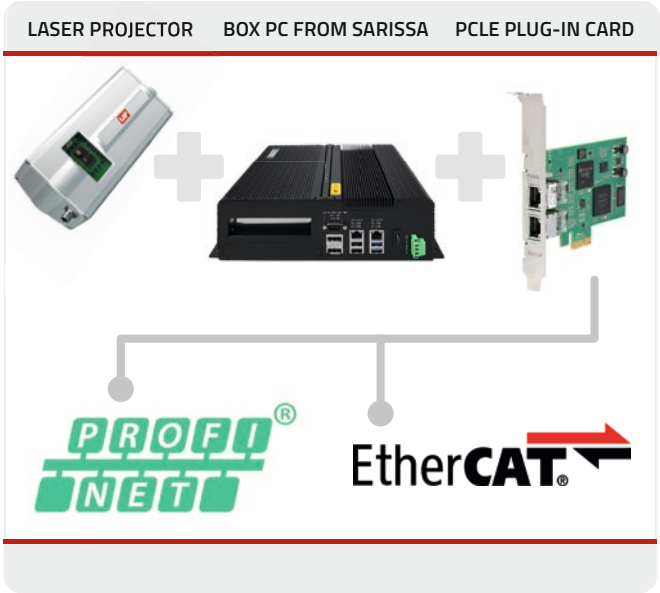


Millimeter-precise position detection enables the differentiation of adjacent screw positions as close as 17.5 mm.

Connectivity options

via PROFINET – EtherCAT

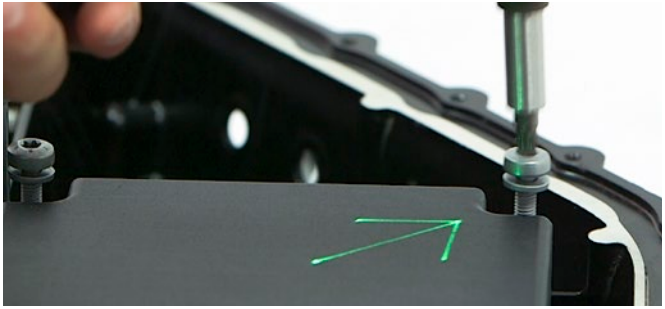
- The PROFINET and EtherCAT interfaces considerably simplify communication between the Sarissa system and the PLC.
- The PLC controls the laser projector directly via the PROFINET interface by means of simple commands in the GSDML file.
- The PLC knows the next production step in the workflow and sends the corresponding command to the Sarissa position detection system. The Sarissa system provides visualization on the workpiece via the laser projector, and at the same time monitors whether the employee is following the instructions.



Laser Visualization for Tool Applications

Visualization when entering the correct position

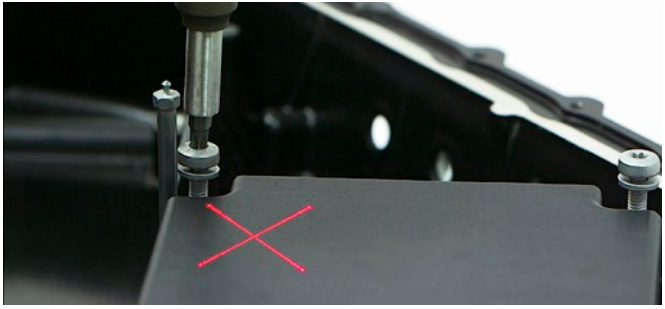
Green laser diode of the CAD-PRO compact



Display of the next correct position

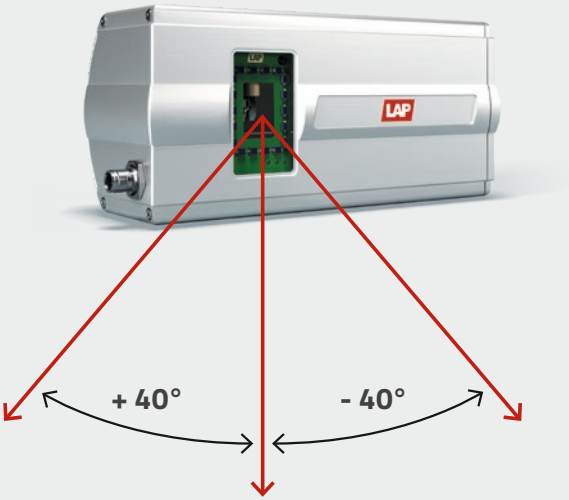
Visualization when entering the wrong position

Red laser diode of the CAD-PRO compact color



Display when the wrong position is entered

Data for Laser Projectors from LAP



together 80°

80° in x-, and 80° in y-direction

	CAD-PRO COMPACT COLOR	CAD-PRO COMPACT
Laser type, wavelength:	Red diode, 640 nm Green diode, 520 nm	Green diode, 520 nm
Precision:	+/- 0,2 mm/m *	+/- 0,2 mm/m *
Laser power:	5 mW	5 mW
Laser class:	2 M	2 M
Repeatability:	+/- 0,025 mm/m	+/- 0,025 mm/m
Max. Projection angle:	80°	80°
Beam width (4m distance):	0,5 mm FWHM	0,5 mm FWHM
Enclosure rating:	IP65 und IP67	IP65 und IP67
Ambient conditions:	0-40° C, 35-85 % relative humidity, non-condensing	0-40° C, 35-85 % relative humidity, non-condensing
Power supply:	24 VDC, 1.5-3 A	24 VDC, 1.5-3 A
Connection:	Ethernet via interface	Ethernet via interface
Dimensions (LxWxH):	240 x 110 x 110 mm	240 x 110 x 110 mm
Weight:	2,8 kg	2,8 kg

* within ± 30° projection area in up to 4 m distance

Sarissa GmbH
Ettishofer Str. 8
88250 Weingarten
Phone +49 751 509159-00
Fax +49 751 509159-49
Mail office@sarissa.de

www.sarissa.de