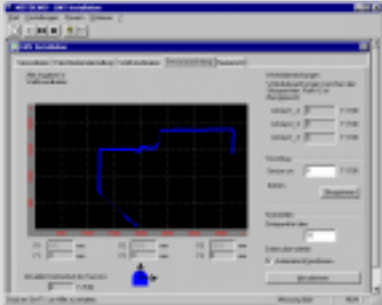


**Measurably more economical.
LMS 200/LMS 220
Laser Measurement Systems.**



Measure size, shape and position, monitor processes.

Detect and evaluate: SICK laser measurement technology leaves all your options open.



Typical applications

- Sorting and classifying objects
- Positioning
- Determining object volumes
- Measuring filling levels
- Measuring bulk materials on conveyor belts
- Navigational support

Economical thinking, future-oriented measurement: the MST 200 Software Tool.

Customer-specific measurement tasks can be solved quickly and cost-effectively on a PC with the help of the MST 200 Toolbox. Drivers for real-time communication with laser scanners are already implemented. Solution of the application can be started immediately after simple coordinate transformation and the definition of an application-specific measurement framework.

Complete measurement solutions: the LMI 200 Hardware Tool.

Customer-specific measurement tasks involving LMS laser scanners can be achieved quickly and at a reasonable price with the LMI 200 evaluation unit. Application-specific process data are directly processed by the evaluation unit via digital and analog inputs and outputs. Measurement data from up to two LMS sensors can be processed parallel in real time.

Software and service to specification.

SICK, collaborating with skilled engineering partners, offers complete measurement solutions consisting of the LMS Laser Measurement System, the LMI Interface, the MST 200 Software Tool, and application-specific software.



Evaluation unit for measurement technology



LMS 200-30106



LMS 220-30106



LMI 200



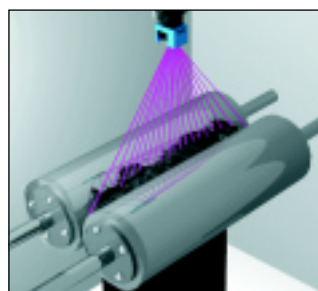
Safety information:
LMS laser scanners are not devices for protecting persons as defined by current machine safety standards.

The LMS 200 is a non-contact Laser Measurement System that scans its surroundings two-dimensionally like laser radar. It operates within a temperature range of between 0 °C and +50 °C and, as an active scanning system, requires no auxiliary passive components such as reflectors or position markers. The LMS 200's high resolution allows it to take on tasks that were hitherto impossible or could only be achieved with difficulty or at great cost.

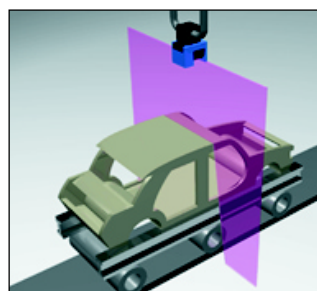
The LMS 220 Laser Measurement System has the same functionalities as the LMS 200. It is, however, characterised by an expanded permissible temperature range of from -30 °C to +50 °C. Furthermore, the housing is designed as IP 67.

Customer-specific measurement tasks with up to two Laser Measurement Systems can be solved quickly and cost-effectively with the LMI 200. Parameter-setting and configuration is carried out with LMI 200 BS user software, while programming is in the C++ programming language. Application-specific process data are integrated via analog and digital I/Os. Various standard interfaces are available for communication with a host computer.

Technical data	LMS 200-30106	LMS 220-30106	LMI 200
Distance max./10% reflectivity	80 m/10 m	80 m/10 m	Evaluation functions: <ul style="list-style-type: none"> • MST 200 software library supplied Data interfaces: <ul style="list-style-type: none"> • 2 x RS 422, 500 kB; LMS • 1 x RS 232/422; host • 1 x RS 485; Bus connection Inputs/outputs: <ul style="list-style-type: none"> • 4 digital, 2 analog inputs • 2 incremental input pairs • 8 digital, 4 analog outputs
Scanning range	max. 180°	max. 180°	
Angular resolution	0.25°/0.5°/1° adjustable	0.25°/0.5°/1° adjustable	
Response time	53 ms/26 ms/13 ms	53 ms/26 ms/13 ms	
Resolution/systematic error	10 mm, typ. ±15 mm	10 mm, typ. ±15 mm	
Data interface	RS 232/RS 422	RS 232/RS 422	
Switching outputs	3 x PNP, typ. 24 V DC	3 x PNP, typ. 24 V DC	
Laser protection class	1 (eye-safe)	1 (eye-safe)	
Operating ambient temperature	0 ... +50 °C	-30 ... +50 °C	
Enclosure rating	IP 65	IP 67	
Dimensions (W x H x D)	155 x 210 x 156 mm ³	352 x 266 x 229 mm ³	



e.g. determining filling levels



e.g. classifying bodywork



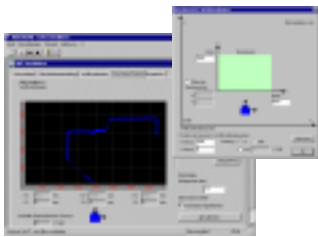
e.g. detection and measurement tasks in robotics

Evaluation software for measurement technology



MST 200

The MST 200 Measurement Software Tool allows customer-specific measurement tasks to be realised quickly, efficiently, and thus also economically. This is achieved with the help of function blocks that considerably accelerate and simplify software development on a standard PC or SICK LMI 200 evaluation unit.



MST 200

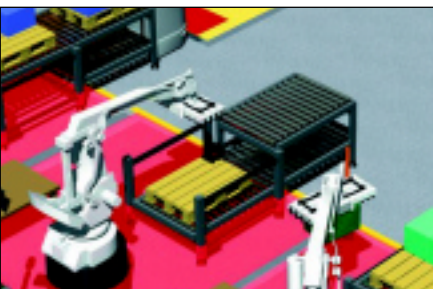
Software library of functions for setting up LMS measurement applications.

PC version

Function blocks for Microsoft® Visual C++ programming language for implementation on a standard PC.

LMI 200 version

Function blocks for the C++ programming language for implementation on SICK's LMI 200 evaluation unit.



Examples of applications in action



Using LMS to check if pallets are complete on delivery



Determining volumes for intelligent storage



Positioning aid for silo vehicles for precise loading



Use in building as a contour measurement system



Bulk material measurement with BULKSCAN



Evaluation of filling levels in a calender gap

SICK laser measurement technology – solutions in overview.

Detection technology

- Collision prevention for vehicles
- Checking for projections
- Monitoring security of buildings and spaces
- Docking and handling tasks

Traffic technology

- Triggering cameras at toll gates
- Counting vehicles
- Classifying flowing traffic

Measurement technology

- Determining object volumes
- Sorting and classifying objects
- Determining filling levels
- Measuring bulk materials on conveyor belts
- Navigational support
- Positioning
- Positioning robot grippers

SICK – your single-source supplier for Auto Ident solutions.

And what else you can expect from us in this area.

As the leading supplier of Auto Ident solutions we do not stop at laser measurement technology. We also offer technically sophisticated bar-code reading systems for the most varied fields of application. Products that optimise logistical and production processes and contribute towards quicker and more reliable identification of goods, packaging or flight baggage. Please contact SICK's Auto Ident Division for further information.

